



FIRE PUMP TEST FACILITY PROJECT NO. FI1301-201

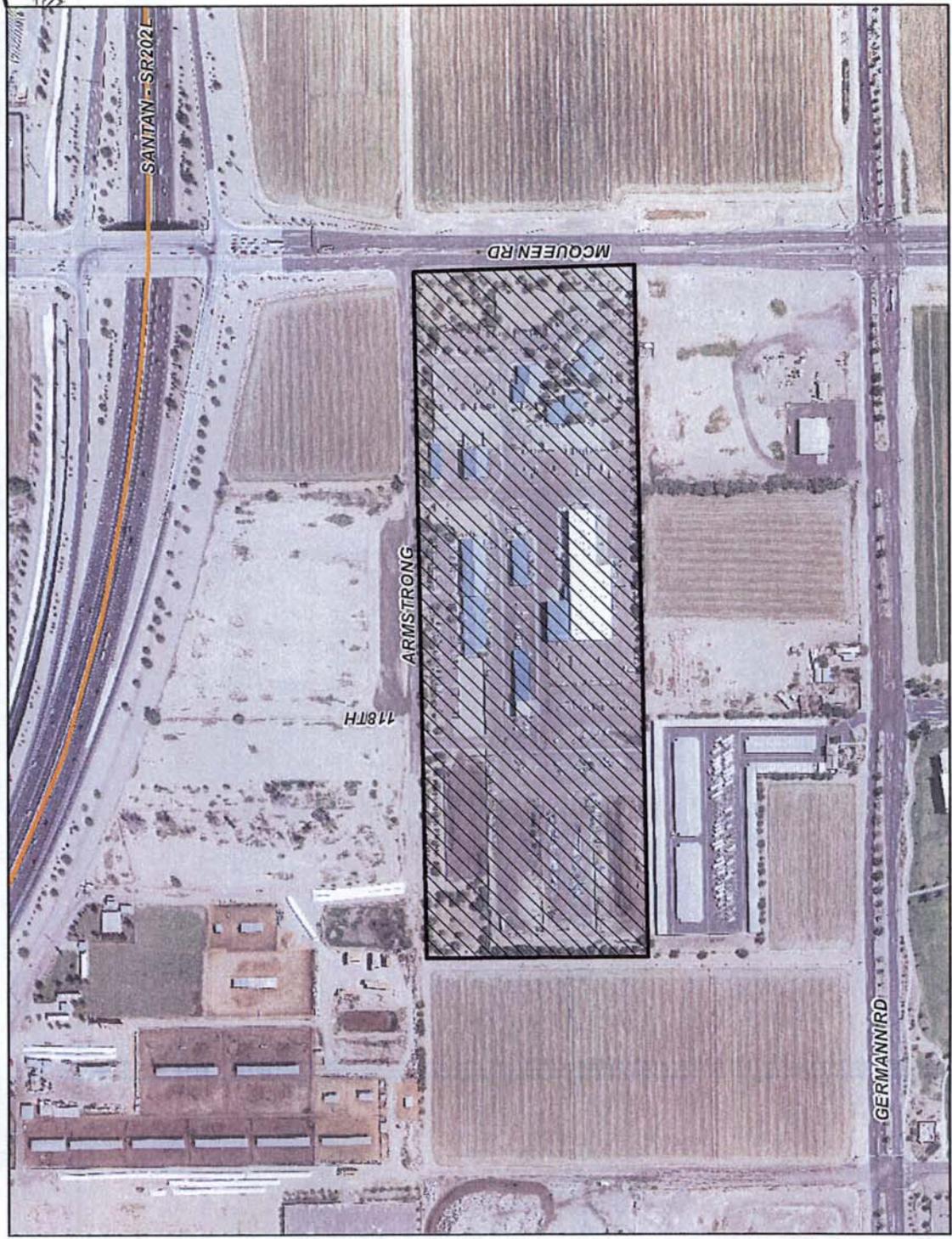
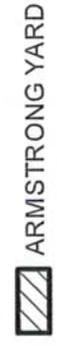
Replacement Map

#31

DEC 13 2012



MEMO NO. CA13-081





**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CA13-081**

1. Agenda Item Number:
31
2. Council Meeting Date:
December 13, 2012

TO: MAYOR & COUNCIL

3. Date Prepared: November 5, 2012

THROUGH: CITY MANAGER

4. Requesting Department: Fire Department

5. SUBJECT: Design of Fire Pump Test Facility.

6. RECOMMENDATION: Staff recommends that Council award a design contract to Ritoch-Powell & Associates, for Fire Pump Test Facility, Project No. F11301-201, in an amount not to exceed \$43,204.

7. BACKGROUND/DISCUSSION: City of Chandler Fire Apparatus Pump Testing is required on an annual basis as well as after pump component repair or replacement. The purpose of the test is to ensure fire pumps meet Insurance Services Office ratings, comply with National Fire Protection Association requirements and provide performance data to determine reliability.

Fire apparatus pump test pits must be designed and constructed to allow for fire pump evaluation at full rated capacity while avoiding high water temperatures, water turbulence, and water aeration which can cause premature cavitation in the pump. The key to design of any pump test pit is to provide an adequate source of temperature consistent water free from entrained air and turbulence.

Currently, the City's fire pump test facility is located at Fire Station No. 1. The aging facility is inadequate and has deteriorated causing several issues affecting its longevity, fire pump performance and test results. It also has and continues to damage the surrounding parking lot as well as landscaping. Fire is requesting approval for design of a new pump test facility, to be located at the City's McQueen Road Yard.

8. EVALUATION: Ritoch-Powell & Associates was selected as the consultant for the Fire Pump Test Facility in accordance with established City policies and procedures. Staff has reviewed the scope of work, billing rates, and fee for this amendment and found them to be fair and reasonable.

9. FINANCIAL IMPLICATIONS:

Cost: \$43,204

Savings: N/A

Long Term Costs: N/A

Fund Source:

<u>Acct. No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
401.2250.5818.6FI638	General Government	Fire Station #1	FY 12/13	\$43,204
	Bonds	Relocation		

10. PROPOSED MOTION: Move that Council award a design contract to Ritoch-Powell & Associates, for Fire Pump Test Facility, Project No. F11301-201, in an amount not to exceed \$43,204, and authorize the Mayor to sign the contract documents.

ATTACHMENTS: Contract, Map

APPROVALS

11. Requesting Department



Jim Johnson, Fire Battalion Chief

13. Department Head



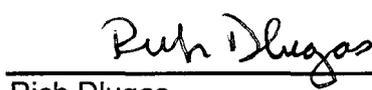
Jeff Clark, Fire Chief

12. Transportation & Development

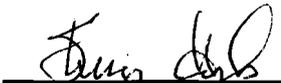


Bob Fortier, Capital Projects Manager

14. City Manager



Rich Dlugas



Sheina Hughes, City Engineer

**PROJECT AGREEMENT
PURSUANT TO ANNUAL CONTRACT NO. EN1002-101**

AGREEMENT NO: FI1301-201

This AGREEMENT is made this ____ day of _____, 2012, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Ritoch-Powell & Associates, (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1002-101.

CITY and Ritoch-Powell & Associates, in consideration of the mutual covenants herein set forth, agree as follows:

ARTICLE 1 - DESCRIPTION OF WORK:

This project is Fire Pump Test Facility, Project Number FI1301-201. The scope of work consists of design services for the construction of a new fire pump test pit, all as more particularly set forth in Exhibit A attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

ARTICLE 2 - CONTRACT PRICE:

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed Forty-Three Thousand Two Hundred Four Dollars (\$43,204) determined and payable as set forth in Annual Contract EN1002-101 and Exhibit B attached hereto and made a part hereof by reference.

ARTICLE 3 - CONTRACT TIME:

The contract time is One Hundred Twenty days and Annual Consultant agrees to complete all work within One Hundred Twenty (120) days of the date CITY issues a Notice to Proceed.

ARTICLE 4 - GENERAL:

This Project Agreement is entered into pursuant to Annual Contract No. EN1002-101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

This Agreement will be effective on this _____ day of _____, 2012.

CITY OF CHANDLER

FOR THE ANNUAL:

MAYOR DATE:

By: Karl G. Obergh
Title: President

ADDRESS FOR NOTICE
City of Chandler
P.O. Box 4008, Mail Stop 407
Chandler, AZ 85244-4008
480-782-3307

ADDRESS FOR NOTICE
Mr. Karl Obergh
Ritoch-Powell & Associates
3838 N. Central Ave., Ste. 1250
Phoenix, AZ 85012

APPROVED AS TO FORM:

Phone: 602-263-1177
Fax: 602-277-6286

City Attorney By: [Signature]

ATTEST:

City Clerk

SEAL

EXHIBIT A SCOPE OF WORK

I. Introduction

The purpose of this project is to provide design services for the construction of a new fire pump test pit for the City of Chandler Fire Department. The test pit consists of an underground concrete reservoir with baffle walls, an overhead shade canopy, and an air-conditioned observation shed. The pit itself has to be large enough to provide the proper hydraulics for pump testing and it will be designed in accordance with guidance documents provided by the City. The pit will be capable of handling vehicle loads, have access points for cleaning/inspection, and have a water source for filling the reservoir. The observation shed will be air-conditioned, provide a sitting area for a technician, and have an observation window. ANNUAL CONSULTANT assumes a pre-designed shade canopy will be chosen by the City and incorporated into the design. ANNUAL CONSULTANT understands that the project requires surveying, civil engineering, structural engineering, and electrical engineering.

II. Tasks

The following paragraphs outline the anticipated work and project deliverables. ANNUAL CONSULTANT shall set a schedule for milestone submittals and completion of the work with the City PM once the Notice to Proceed (NTP) is provided.

1. Site Visit/Data Collection/Review

- 1.1. Site Visit/Initial Meeting: ANNUAL CONSULTANT shall attend an initial team meeting and visit the project site to review existing conditions with City representatives and collect field information regarding the site that is needed for design (1 meeting).
- 1.2. Data Collection/Review: ANNUAL CONSULTANT shall collect and review all existing site data, surveys, records, reports, and plans.
- 1.3. Initial Coordination: ANNUAL CONSULTANT shall coordinate with the City Transportation and Development Department, City Fire Department, and utility company contacts and notify them of the pending design so they may provide maps and as-built drawings.

2. Topographic Survey/Base Map Preparation

- 2.1. Topographic Survey: ANNUAL CONSULTANT shall complete a topographic survey of the chosen location for the test pit. It is anticipated that the survey will cover an area sufficient for incorporation of the test pit into an existing City property (location has not been chosen yet). Topographic survey will document existing surface conditions and improvements. No subsurface utility location is anticipated. ANNUAL CONSULTANT shall also identify the closest electrical source and water source. It is anticipated that available boundary information for the chosen site will be sufficient for the project and no boundary survey is required.
- 2.2. Base Map Preparation: ANNUAL CONSULTANT shall take all record data and topographic survey data obtained for the project and combine it into an updated base map using AutoCAD software. ANNUAL CONSULTANT shall prepare project base sheets for use in the final design.
- 2.3. Coordination: ANNUAL CONSULTANT shall provide base files to utilities representatives for their design, if needed.

3. Preliminary Construction Documents

- 3.1. Conceptual Layout and Preliminary Pit Design: ANNUAL CONSULTANT shall prepare a conceptual layout of the fire test pit, shade cover, and observation shed with electrical and water source lines shown. ANNUAL CONSULTANT shall prepare a preliminary layout for the pit size and baffles with applicable hydraulic design calculations to show the design meets City requirements.
- 3.2. Preliminary Construction Documents – ANNUAL CONSULTANT shall prepare 60% complete Plans, Specifications, and a Cost Estimate for the proposed test pit improvements. Plans will include demolition, grading, drainage, water, structural and electrical plan sheets. Technical specifications will be based on City requirements and Maricopa Association of Governments (MAG) standards. ANNUAL CONSULTANT shall provide a detailed cost estimate.
- 3.3. Preliminary Drainage Memorandum: ANNUAL CONSULTANT shall prepare a preliminary drainage memorandum to document any drainage design requirements. Since the test pit will be located within a City property, it is expected that the drainage memorandum will be minimal and will document any affects/solutions for the modification of the existing drainage of the site.
- 3.4. Design Review – ANNUAL CONSULTANT shall coordinate with City staff to conduct preliminary design review through applicable City departments. ANNUAL CONSULTANT shall attend one comment resolution meeting.
- 3.5. Meetings: ANNUAL CONSULTANT shall attend one progress meeting.
- 3.6. Coordination: ANNUAL CONSULTANT shall provide ongoing project coordination for preliminary design with the City team as well as other stakeholders, subconsultants, and utilities representatives.

4. Final Construction Documents

- 4.1. Final Construction Documents – ANNUAL CONSULTANT shall prepare 100% and Final Plans, Specifications, and a Cost Estimate for the proposed test pit improvements. It is expected that the 100% plans will address any comments and changes resulting from review of the 60% plans and further development of the final design. The 100% construction documents will be submitted for final comments/approval. ANNUAL CONSULTANT shall enter any remaining comments from the review of the 100% documents and shall issue Final documents for final approval.
- 4.2. Final Drainage Memorandum: ANNUAL CONSULTANT shall prepare a final drainage memorandum document the final drainage design.
- 4.3. Design Review – ANNUAL CONSULTANT shall coordinate with City staff to conduct a 100% design review through applicable City departments. ANNUAL CONSULTANT shall attend one comment resolution meeting.
- 4.4. Meetings: ANNUAL CONSULTANT shall attend one progress meeting.
- 4.5. Coordination: ANNUAL CONSULTANT shall provide ongoing project coordination for final design with the City team as well as other stakeholders, subconsultants, and utilities representatives.
- 4.6. Permitting: ANNUAL CONSULTANT shall assist with submitting Final construction documents for permitting review. It is anticipated that City staff will provide permits and pay all permit fees, if applicable.

DIRECT EXPENSES:

Mileage: ANNUAL CONSULTANT anticipates direct mileage expenses for site visits, surveying, and attendance of meetings with the City, stakeholders, and utilities representatives.

Copying: ANNUAL CONSULTANT shall provide all necessary copies of plans for the project up to the construction phase. It is anticipated that the City will provide construction plans to the contractor.

Other: ANNUAL CONSULTANT expects to have a few items that will require mailing/postage.

EXCLUSIONS:

- A) Design of offsite improvements or water/sewer main extensions.
- B) ALTA surveys, boundary surveys, easement exhibits, legal descriptions, and survey instruments. It is assumed that existing boundary information is sufficient for the project. No right-of-way services are anticipated.
- C) Permit fees, review fees, application fees.
- D) Private dry utility and gas design. ANNUAL CONSULTANT shall coordinate with dry utilities on dry utilities trench locations/sections and the gas company on gas trench locations/sections to ensure that our design is not in conflict.
- E) Subsurface utility investigation, potholing, permits, relocation coordination.
- F) Environmental, right of way, geotechnical, utility clearances
- G) Construction Administration or Inspection services.
- H) Offsite drainage design.
- I) Traffic engineering, striping, lighting, signal design.
- J) Geotechnical evaluation or design, materials testing, pavement design.
- K) Landscape, hardscape, site irrigation design.
- L) Public meetings or Council presentations.

**EXHIBIT B
FEE SCHEDULE**

CONTRACT LABOR				
<u>CLASSIFICATION</u>	<u>MAN HOURS</u>	<u>LABOR RATES</u>	<u>LABOR COSTS</u>	
Project Principal	0	\$ 82.40	\$	-
Project Manager	21	\$ 62.00	\$	1,302.00
Senior PE	31	\$ 55.00	\$	1,705.00
Project Engineer	61	\$ 44.50	\$	2,714.50
Design Engineer	104	\$ 33.00	\$	3,432.00
Senior RLS	4	\$ 50.00	\$	200.00
RLS	0	\$ 44.75	\$	-
Survey Technician/L.SIT	12	\$ 33.00	\$	396.00
CADD Designer	123	\$ 26.33	\$	3,115.59
Survey Crew	18	\$ 55.00	\$	990.00
Clerical	33	\$ 21.00	\$	693.00
Total Hours	407			
			Total Direct Labor \$	14,548.09
Overhead Rate	146.80%		Total Labor and Overhead \$	21,356.60
Fixed Fee	10%	Net Fee (Subtotal Labor X 10% Fixed Fee) \$		3,590.47
			Subtotal Contract Labor \$	39,495.00
DIRECT AND OUTSIDE EXPENSES:				
<u>Description</u>	<u>Unit</u>	<u>Unit Rate</u>	<u>Quantity</u>	<u>Total</u>
Personal Vehicle Mileage	Miles	\$ 0.445	1	\$ -
Survey Vehicle Mileage	Miles	\$ 0.445	1	\$ -
<u>Outside Printing - AT COST estimates only</u>				
Printing (8-1/2" x 11")	Each	\$ 0.30	500	\$ 150.00
Printing (11" x 17")	Each	\$ 0.60	200	\$ 120.00
Printing (22" x 34")	Each	\$ 1.25	272	\$ 340.00
Printing (22" x 34") mylar	Each	\$ 10.00	34	\$ 340.00
Exhibits	Each	\$ 250.00	1	\$ 250.00
Deliveries/Postage	Each	\$ 3.00	3	\$ 9.00
			Subtotal Direct and Outside Expenses \$	1,209.00
SUBCONSULTANTS FEE				
<u>Subconsultant</u>	<u>Task</u>			<u>Fee</u>
Wright Engineering	Electrical	\$		2,500.00
Sample #2	Sample #2	\$		-
Sample #3	Sample #3	\$		-
			Subtotal Subconsultants Fee \$	2,500.00
ALLOWANCES				
<u>Consultant/Expenses</u>	<u>Task</u>			<u>Fee</u>
N/A	Potholes	\$		-
Sample #2	Sample #2	\$		-
			Subtotal Allowances \$	-
TOTALS				
			Subtotal Contract Labor \$	39,495.00
			Subtotal Direct and Outside Expenses \$	1,209.00
			Subtotal Subconsultants \$	2,500.00
			Total Contract Fee \$	43,204.00
			Subtotal Allowances \$	-
			Total Lump Sum Contract Fee & Allowances \$	43,204.00

**EXHIBIT B (cont.)
FEE SCHEDULE**

Task Hourly Estimate

Task	Description	Sheet	Project Principal	Project Manager	Senior PE	Project Engineer	Design Engineer	Senior PLS	PLS	Survey Technician (USIT)	CAD Design	Survey Crew	General	Total Hours By Task
Site Visit/Data Collection/Review														
1.1	Site Visit/Initial Meeting (1)			2		2								4
1.2	Data Collection / Review					2	2							4
1.3	Initial Coordination					2	2							4
Subtotal 1.0	Site Visit/Data Collection/Review		0	2	0	6	4	0	0	0	0	0	0	12
Topographic Surveying / Base Map Preparation														
2.1	Topographic Survey			1				2		3		18		24
2.2	Prepare Base Maps			1			2	2		9	9			23
Subtotal 2.0	Topographic Surveying / Base Map Preparation		0	2	0	0	2	4	0	12	9	18	0	47
Site Plan / Preliminary Construction Documents														
3.1	Conceptual Site Plan / Preliminary PR Design	2		1	1	2	2				18		2	26
3.2A	60% Plans	10		1	2	12	24				40		4	83
3.2B	60% Special Provisions			1	1	4	6						2	14
3.2C	60% Estimate				1	2	6				2		1	12
3.3	Preliminary Drainage Memorandum	1			1	2	8				2		2	15
3.4	Design Review (1)			2	4									6
3.5	Meetings (1)			2	4								4	10
3.6	Preliminary Coordination					2	8							10
Subtotal 3.0	Site Plan / Preliminary Construction Documents	0	7	14	24	54	0	0	0	62	0	16	176	
Final Construction Documents														
4.1A	100% Plans	10		1	2	12	24				40		4	83
4.1B	100% Special Provisions			1	1	4	4						2	12
4.1C	100% Estimate			1	1	2	4				2		2	12
4.1D	100% Drainage Memorandum				1	1	2				2		2	8
4.1E	Final Plans	10		1	1	2	4				8		2	18
4.1F	Final Special Provisions			1	1	2	2							6
4.1G	Final Estimate			1	1	1	2							5
4.2	Final Drainage Memorandum	1			1	1								2
4.3	Design Review (1)			2	4								2	8
4.4	Meetings (1)			2	4								4	10
4.5	Final Coordination					2	2							4
4.6	Permitting					4								4
Subtotal 4.0	Final Construction Documents	21	0	10	17	31	44	0	0	0	52	9	18	172
Subtotal Hours			0	21	31	61	104	4	0	12	123	18	33	407

**EXHIBIT B (cont.)
FEE SCHEDULE**

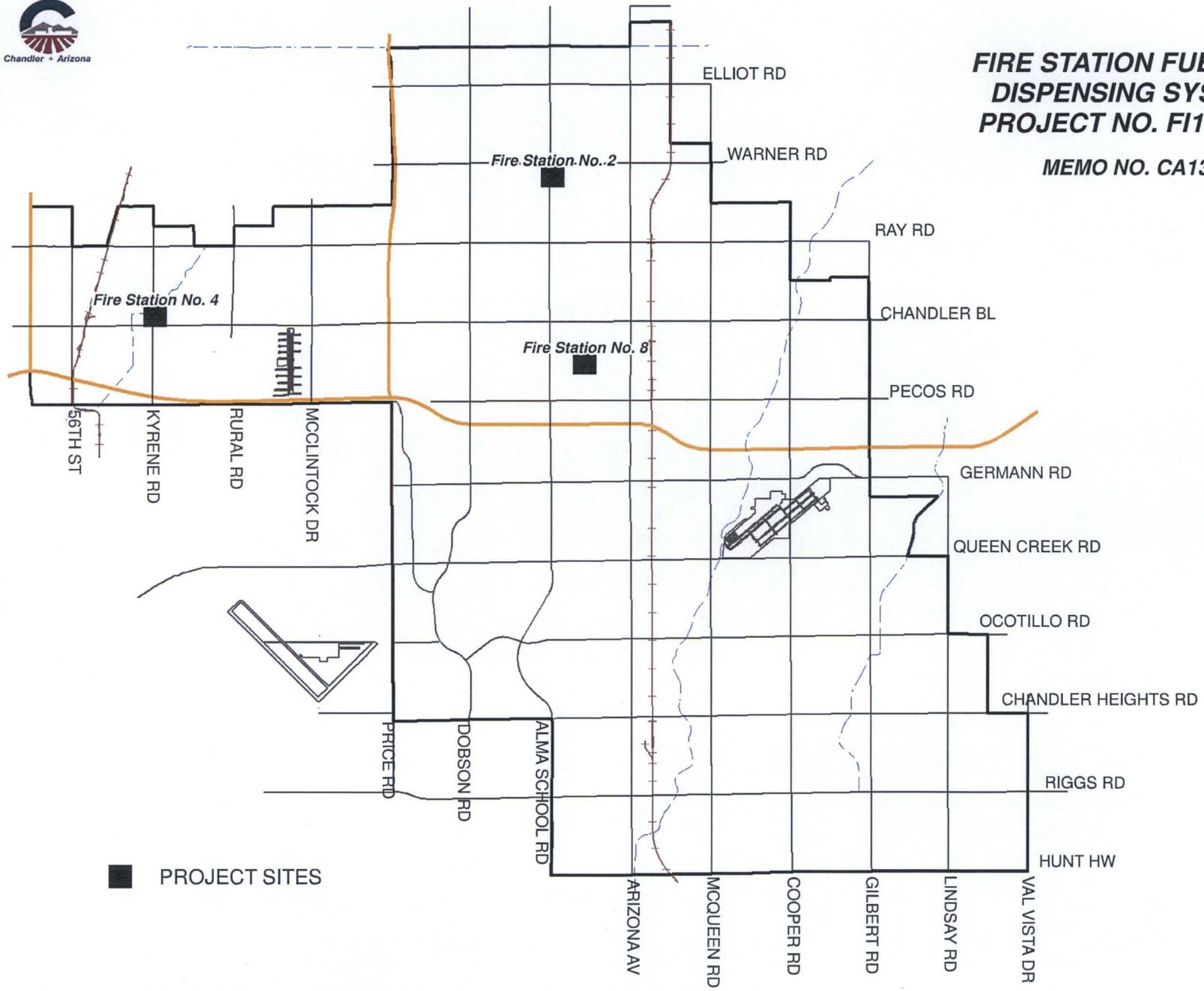
Direct Outside Expenses

DIRECT AND OUTSIDE EXPENSES:						
Description	Unit	Unit Rate	Quantity	Total		
Personal Vehicle Mileage	Miles	\$ 0.445	200	\$ 89.00		
Survey Vehicle Mileage	Miles	\$ 0.445	1	\$ 0.46		
Outside Printing - AT COST estimates only				\$ -		
Printing (8-1/2" x 11")	Each	\$ 0.30	202	\$ 60.60		
Printing (11" x 17")	Each	\$ 0.60	200	\$ 120.00		
Printing (22" x 34")	Each	\$ 1.25	272	\$ 340.00		
Printing (22" x 34") mylar	Each	\$ 10.00	34	\$ 340.00		
Exhibits	Each	\$ 250.00	1	\$ 250.00		
Dalheries/Postage	Each	\$ 3.00	3	\$ 9.00		
				Subtotal Direct and Outside Expenses	\$ 1,209.05	
SUBCONSULTANTS						
Subconsultant		Task		Fee		
Wright Engineering		Electrical		\$ 2,600.00		
Sample #2		Sample #2		\$ -		
Sample #3		Sample #3		\$ -		
				Subtotal Subconsultants Fee	\$ 2,600.00	
ALLOWANCES						
Consultant/Expenses		Task		Fee		
N/A		Potholes		\$ -		
Sample #2		Sample #2		\$ -		
				Subtotal Allowances	\$ -	
				TOTAL	\$ 3,709.00	



FIRE STATION FUEL TANK DISPENSING SYSTEMS PROJECT NO. FI1302-401

MEMO NO. CA13-079



■ PROJECT SITES

