

DEFINITIONS

Architect Services, Engineer Services, Land Surveying Services, Assayer Services, Geologist Services and Landscape Architect Services: Those professional services within the scope of the practice of those services as provided in ARS § 32-101.

Branch Office: A geographically distinct place of business or subsidiary office of a firm that has a key role on the team.

Discipline: Primary technical capabilities of key personnel, as evidenced by academic degree, professional registration, certification, and/or extensive experience.

Firm: Defined in ARS § 32-101(B.19.).

Key Personnel: Individuals who will have major contract responsibilities and/or provide unusual or unique expertise.

SPECIFIC INSTRUCTIONS:

1. Complete this form for each branch office seeking work under this RFQ.
 - a. – e. **Firm (or Branch Office) Name and Address.** Self-explanatory.
 - f. **Year Established.** Enter the year the firm (or branch office, if appropriate) was established under the current name.
 - g. **Ownership.**
 - (g1). *Type.* Enter the type of ownership or legal structure of the firm (sole proprietor, partnership, corporation, joint venture, etc.).
 - (g2). *Small Business Status.* A firm is a small business if the firm has less than 100 employees **or** has gross revenues of \$4 million or less.
 - h.-j. **Point of Contact.** Provide this information for a representative of the firm that the Customer can contact for additional information. The representative must be empowered to speak on contractual and policy matters.
 - k. **Name of Firm.** Enter the name of the firm.
2. **Employees by Discipline.**
 - a. Select disciplines from the List of Disciplines (Function Code) listed on Page 3 of 4 Instructions. For employees that do not qualify for any of the disciplines, select Other. *Note: The intended searchable database indicated in the RFQ will be populated from the Qualifications Form I Excel attachment only.*
 - b. Each person can be counted only twice; once for his/her primary function and once for his/her secondary function. Primary and secondary functions should be indicated by including a "P" or an "S" in column b after the Description Title is given.
 - c-d. If the form is completed for a firm (including all branch offices), enter the number of employees by disciplines in column c. If the form is completed for a branch office, enter the number of employees by discipline in column d and for the firm in column c.
3. **Profile of Firm's Experience and Annual Average Revenue for Last Year.**
 - a. Enter the approximate number of projects the firm (or branch) has done attributable by Profile Code listed on Page 3 of 4 Instructions over the last year.
 - b. Enter the appropriate Profile Codes from Instructions Pages 3 of 4 that represent the type of work the firm (or branch) has done over the last year.

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- c. Using the Revenue Index Number on Page 3 of 6 Form, indicate the approximate revenue the firm has earned over the last year per Profile Code entered into the table.
4. **Resumes of Key Personnel Proposed for This Contract.** Complete this section for each key person who will participate in this contract.
 - a. Self-explanatory.
 - b. Self-explanatory
 - c. Total years of relevant experience (block c1), and years of relevant experience with current firm, but not necessarily the same branch office (block c2).
 - d. Name, City and State of the firm where the person currently works, which must correspond with one of the firms (or branch office or a firm, if appropriate) listed in Section 1.
 - e. Provide information on the highest relevant academic degree(s) received. Indicate the area(s) of specialization for each degree.
 - f. Provide information on current relevant professional registration(s) and in which State(s) they are current.
 - g. Provide information on any other professional qualifications relating to this contract, such as education, professional registration, publications, organizational memberships, certifications, training, awards, and foreign language capabilities.
 - h. Provide information on no more than five (5) projects in the last year which the person had a significant role that demonstrates the person's capability relevant to her/his proposed role in this contract. These projects do not necessarily have to be any of the projects presented in Section 5 for the project team if the person was not involved in any of those those projects or the person worked on other projects that were more relevant than the team projects in Section 5. Use the check box provided to indicate if the project was performed with any office of the current firm. If any of the professional services or construction projects are not complete, leave Year Completed blank and indicate the status in Brief Description and Specific Role.
5. **Example Projects Which Best Illustrate Firms Qualification for this contract.** Select project where multiple team members worked together, if possible, that demonstrate the team's capability to perform work similar to that required for this contract. Complete one Section 5 for each project. List no more than five (5) projects.
 - a. Title and Locations of project or contract. For an indefinite delivery contract, the location is the geographic scope of the contract.
 - b. Enter the year completed of the professional services (such as planning, engineering study, or design), and/or the year completed if construction. If any of the professional services or the construction projects are not complete, leave Year Completed blank and indicate the status in Brief Description of Project and Relevance to This Contract (block f).
 - c. Project Owner or user, such as a government agency or installation, an institution, a corporation or private individual.
 - d. Provide the original budget or not to exceed dollar amount for the project.
 - e. Provide the Total Cost of the Project. If any of the professional services or construction projects is not complete, indicate the percentage complete and whether this project will be on budget, over or under budget.
 - f. Brief Description: Indicate scope, size, and length of project, principle elements and special features of the project. Discuss the relevance of the example project to this contract.
6. **Additional Information.** Use this section to provide additional information you feel may be necessary to describe your firm's qualifications for this contract.
7. **Annual Average Professional Services Revenues of Firm for Last 3 Years.** Complete this block for the firm or branch office for which this form is completed. In column a, enter an approximate percentage of total work attributable to State, Federal or Municipal Work. In column b, enter an approximate percentage of total work attributable to Non-Government work. Percentages should take into consideration work completed over the last 3 years.
8. **Authorized Representative.** An authorized representative of the firm or branch office must sign and date the completed form. Signing attests that the information provided is current and factual. Provide the name and title of the authorized representative who signed the form.

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List of Disciplines (Function Codes) for Question 7

Aeronautical Engineer	Environmental Engineer	Mining Engineer
Agricultural Engineer	Environmental Scientist	Nuclear Engineer
Archeologist	Fire Protection Engineer	Petroleum Engineer
Architect	Geodetic Surveyor	Photogrammetrist
Architectural Engineering	Geographic Information System	Project Manager
Biologist	Specialist	Sanitary Engineer
CADD Technician	Geological Engineer	Soils Engineer
Chemical Engineer	Geologist	Structural Engineer
Civil Engineer	Hydrographic Surveyor	Technician/Analyst
Construction Manager	Hydraulic Engineer	Transportation Engineer
Construction Inspector	Hydrologist	Water Resources Engineer
Control Systems Engineer	Industrial Engineer	
Cost Engineer/Estimator	Landscape Architect	
Ecologist	Mechanical Engineer	
Electrical Engineer	Metallurgical Engineer	

List of Experience Categories (Profile Codes for Question 8)

Acoustics, Noise Abatement	Dredging Studies and Design
Aerial Photography; Airborne Data and Imagery Collection and Analysis	Design & Planning Structured Parking Facilities
Activity Centers	Detention Security Systems
Air Pollution Control	Disability / Special Needs
Airports; Navajds; Airport Lighting; Aircraft Fueling	Ecological and Archeological Investigations
Airports; Terminals and Hangars; Freight Handling	Educational Facilities; Classrooms
Agricultural Development; Grain Storage; Farm Mechanization	Electrical Studies and Design
Animal Facilities	Electronics
Anti-Terrorism/Force Protection	Elevators; Escalators; People-Movers
Area Master Planning	Energy / Water Auditing Savings
Auditoriums and Theaters	Energy Conservation; New Energy Sources
Automation; Controls; Instrumentation	Environmental Impact Studies, Assessments or Statements
Barracks; Dormitories	Fallout Shelters; Blast-Resistant Design
Bridge Design: Bridges	Fire Protection
Cartography	Fisheries; Fish Ladders
Cemeteries (<i>Planning and Relocation</i>)	Forensic Engineering
Chemical Processing and Storage	Garages; Vehicles Maintenance Facilities; Parking
Child Care/Development Facilities	Gas Systems (<i>Propane; Natural, Etc.</i>)
Codes; Standards; Ordinances	Geodetic Surveying: Ground and Airborne
Cold Storage; Refrigeration and Fast Freeze	Heating; Ventilating; Air Conditioning
Commercial Building (<i>Low Rise</i>); Shopping Centers	Highways; Streets; Airfield Paving; Parking Lots
Community Facilities	Historical Preservation
Communications Systems; TV; Microwave	Hospital and Medical Facilities
Computer Facilities	Hotels; Motels
Conservation and Resource Management	<i>Housing (Residential, Multi-Family; Apartments; Condominiums)</i>
Construction Management	Hotels; Motels
Construction Surveying	Hydraulics and Pneumatics
Corrosion Control; Cathodic Protection Electrolysis	Hydrographic Surveying
Cost Estimating; Cost Engineering and Analysis; Parametric Costing; Forecasting	Industrial Buildings; Manufacturing Plants
Cryogenic Facilities	Industrial Processes; Quality Control
Construction Materials Testing	Industrial Waste Treatment
Dams (<i>Concrete; Arch</i>)	Intelligent Transportation Systems
Dams (<i>Earth; Rock</i>); Dikes; Levees	Infrastructure
Desalinization (<i>Process and Facilities</i>)	Irrigation; Drainage
Design-Build - Preparation of Requests for Proposals	Judicial and Courtroom Facilities
Digital Elevation and Terrain Model Development	Laboratories; Medical Research Facilities
Digital Orthophotography	Land Surveying
Dining Halls; Clubs; Restaurants	Landscape Architecture
	Libraries; Museums; Galleries

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Lighting (*Interior; Display; Theater, Etc.*)
Lighting (*Exteriors; Streets; Memorials; Athletic Fields, Etc.*)
Labs - General
Labs – Research – Dry
Labs – Research – Wet
LEED Accredited A/E
LEED Independent 3rd Party Building Commissioning
Mapping Location/Addressing Systems
Materials Handling Systems; Conveyors; Sorters
Metallurgy
Materials Testing
Measurement / Verification / Conservation Water Consumption Savings
Mining and Mineralogy
Medical Related
Modular Systems Design; Fabricated Structures or Components
Mold Investigation
Museums
Nuclear Facilities; Nuclear Shielding
Office Buildings; Industrial Parks
Outdoor Recreation
Petroleum and Fuel (*Storage and Distribution*)
Photogrammetry
Pipelines (*Cross-Country - Liquid and Gas*)
Phase I Environmental
Prisons & Correctional Facilities
Plumbing and Piping Design
Prisons and Correctional Facilities
Product, Machine Equipment Design Pneumatic Structures, Air-Support Buildings Power Generation, Transmission, Distribution Public Safety Facilities
Radar; Sonar; Radio and Radar Telescopes
Radio Frequency Systems and Shielding's
Railroad; Rapid Transit
Recreation Facilities (*Parks, Marinas, Etc.*)
Refrigeration Plants/Systems
Rehabilitation (*Buildings; Structures; Facilities*)
Research Facilities
Resources Recovery; Recycling
Roof Infrared Imaging to Identify Water Leaks

Roofing
Safety Engineering; Accident Studies; OSHA Studies
Security Systems; Intruder and Smoke Detection
Seismic Designs and Studies
Sewage Collection, Treatment and Disposal
Soils and Geologic Studies; Foundations
Solar Energy Utilization
Solid Wastes; Incineration; Landfill
Special Environments; Clean Rooms, Etc.
Structural Design; Special Structures
Surveying; Platting; Mapping; Flood Plain Studies
Sustainable Design
Swimming Pools
Storm Water Handling and Facilities
Specifications Writing
Toxicology
Testing and Inspection Services
Traffic and Transportation Engineering
Topographic Surveying and Mapping
Towers (*Self-Supporting and Guyed Systems*)
Tunnels and Subways
Traffic Studies
Transportation
Urban renewals; Community Development
Utilities (*Gas and Steam*)
Value Analysis; Life-Cycle Costing
Warehouse and Depots
Water Resources; Hydrology; Ground Water
Water Supply; Treatment and Distribution
Wind Tunnels; Research/Testing Facilities Design
Waste Water Treatment Facility
Water Well Rehabilitation; Water Well Work
Zoning; Land Use Studies

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(If a firm has branch offices, complete for each specific branch office seeking work.)

1. REVISED ADSP013-00003465: Annual Request for Qualifications

a.	FIRM (OR BRANCH OFFICE) NAME:	Southwest Ground-water Consultants, Inc.
b.	FIRM (OR BRANCH OFFICE) STREET:	3033 North 44 th Street, Suite 120
c.	FIRM (OR BRANCH OFFICE) CITY:	Phoenix
d.	FIRM (OR BRANCH OFFICE) STATE:	Arizona
e.	FIRM (OR BRANCH OFFICE) ZIP CODE:	85018-7226
f.	YEAR ESTABLISHED:	1993
(g1).	OWNERSHIP - TYPE:	Corporation
(g2).	OWNERSHIP - SMALL BUSINESS STATUS:	Small Business
h.	POINT OF CONTACT NAME AND TITLE:	Stephen D. Noel, R.G.
i.	POINT OF CONTACT TELEPHONE NUMBER:	602-955-5547
j.	POINT OF CONTACT E-MAIL ADDRESS:	snoel@sgcground-water.com
k.	NAME OF FIRM (If block 1a is a branch office):	

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Stephen D. Noel, R.G.	b. ROLE IN THIS CONTRACT Project Manager/Sr. Hydrogeologist	c. YEARS EXPERIENCE	
		1. TOTAL 35	2. WITH CURRENT FIRM 20
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018			
e. EDUCATION (DEGREE AND SPECIALIZATION) M.S., 1978 Geology, Purdue University, West Lafayette, Indiana B.A., 1975 Environmental Studies and History, Franklin and Marshall College, Lancaster, Pennsylvania		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Geologist – Arizona (17065), California (4146)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Noel, President of Southwest Ground-water Consultants, Inc., is the Principal Hydrogeologist for the company's three Arizona offices. He has been responsible for a wide variety of hydrogeologic investigations throughout Arizona and the southwest involving: permitting; site-specific geologic interpretation; exploratory, monitor, and production well design and installation management; aquifer testing and analysis; design of water quality monitoring programs; recharge and recovery projects, and water rights evaluations.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	Production Well Installation –Solana Concentrating Solar Power Generating Plant, Gila Bend, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Noel served as Project Manager and Principal Hydrogeologist for this 2.5 million dollar project. SGC was retained to permit, design, provide construction management services, testing, and final equipping of four high capacity production wells and a potable well for the Solana Concentrating Solar Power Generating Plant.		
2)	Rehabilitation of Three City of Phoenix Wells, Phoenix, Arizona	2012	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Noel served as Project Manager and Principal Hydrogeologist for this \$485,000 project. SGC was retained by the City of Phoenix to evaluate three existing wells that had been offline due to increased nitrate concentrations. SGC evaluated the wells and groundwater quality to determine if remediation of the wells was economically practical.		
3)	Response to Notice of Violation (NOV), Aquifer Protection Permit (APP) No. P-101689, Eloy, Arizona	2012	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Noel served as Project Manager and Principal Hydrogeologist for this \$71,000 project. SGC was retained by the City of Eloy to assist the City in responding to an ADEQ Notice of Violation due to violations alleged during inspection of the wastewater treatment plant. SGC helped the City respond to the APP Compliance Schedule.		
4)	Designation of Assured Water Supply (DAWS) Update, Town of Florence, Arizona	2013	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Noel served as Project Manager and Principal Hydrogeologist for this \$51,000 project. SGC prepared a detailed hydrogeologic report to satisfy the demonstration of physical availability of groundwater in support of an Application for a Modification of a DAWS for the Town of Florence. Application was submitted to ADWR for approval.		
5)	Groundwater Flow Model, Mesa Farms Application for Analysis of Assured Water Supply (AAWS), Pinal County, Arizona	2013	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Noel served as Project Manager and Principal Hydrogeologist for this \$50,000 project. SGC was contracted by Pinal Land Holdings to prepare an AAWS for review and approval by ADWR. The application covered 11,500 acres of historically farmed land and desert land and required development of a detailed groundwater flow model.		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT *(Complete one Section 4 for each key person.)*

a. NAME William M. Greenslade, P.E., R.G.	b. ROLE IN THIS CONTRACT Project Manager/Sr. Hydrogeologist	c. YEARS EXPERIENCE	
		1. TOTAL 46	2. WITH CURRENT FIRM 18
d. FIRM NAME AND LOCATION <i>(City and State)</i> Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> M.S., 1967 Hydrology, MacKay School of Mines, University of Nevada, Reno B.S., 1965 Geological Engineering, MacKay School of Mines, University of Nevada, Reno		f. CURRENT PROFESSIONAL REGISTRATION <i>(STATE AND DISCIPLINE)</i> Geological Engineer – Arizona (10313) Geologist – Arizona (9741), California (3430)	
g. OTHER PROFESSIONAL QUALIFICATIONS <i>(Publications, Organizations, Training, Awards, etc.)</i> Mr. Greenslade is experienced in the hydrogeologic characterization of ground and surface water flow systems, design of water supply and recharge & recovery wells, analysis of contaminant migration and the development of remedial plans for contaminated soil and groundwater. He has conducted surface water and groundwater studies for water supply development, flood control, dewatering and water quality management. Mr. Greenslade also served for six years as Geologist on the AZ State Board of Technical Registration.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) Year Completed	
		Professional Services	Construction <i>(if applicable)</i>
1)	City of Chandler Recharge Permit Capacity – Tumbleweed, Ocotillo, and CHRP, Chandler, Arizona	On-going	NA
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Greenslade is Project Manager and Principal Hydrogeologist for this on-going \$93,000 project. SGC was retained by the City of Chandler to conduct a study of the operating performance and ultimate recharge capacity of the City's three effluent recharge facilities.		
2)	Red Gap Ranch Water Resources Environmental Assessment and Groundwater Modeling Study, Flagstaff, Arizona	On-going	NA
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Greenslade is Project Manager and Principal Hydrogeologist for this on-going \$276,000 project. SGC was retained to provide the City of Flagstaff and USBR with a water resources environmental assessment for the City's proposed pumping of groundwater from the Red Gap Ranch and impacts this may have on perennial reaches of two creeks.		
3)	Hydrogeology Study in Support of Amended APP and USF Permits, Prescott Airport Water Reclamation Facility, Yavapai County, Arizona	2012	NA
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Greenslade served as Project Manager and Principal Hydrogeologist for this \$28,000 project. SGC provided hydrogeological services to the City of Prescott for upgrading the City's Airport Water Reclamation and Recharge Facility. SGC performed analyses and numerical modeling to expand the capacity of the recharge facility.		
4)	Aquifer Storage and Recovery (ASR) Well Testing Program, City of Chandler, Arizona	2013	NA
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Greenslade served as Project Manager and Principal Hydrogeologist for this \$51,000 project. SGC tested all active ASR wells at the City's three effluent underground storage facilities with recommendations for optimal operation and maintenance (O & M).		
5)	West Pecos Municipal Production Well, Chandler, Arizona	On-going	2013
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Greenslade is Project Manager and Principal Hydrogeologist for this ongoing \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well.		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Scot Journell, P.E.	b. ROLE IN THIS CONTRACT Project Manager/Geological Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 31	2. WITH CURRENT FIRM 19
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44 th Street, Suite 120, Phoenix, AZ 85018			
e. EDUCATION (DEGREE AND SPECIALIZATION) B.S., 1981 Geology, Northern Arizona University, Flagstaff, Arizona		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Geological Engineer – Arizona (23281)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Journell has extensive experience managing environmental projects ranging from transaction screens and environmental assessments to large bioremediation projects. Honors/Publications: <ul style="list-style-type: none"> • Team Member, Geological Engineering Exam Revision, AZ Board of Technical Registration, 2003 • <i>Field Scale Studies on the Removal of Pentachlorophenol from Contaminated Soil</i>, Second International Conference on the Remediation of Chlorinated and Recalcitrant Compounds, Battelle, 2000 • <i>Environmental Assessment and the Role of the Consultant In Solving Problems</i>, State Bar of AZ 1992 • <i>Site Remediation of Underground Storage Tank Contamination</i>, Arizona/Nevada Academy Science, 1989 			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	West Pecos Municipal Production Well, Chandler, Arizona	On-going	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Journell serves as Hydrogeologist for this ongoing \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well.		
2)	City of Chandler Railroad Replacement Well, Chandler, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Journell served as Hydrogeologist for this \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well, "The Railroad Well" which replaced and old irrigation well in the same location that was abandoned per ADWR rules.		
3)	City Shop Underground Storage Tank (UST) Site Characterization, Remediation, and Pilot Testing, Prescott, Arizona	On-going	On-going
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Journell is Project Manager and Design Engineer for this \$250,000 on-going environmental remediation project. SGC was contracted by the City of Prescott to characterize and remediate a leaking UST site. SGC designed and operates a mobile Dual Phase Extraction System to extract fuel compounds from soil and groundwater.		
4)	Goldwater Lake Park Expansion New Well – Prescott, Arizona	On-going	On-going
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Journell serves as Design Engineer for location, construction and permitting of a new drinking water well. SGC utilized remote sensing methods to identify water bearing areas within a bedrock area. SGC has provided bid specifications, bid review, construction monitoring, and well testing services (\$15,000) to date. Permitting is on-going.		
5)	New Production Well for EPCOR, Bullhead City, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Journell served as Hydrogeologist for this \$50,000 well installation project. SGC was contracted by EPCOR to provide oversight of all field activities associated with drilling, installation, and testing of a new production well. SGC prepared the final well design and report summarizing well construction and test results.		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Kevin D. Hebert, R.G.		b. ROLE IN THIS CONTRACT Project Manager/Hydrogeologist		c. YEARS EXPERIENCE	
				1. TOTAL 29	2. WITH CURRENT FIRM 9
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018					
e. EDUCATION (DEGREE AND SPECIALIZATION) B.S., 1983 Geology, University of Southwestern Louisiana, Lafayette, Louisiana			f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Geologist – Arizona (26388)		
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Hebert has extensive experience managing multidisciplinary environmental projects. He has also served as Project Manager providing oversight and management for the permitting, installation, and testing of numerous water production wells in the Phoenix, Pinal, and Tucson Active Management Areas (AMAs). His experience includes industrial compliance issues such as wastewater treatment, landfill closure, landfill permitting, and Aquifer Protection Permitting. He has completed numerous Phase I Environmental Site Assessments (ESAs) covering a wide range of property types. Mr. Hebert is Mine Safety and Health Administration (MSHA) certified.					

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	Production Well Installation –Solana Concentrating Solar Power Generating Plant, Gila Bend, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm As Hydrogeologist, Mr. Hebert provided technical oversight and performed QA/QC for all field operations, health and safety plans, and final document preparations for this 2.5 million dollar project involving installation and testing of four high capacity production wells and a potable well for the Solana Concentrating Solar Power Generating Plant.		
2)	Florence Copper In-Situ Mining Project, Florence, Arizona	On-going	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm As Hydrogeologist for this \$279,000 on-going project, Mr. Hebert is analyzing the feasibility/safety of the proposed Florence Copper In-situ Mining Project. He has completed numerous formal presentations at hearings and provided technical assistance to the Opposition’s legal representation.		
3)	Goodyear Air Park Replacement Well, Goodyear, Arizona	On-going	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Hebert is Project Manager and Hydrogeologist for this on-going \$37,000 project. SGC was retained to prepare a hydrogeological analysis to identify potential location(s) for a replacement water production well near the Phoenix-Goodyear Airport Superfund Site (PGA South).		
4)	Wenden Domestic Water Improvement District Well W-2, Wenden, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Hebert served as Project Manager and Hydrogeologist for this \$46,000 well modification project. While deepening the well to improve water quality, Mr. Hebert identified serious obstructions in the existing well. He provided recommendations to get the project back on track toward successful completion.		
5)	City of Douglas Water Production Well #17, Douglas, Arizona	2013	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Hebert served as Project Manager and Hydrogeologist for this \$66,000 project. SGC was contracted by the City of Douglas to oversee drilling, installation, and testing of a municipal water supply well. SGC provided supplemental technical support after the well was completed.		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME		b. ROLE IN THIS CONTRACT		c. YEARS EXPERIENCE	
Nathan E. Miller		Hydrologist/Groundwater Modeler		1. TOTAL 15	2. WITH CURRENT FIRM 14
d. FIRM NAME AND LOCATION (City and State)					
Southwest Ground-water Consultants, Inc. – 3033 North 44 th Street, Suite 120, Phoenix, AZ 85018					
e. EDUCATION (DEGREE AND SPECIALIZATION)			f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)		
B.S., 1997 Hydrology, University of Arizona - Tucson					
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)					
Mr. Miller is a Hydrologist with expertise in groundwater flow modeling and experience with: GIS development; relational database development, preparation of hydrogeologic maps and technical reports. Mr. Miller represents clients before ADWR and ADEQ, and manages the successful completion of permits issued by these agencies. He has conducted numerous assured water supply investigations and prepared applications for Physical Availability Demonstrations, and Certificates, Analyses, and Designations of Assured Water Supply. He has completed many well spacing and well impact investigations in support of production well permits. He has also prepared many recharge aquifer impact analyses, applications for Underground Storage Facilities, and provided hydrologic support for applications for Aquifer Protection Permits with particular expertise in performing analyses to determine the Discharge Impact Area (DIA).					
H. RELEVANT PROJECTS					
1)	(1) TITLE AND LOCATION (City and State)		(2) Year Completed		
	Groundwater Modeling – Harquahala Valley Project, La Paz and Maricopa Counties, Arizona		Professional Services 2013	Construction (if applicable) NA	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Mr. Miller served as Hydrologist/Groundwater Modeler for this \$230,000 project. SGC was contracted by CV Harquahala to conduct a detailed hydrogeologic investigation to evaluate the groundwater resources available in the Harquahala INA and to establish the long-term yield of the source aquifer.					
2)	(1) TITLE AND LOCATION (City and State)		(2) Year Completed		
	Groundwater Flow Model, Mesa Farms Application for Analysis of Assured Water Supply (AAWS), Pinal County, Arizona		Professional Services 2013	Construction (if applicable) NA	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Mr. Miller served as Hydrologist/Groundwater Modeler for this \$50,000 project. SGC was contracted by Pinal Land Holdings to prepare an AAWS for review and approval by ADWR. The application covered 11,500 acres of historically farmed land and desert land and required development of a detailed groundwater flow model.					
3)	(1) TITLE AND LOCATION (City and State)		(2) Year Completed		
	Red Gap Ranch Water Resources Environmental Assessment and Groundwater Modeling Study, Flagstaff, Arizona		Professional Services On-going	Construction (if applicable) NA	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Mr. Miller is Hydrologist and Groundwater Modeler for this on-going \$276,000 project. SGC was retained to provide the City of Flagstaff and USBR with a water resources environmental assessment for the City's proposed pumping of groundwater from the Red Gap Ranch and impacts this may have on perennial reaches of two creeks.					
4)	(1) TITLE AND LOCATION (City and State)		(2) Year Completed		
	City of Chandler Recharge Permit Capacity – Tumbleweed, Ocotillo, and CHRP, Chandler, Arizona		Professional Services On-going	Construction (if applicable) NA	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Mr. Miller is Hydrologist and Groundwater Modeler for this on-going \$93,000 project. SGC was retained by the City of Chandler to conduct a study of the operating performance and ultimate recharge capacity of the City's three effluent recharge facilities.					
5)	(1) TITLE AND LOCATION (City and State)		(2) Year Completed		
	Hydrogeology Study in Support of Amended APP and USF Permits, Prescott Airport Water Reclamation Facility, Yavapai County, Arizona		Professional Services 2012	Construction (if applicable) NA	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		<input checked="" type="checkbox"/> Check if project performed with current firm			
Mr. Miller served as Hydrologist/Groundwater Modeler for this \$28,000 project. SGC provided hydrogeological services to the City of Prescott for upgrading the City's Airport Water Reclamation and Recharge Facility. SGC performed analyses and numerical modeling to expand the capacity of the recharge facility.					

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REVISED - Attachment I – General Qualifications**

4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME DeAnn G. Hauver	b. ROLE IN THIS CONTRACT Hydrologist/GIS Specialist	c. YEARS EXPERIENCE	
		1. TOTAL 28	2. WITH CURRENT FIRM 10
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018			
e. EDUCATION (DEGREE AND SPECIALIZATION) B.S., 1984 Geology/Physics, East Texas State University, Texas A & M, Commerce, Texas		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Ms. Hauver has a long history of work in the oil and gas industry. She is highly experienced in records research and acquisition of data for preparation of hydrogeologic maps, cross-sections, and project reports. Using her strong computer skills and proficiency in geographic information system (GIS) mapping, Ms. Hauver prepares graphics, maps, and tables for various hydrologic permit applications. She has completed well spacing and well impact investigations in support of various well permits. She also performs analytical modeling for water supply evaluations and provides technical office support by assisting with report preparation, editing, and production.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
1)	Florence Copper In-Situ Mining Project, Florence, Arizona	Professional Services On-going	Construction (if applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Hauver is Hydrologist and GIS Specialist for this \$279,000 on-going project. SGC was contracted to analyze the feasibility/safety of the proposed Florence Copper In-situ mining project. Ms. Hauver prepares the maps, graphics, and visual aids used in reports and formal presentations at hearings by the Opposition’s legal representation.		
2)	Red Gap Ranch Water Resources Environmental Assessment and Groundwater Modeling Study, Flagstaff, Arizona	Professional Services On-going	Construction (if applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Hauver is Hydrologist and GIS Specialist for this on-going \$276,000 project. SGC was retained to provide the City of Flagstaff and USBR with a water resources environmental assessment for the City’s proposed pumping of groundwater from the Red Gap Ranch and impacts this may have on perennial reaches of two creeks.		
3)	City of Chandler Recharge Permit Capacity – Tumbleweed, Ocotillo, and CHRP, Chandler, Arizona	Professional Services On-going	Construction (if applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Hauver is Hydrologist and GIS Specialist for this on-going \$93,000 project. SGC was retained by the City of Chandler to conduct a study of the operating performance and ultimate recharge capacity of the City’s three effluent recharge facilities.		
4)	Designation of Assured Water Supply (DAWS) Update, Town of Florence, Arizona	Professional Services 2013	Construction (if applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Hauver served as Hydrologist and GIS Specialist for this \$51,000 project. SGC prepared a detailed hydrogeologic report to satisfy the demonstration of physical availability of groundwater in support of an Application for a Modification of a DAWS for the Town of Florence. Application was submitted to ADWR for approval.		
5)	Groundwater Flow Model, Mesa Farms Application for Analysis of Assured Water Supply (AAWS), Pinal County, Arizona	Professional Services 2013	Construction (if applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Hauver served as Hydrologist and GIS Specialist for this \$50,000 project. SGC was contracted by Pinal Land Holdings to prepare an AAWS for review and approval by ADWR. The application covered 11,500 acres of historically farmed land and desert land and required development of a detailed groundwater flow model.		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Georgia L. Waters, R.G.		b. ROLE IN THIS CONTRACT Hydrogeologist		c. YEARS EXPERIENCE	
		1. TOTAL 23	2. WITH CURRENT FIRM 19		
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018					
e. EDUCATION (DEGREE AND SPECIALIZATION) M.S., 1988 Hydrology, University of Arizona - Tucson B.S., 1984 Geology, University of Wisconsin - Madison			f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Geologist – Arizona (34434)		
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Ms. Waters has extensive field experience collecting soil, surface water and groundwater samples, monitoring drilling activities, logging cuttings, interpreting geophysical logs, and conducting aquifer tests. In the office, she maintains the firm’s website, prepares proposals and statements of qualifications, and uses her computer skills to compile, validate and analyze aquifer test data, as well as prepare maps, tables, and figures for presentation in project reports. Ms. Waters earned a Certificate of Completion in Geographic Information Systems (GIS) from Mesa Community College (Aug 2012).					
H. RELEVANT PROJECTS					
1)	(1) TITLE AND LOCATION (City and State) Production Well Installation –Solana Concentrating Solar Power Generating Plant, Gila Bend, Arizona		(2) Year Completed		
			Professional Services 2013	Construction (if applicable) 2013	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Waters served as Hydrogeologist supporting this 2.5 million dollar project. SGC was retained to permit, design, provide construction management services, testing, and final equipping of four high capacity production wells and a potable well for the Solana Concentrating Solar Power Generating Plant.					
2)	(1) TITLE AND LOCATION (City and State) Rehabilitation of Three City of Phoenix Wells, Phoenix, Arizona		(2) Year Completed		
			Professional Services 2012	Construction (if applicable) NA	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Waters served as Hydrogeologist supporting this \$485,000 project. SGC was retained by the City of Phoenix to evaluate three existing wells that had been offline due to increased nitrate concentrations. SGC evaluated the wells and groundwater quality to determine if remediation of the wells was economically practical.					
3)	(1) TITLE AND LOCATION (City and State) Red Gap Ranch Water Resources Environmental Assessment and Groundwater Modeling Study, Flagstaff, Arizona		(2) Year Completed		
			Professional Services On-going	Construction (if applicable) NA	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Waters is Hydrogeologist for this on-going \$276,000 project. SGC was retained to provide the City of Flagstaff and USBR with a water resources environmental assessment for the City’s proposed pumping of groundwater from the Red Gap Ranch and impacts this may have on perennial reaches of two creeks.					
4)	(1) TITLE AND LOCATION (City and State) City of Chandler Railroad Replacement Well, Chandler, Arizona		(2) Year Completed		
			Professional Services 2013	Construction (if applicable) 2013	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Waters served as Hydrogeologist for this \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well, “The Railroad Well” which replaced and old irrigation well in the same location that was abandoned per ADWR rules.					
5)	(1) TITLE AND LOCATION (City and State) Aquifer Storage and Recovery (ASR) Well Testing Program, City of Chandler, Arizona		(2) Year Completed		
			Professional Services 2013	Construction (if applicable) NA	
(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Ms. Waters served as Hydrogeologist for this \$51,000 project. SGC tested all active ASR wells at the City’s three effluent underground storage facilities with recommendations for optimal operation and maintenance (O & M).					

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Chris R. Catalano, R.G.		b. ROLE IN THIS CONTRACT Hydrogeologist		c. YEARS EXPERIENCE	
				1. TOTAL 16	2. WITH CURRENT FIRM 14
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018					
e. EDUCATION (DEGREE AND SPECIALIZATION) M.S., 1997 Geology, University of Toledo, Toledo, Ohio B.S., 1995 Geology, University of Toledo, Toledo, Ohio			f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Geologist – Arizona (41781) Sanitarian – Arizona (698)		
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Catalano has completed hydrogeologic investigations in support of various permits issued by ADWR’s Office of Assured and Adequate Water Supply. He has participated in many aspects of water well work including: design, permitting, installation, development, and testing of new production wells and monitoring wells, and rehabilitation and abandonment plans for existing wells. Mr. Catalano has completed hydrologic studies that have been submitted to ADEQ as a supplement to Aquifer Protection Permit (APP) applications. Mr. Catalano is Mine Safety and Health Administration (MSHA) certified.					

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	Red Gap Ranch Water Resources Environmental Assessment and Groundwater Modeling Study, Flagstaff, Arizona	On-going	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Catalano is Hydrogeologist for this on-going \$276,000 project. SGC was retained to provide the City of Flagstaff and USBR with a water resources environmental assessment for the City’s proposed pumping of groundwater from the Red Gap Ranch and impacts this may have on perennial reaches of two creeks.		
2)	West Pecos Municipal Production Well, Chandler, Arizona	On-going	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Catalano serves as Hydrogeologist for this on-going \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well.		
3)	City of Chandler Railroad Replacement Well, Chandler, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Catalano served as Hydrogeologist for this \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well, “The Railroad Well” which replaced and old irrigation well in the same location that was abandoned per ADWR rules.		
4)	New Production Well for EPCOR, Bullhead City, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Catalano served as Project Manager and Hydrogeologist for this \$50,000 well installation project. SGC was contracted by EPCOR to provide oversight of all field activities associated with drilling, installation, and testing of a new production well. SGC prepared the final well design and report summarizing well construction and test results.		
5)	New Production Well for Existing and Proposed Developments, Lake Havasu City, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Catalano served as Project Manager and Hydrogeologist for this \$53,000 project. SGC was contracted by Vesecky Engineering to prepare an impact analysis, technical specifications, and final design for a new production well. SGC also provided oversight of all field activities associated with drilling, installation, and testing of the new well.		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Dylan J. Easthouse, R.G.		b. ROLE IN THIS CONTRACT Hydrogeologist		c. YEARS EXPERIENCE	
				1. TOTAL 11	2. WITH CURRENT FIRM 11
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018					
e. EDUCATION (DEGREE AND SPECIALIZATION) B.A., 1998 Geology, Whitman College, Walla Walla, Washington			f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Geologist – Arizona (46233)		
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Easthouse has conducted numerous hydrogeologic and site characterization studies required to satisfy ADEQ requirements for Aquifer Protection Permits (APPs), and ADWR's Assured and Adequate Water Supply program. He is experienced in the design, permitting, installation, development, and testing of new production wells and monitoring wells, aquifer testing, slug testing, soil logging, geophysical logging, video logging, water quality sampling, and data analysis. He has had key roles in recharge projects which include infiltration testing using a single-ring infiltrometer, borehole drilling, and percolation testing.					

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	West Pecos Municipal Production Well, Chandler, Arizona	On-going	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Easthouse serves as Hydrogeologist for this ongoing \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well.		
2)	Groundwater Flow Model, Mesa Farms Application for Analysis of Assured Water Supply (AAWS), Pinal County, Arizona	2013	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Easthouse served as Hydrogeologist for this \$50,000 project. SGC was contracted by Pinal Land Holdings to prepare an AAWS for review and approval by ADWR. The application covered 11,500 acres of historically farmed land and desert land and required development of a detailed groundwater flow model.		
3)	Response to Notice of Violation (NOV), Aquifer Protection Permit (APP) No. P-101689, Eloy, Arizona	2012	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Easthouse served as Hydrogeologist for this \$71,000 project. SGC was retained by the City of Eloy to assist the City in responding to an ADEQ Notice of Violation due to violations alleged during inspection of the wastewater treatment plant. SGC helped the City respond to the APP Compliance Schedule.		
4)	City of Chandler Railroad Replacement Well, Chandler, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Easthouse served as Hydrogeologist for this \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well, "The Railroad Well" which replaced and old irrigation well in the same location that was abandoned per ADWR rules.		
5)	New Production Well for EPCOR, Bullhead City, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Easthouse served as Hydrogeologist for this \$50,000 well installation project. SGC was contracted by EPCOR to provide oversight of all field activities associated with drilling, installation, and testing of a new production well. SGC prepared the final well design and report summarizing well construction and test results.		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME R. Chris Gardner, R.G.	b. ROLE IN THIS CONTRACT Hydrogeologist	c. YEARS EXPERIENCE	
		1. TOTAL 15	2. WITH CURRENT FIRM 2
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018			
e. EDUCATION (DEGREE AND SPECIALIZATION) M.S., 1997 Hydrogeology, Western Michigan University B.S., 1993 Geology, Michigan State University		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Geologist – Arizona (38733)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Gardner has experience in drilling and well installation programs including over 35 municipal supply wells, 20 recharge wells, and 25 exploratory boreholes; plus projects in the environmental industry and projects in California, Nevada, Texas, Washington, Michigan, and Honduras. His background includes well permitting, well impact studies and Underground Storage Facility (USF) permits. His safety training includes CPR/First Aid, Hazardous Waste Operations and Emergency Response (HAZWOPER) Supervisor Training, and Mine Safety and Health Administration (MSHA) certification in addition to numerous client-specific safety programs.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	Production Well Installation –Solana Concentrating Solar Power Generating Plant, Gila Bend, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Gardner served as Hydrogeologist for this 2.5 million dollar project. SGC was retained to permit, design, provide construction management services, testing, and final equipping of four high capacity production wells and a potable well for the Solana Concentrating Solar Power Generating Plant.		
2)	Rehabilitation of Three City of Phoenix Wells, Phoenix, Arizona	2012	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Gardner served as Hydrogeologist for this \$485,000 project. SGC was retained by the City of Phoenix to evaluate three existing wells that had been offline due to increased nitrate concentrations. SGC evaluated the wells and groundwater quality to determine if remediation of the wells was economically practical.		
3)	Aquifer Storage and Recovery (ASR) Well Testing Program, City of Chandler, Arizona	2013	NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Gardner served as Hydrogeologist for this \$51,000 project. SGC tested all active ASR wells at the City’s three effluent underground storage facilities with recommendations for optimal operation and maintenance (O & M).		
4)	City of Chandler Railroad Replacement Well, Chandler, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Gardner served as Hydrogeologist for this \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well, “The Railroad Well” which replaced and old irrigation well in the same location that was abandoned per ADWR rules.		
5)	West Pecos Municipal Production Well, Chandler, Arizona	On-going	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Gardner serves as Hydrogeologist for this ongoing \$94,000 project. SGC was contracted by the City of Chandler to design, oversee construction and testing of a high capacity municipal water supply well.		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Justin A. Clark	b. ROLE IN THIS CONTRACT Hydrologist/Groundwater Modeler	c. YEARS EXPERIENCE	
		1. TOTAL 2	2. WITH CURRENT FIRM 1
d. FIRM NAME AND LOCATION (City and State) Southwest Ground-water Consultants, Inc. – 3033 North 44th Street, Suite 120, Phoenix, AZ 85018			
e. EDUCATION (DEGREE AND SPECIALIZATION) M.S., 2011 Earth Sciences, University of Waterloo, Ontario, Canada B.S., 2008 Hydrology and Water Resources, University of Arizona, Tucson, Arizona		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Mr. Clark has worked as a research/teaching assistant in hydrogeology and geochemistry. His education has focused on groundwater flow and the chemical interactions that evolve through mixing. As a graduate student, Mr. Clark developed 3D representations of local field-scale geology and characterized organic chemical contamination of a fractured bedrock network. At SGC, Mr. Clark performs: geodatabase management and spatial analysis, conceptual hydrogeologic model development, numerical model construction and calibration, and post-processing of model outputs including preparation of maps, charts, tables, and project narratives.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) Red Gap Ranch Water Resources Environmental Assessment and Groundwater Modeling Study, Flagstaff, Arizona	(2) Year Completed	
		Professional Services On-going	Construction (if applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Clark is Hydrologist and Groundwater Modeler for this on-going \$276,000 project. SGC was retained to provide the City of Flagstaff and USBR with a water resources environmental assessment for the City's proposed pumping of groundwater from the Red Gap Ranch and impacts this may have on perennial reaches of two creeks.		
2)	(1) TITLE AND LOCATION (City and State) Florence Copper In-Situ Mining Project, Florence, Arizona	(2) Year Completed	
		Professional Services On-going	Construction (if applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Clark is Hydrologist and Groundwater Modeler for this \$279,000 on-going project. SGC was contracted to analyze the feasibility/safety of the proposed Florence Copper In-situ mining project. Mr. Clark performs groundwater flow modeling runs and prepares maps and graphics used in reports and formal presentations at hearings.		
3)	(1) TITLE AND LOCATION (City and State) Analysis of Proposed Underground Storage Facility, Peoria, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Mr. Clark served as Hydrologist and Groundwater Modeler for this \$26,000 project. SGC was retained by the City of Peoria to conduct groundwater modeling to assess permitting of existing and proposed underground storage facilities near the New River-Agua Fria River Underground Storage Project (NAUSP).		
4)	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional S	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm		
5)	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input type="checkbox"/> Check if project performed with current firm		

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5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION <i>(City and State)</i> Production Well Installation –Solana Concentrating Solar Power Generating Plant, Gila Bend, Arizona		b. YEAR COMPLETED	
		PROFESSIONAL SERVICES 2013	CONSTRUCTION <i>(If applicable)</i> 2013
23. PROJECT OWNER'S INFORMATION			
c. PROJECT OWNER Abeinsa EPC	d. DOLLAR AMOUNT OF PROJECT \$2,516,000	e. TOTAL COST OF PROJECT \$2,510,000 – On budget	

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)



Southwest Ground-water Consultants, Inc. (SGC) was retained by Abeinsa EPC to permit, design, provide construction management services, and testing of four high capacity production wells and a potable well for the Solana Concentrating Solar Power (CSP) generating plant in Gila Bend, Arizona. Upon completion, the Solana CSP plant will have a total capacity of 280 megawatts, enough power to service approximately 70,000 homes. SGC hydrogeologists designed the well installation program to meet the cooling water and potable water demand for the innovative solar power generating plant currently under construction.



After review and analysis of the local hydrogeologic conditions, SGC developed technical specifications, assisted with bid evaluations, prepared final well designs and provided construction oversight and testing for all phases of the project including final equipping of the wells. Analyses of the pilot borehole test data, including lithologic logging, geophysical logging, and zonal water quality sampling were critical in overcoming water quality and production issues at the site. The wells meet the stringent water quality and production capacity requirements of the Solana CSP generating plant.

Project Dates: February 2011 – October 2013

This project is an example of SGC's experience providing professional services in the categories of:

- **Water Well Rehabilitation; Water Well Work,** and
- **Water Resources; Hydrology; Ground Water**

**RFQ# ADSP014-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT		
(Present no more than five (5) projects. Complete one Section 5 for each project.)		
a. TITLE AND LOCATION (City and State) Rehabilitation of Three City of Phoenix Wells, Phoenix, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2012	CONSTRUCTION (If applicable) NA
23. PROJECT OWNER'S INFORMATION		
c. PROJECT OWNER City of Phoenix	d. DOLLAR AMOUNT OF PROJECT \$485,400	e. TOTAL COST OF PROJECT \$339,000 – Under budget

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)



The City of Phoenix initiated an investigation to determine if three municipal wells (also known as the Ahwatukee wells) could be returned to service. The wells had been offline due to increased nitrate concentrations. SGC was awarded a contract to evaluate the wells, define the nature and source of elevated nitrate, and if practical, develop remedial procedures to reduce nitrate concentrations. After review of available data, SGC proposed to conduct a limited investigation of all three wells. Groundwater quality sampling, aquifer testing, downhole videos, geophysical logging, and production profile surveys of the wells were conducted by SGC. This provided detailed analysis of the distribution of water quality, well conditions, and an understanding of the problems. Based on SGC's evaluation, it was recommended that the wells not be modified due to several challenges and risks associated with the condition of the wells and the distribution of poor water quality in the aquifer. As a result of SGC's analysis, the City saved the cost of well modifications and is currently considering alternate uses for these wells.



Project Dates: October 2010 – October 2012

This project is an example of SGC's experience providing professional services in the categories of:

- **Water Well Rehabilitation; Water Well Work,** and
- **Water Resources; Hydrology; Ground Water**

**RFQ# ADSP014-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT		
<i>(Present no more than five (5) projects. Complete one Section 5 for each project.)</i>		
a. TITLE AND LOCATION <i>(City and State)</i> Aquifer Storage and Recovery (ASR) Well Testing Program, Chandler, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2013	CONSTRUCTION <i>(If applicable)</i> NA
23. PROJECT OWNER'S INFORMATION		
c. PROJECT OWNER City of Chandler	d. DOLLAR AMOUNT OF PROJECT \$51,000	e. TOTAL COST OF PROJECT \$51,000 – On budget

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

The City of Chandler uses Aquifer Storage and Recovery (ASR) wells to help manage reclaimed water and support their overall water portfolio. The City retained Southwest Ground-water Consultants, Inc. (SGC) to develop an ASR Well Testing Program to evaluate recharge well performance at the Tumbleweed and Ocotillo Recharge Facilities. SGC initially reviewed operational data from 14 ASR wells over a 36 month period. Variations in individual well performance were observed. Subsequent testing was undertaken to 1) Evaluate potential causes for the differences in well performance, and 2) Estimate the maximum recharge capacity of each ASR well.

In order to accomplish these goals, the following tasks were performed at each ASR well:

- Step-rate injection testing,
- Constant-rate injection testing at the maximum sustainable rate,
- Evaluation of source water quality and development of clogs, and
- Pumping tests and evaluation of discharge water quality to optimize the routine purging program and maintain well performance.



A report summarizing the results of the ASR Well Testing Program was prepared. The report also included the following recommendations:

- Maximum sustainable injection rate for each well,
- Optimized duration of the purge period,
- Procedure to allow operators to identify potential clogging conditions,
- Procedure for operators to clear potential clogs,
- Maximum sustainable recharge capacity of each ASR facility.



Project Dates: March 2013 – October 2013

This project is an example of SGC's experience providing professional services in the categories of:

- **Water Well Rehabilitation; Water Well Work,** and
- **Water Resources; Hydrology; Ground Water**

**RFQ# ADSP014-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present no more than five (5) projects. Complete one Section 5 for each project.)</i>		
a. TITLE AND LOCATION <i>(City and State)</i> Modified Phase II ESA at Special Planning Area #1 Water Reclamation Facility, Surprise, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2009	CONSTRUCTION <i>(If applicable)</i> NA
23. PROJECT OWNER'S INFORMATION		
c. PROJECT OWNER City of Surprise	d. DOLLAR AMOUNT OF PROJECT \$64,000	e. TOTAL COST OF PROJECT \$64,000 – On budget

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

SGC was contracted by ADEQ as the Prime Firm to conduct a Modified Phase II ESA to assess the extent of contamination due to historical operations at the above named site. The project was funded by a Brownfields State Response Grant through the federal government. The scope of work included preparation of a Work Plan, Sample and Analysis Plan (SAP), field investigation, and preparation of a final ESA report. Results of the investigation indicated that levels of contaminants present on the site were below applicable non-residential soil remediation levels (SRLs). The SAP and report findings were reviewed and approved by ADEQ and the U.S. Environmental Protection Agency.

Project Dates: July 2008 – June 2009



This project is an example of SGC's experience providing professional services in the categories of:

- **Environmental Impact Studies, Assessments or Statements,** and
- **Phase I Environmental**

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

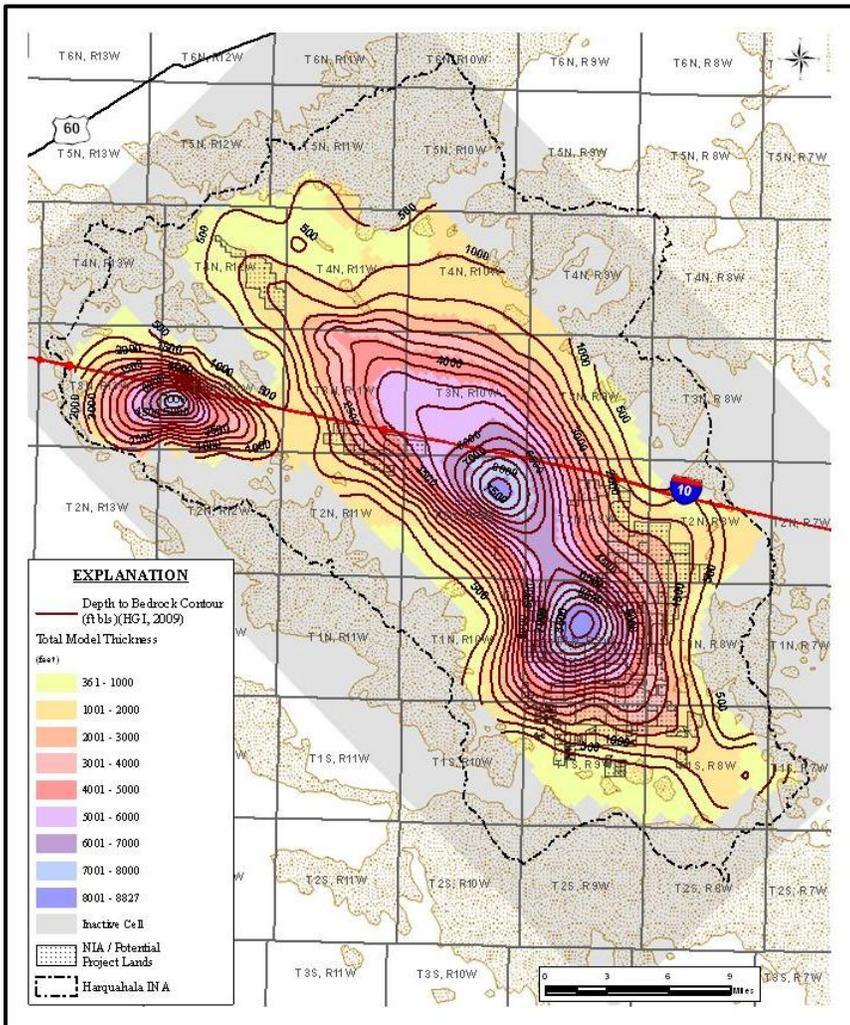
a. TITLE AND LOCATION <i>(City and State)</i> Groundwater Modeling – Harquahala Valley Project, La Paz and Maricopa Counties, Arizona		b. YEAR COMPLETED	
		PROFESSIONAL SERVICES 2013	CONSTRUCTION <i>(If applicable)</i> NA
23. PROJECT OWNER'S INFORMATION			
c. PROJECT OWNER CV Harquahala	d. DOLLAR AMOUNT OF PROJECT \$230,000	e. TOTAL COST OF PROJECT \$228,000 – Under budget	

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

The Harquahala Valley Project (HVP) is a proposed cooperative, private and public landowner-approved groundwater transportation project. HVP seeks ADWR approval to transport a defined quantity of groundwater from the Harquahala INA for use by water users in the Central Arizona AMAs. This study was prepared to support an Application for a Physical Availability Determination (PAD) with

the objective of determining the total quantity of ground water that is physically available within the Harquahala Valley for adequate water supply purposes. A basic objective of HVP is to demonstrate that even if groundwater transportation is undertaken from the Harquahala Valley, there will be plenty of water in storage to accommodate future development within the Valley. SGC conducted a detailed hydrogeologic investigation to evaluate the groundwater resources available in the Harquahala INA and to establish the long-term yield of the source aquifer. SGC estimated the long-term 100-year impact on the aquifer due to projected high-volume groundwater pumping from within the INA by developing a numerical groundwater flow model as the base hydrogeologic condition (Harquahala INA Model).

Project Dates:
September 2010 – March 2013



This project is an example of SGC's experience providing professional services in the categories of:

- **Water Resources; Hydrology; Ground Water**

6. ADDITIONAL INFORMATION

a. PROVIDE ANY ADDITIONAL INFORMATION YOU FEEL MAY BE NECESSARY TO DESCRIBE YOUR FIRMS QUALIFICATIONS. (ATTACH ADDITIONAL SHEETS AS NEEDED.)

Please see Attachment I-A: Company Brochure, *Southwest Ground-water Consultants, Inc.*

7. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

a. Percentage of Total Work Attributable to State, Federal and Municipal Government Work:	40
b. Percentage of Total Work Attributable to Non-Government Work:	60

8. AUTHORIZED REPRESENTATIVE. The foregoing is a statement of facts.

Signature: 

Date: December 11, 2013

Name: Stephen D. Noel, R.G.

Title: President

Southwest Ground-water Consultants, Inc.

20
YEARS
1993-2013

WHO WE ARE

Southwest Ground-water Consultant's Inc. (SGC) is a professional consulting firm specializing in groundwater. Groundwater hydrology, the science of the occurrence, distribution, and movement of water below the surface of the earth¹ is the heart of our business. It is also our business to understand the geologic, environmental, political, and regulatory factors controlling groundwater and its use.

SGC was formed in 1993 in order to meet the needs of industry and the public sector for quality, affordable, hydrogeologic and environmental services. For the past 20 years, we have been doing just that! SGC is legally organized as an Arizona Corporation (DUNS No. 96-699-5730), and qualifies as a small business with annual average professional services revenues of \$2 million to less than \$5 million. We are a small business and proud of our track record in providing high quality, personal service at competitive hourly rates.

SGC's greatest asset is its staff, which is comprised of an interdisciplinary team of Registered Geologists, Registered Professional Engineers, and Hydrologists. The majority of our professional staff have worked together for a dozen or more years completing a variety of challenging hydrogeologic and environmental projects. This lengthy history of successful team work enables SGC to serve its clients with utmost efficiency.

It is SGC's business philosophy to provide our clients the necessary expertise to complete projects cost effectively and within a reasonable schedule. We address the regulatory requirements of each project and implement technically sound, cost-effective data collection and analysis programs tailored to each client's particular needs.

WHERE WE WORK

SGC's main office is located in Phoenix, Arizona. Branch offices are located in Prescott and Cottonwood. We are familiar with hydrogeologic conditions in groundwater basins throughout Arizona and neighboring states. If you would like to know more about us and our work experience in your area, feel free to contact representatives at any of our three offices. Also check out our website at <http://www.sgcground-water.com>.

SGC Phoenix Office:

3033 North 44th Street
Suite 120

Phoenix, AZ 85018

Attn: Stephen D. Noel, R.G.

p 602.955.5547

c 602.463.2797

f 602.955.7585

SGC Prescott Office:

143 N. McCormick Street
Suite 206

Prescott, AZ 86301

Attn: Dylan J. Easthouse, R.G.

p 928.771.0610

c 928.713.0610

f 928.771.0748

SGC Cottonwood Office:

P.O. Box 4564

Cottonwood, AZ 86326

Attn: Chris R. Catalano, R.G.

c 928.649.9993

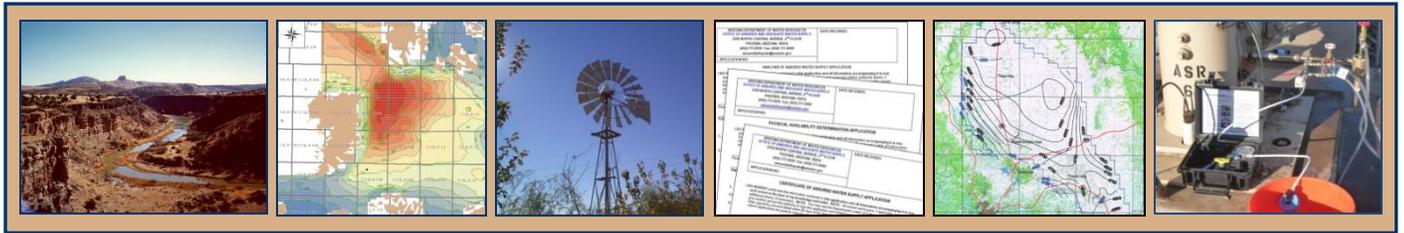
f 928.649.2199



WHAT WE DO

SGC provides a full complement of hydrogeologic and environmental consulting services from problem identification, through data collection and analysis, to the formal presentation of conclusions and recommendations to the client and/or regulatory agency. SGC principals are involved in all projects including both the technical aspects as well as the day-to-day management of the project including time/cost accounting, sub-contractor management, and client communications. A representative summary of services provided by SGC is presented below.

SGC PROFESSIONAL SERVICES:



I. Water Supply Studies / Hydrogeologic Investigations

- Certificates of Assured Water Supply, Water Adequacy Reports, Analysis of Assured Water Supply, and Physical Availability Demonstration Permitting
- Groundwater Resource Evaluations
- Aquifer Characterization
- Subsurface Geologic Characterization
- Aquifer Testing and Sampling
- Groundwater/Surface Water Relationships
- Groundwater Flow Modeling

II. Well Design, Construction Management, and Testing

- Well Siting Analyses
- Well Permitting
- De Minimis General Permitting (DMGP)
- Well Impact (Spacing) Investigations
- Design and Installation of Monitor Wells, Exploration Wells, and Production Wells
- Well Rehabilitation
- Well Abandonment



III. Aquifer Recharge

- Aquifer Characterization / Infiltration Testing
- Recharge Well Design
- Pilot Testing (Vadose Zone Wells, Aquifer Storage & Recovery (ASR) Wells, and Basins)
- Mounding Analysis / Area of Impact
- Monitoring, Testing, and Reporting
- Permitting



IV. Contaminant Investigations / Regulatory Permitting and Compliance



- Leaking Underground Storage Tank (LUST) Site Characterization and Remediation
- U.S. Environmental Protection Agency Superfund Site Characterization/Closure
- Water Quality Assurance Revolving Fund (WQARF) Site Characterization/Closure
- Landfill Site Characterization/Closure
- Compliance Monitoring
- Remedial Design
- Construction Management
- ADEQ Aquifer Protection Permits (APP)
- ADWR Well and Water Supply Permitting
- Arizona Pollutant Discharge Elimination System (AZPDES) Permits
- Recharge (Underground Storage Facility), Storage (Water Supply), and Recovery (Recharge Well) Permits

V. Additional Services

- Aquifer Dewatering
- Legal Support and Expert Witness Testimony



WHO WE SERVE

SGC has proudly served hundreds of clients over the past 20 years including: multiple municipalities, the State of Arizona, utility companies, Native American Tribal governments, law firms, mining companies, master planned communities, engineering firms, private businesses, and individuals. These clients comprise a broad spectrum of the public and private business sectors. A partial list of our valued clients is presented below.

- ABRA Water Company
- Apache Junction Water Company
- Arizona Department of Environmental Quality
- Arizona Department of Transportation
- Arizona Water Company
- ASL (Sierra Engineering)
- ATWELL
- AZ-American (Citizen's Utilities)
- B&R Engineering
- Bella Vista Water Company
- Cachet Homes
- Carollo Engineers
- Cavalier Properties, L.L.C.
- City of Avondale
- City of Chandler
- City of El Mirage
- City of Eloy
- City of Flagstaff
- City of Globe
- City of Peoria
- City of Prescott
- City of Scottsdale
- City of Surprise
- Clarkdale Metals
- CMX
- Del Webb
- Diamond Ventures
- Dibble & Associates
- Diversified Water Company
- DMB
- DMJM
- Douglas Ranch (JDMD)
- El Dorado Holdings, Inc.
- Empire Residential
- EPCOR
- Fain Land and Cattle Company
- Fort McDowell Yavapai Nation
- Fucello Architects
- Gallagher and Kennedy
- General Moly, LLC
- Gila Valley Irrigation District
- Global Water
- Greeley and Hansen
- H2O Water Company
- Harvard Investments
- High Chaparral Holdings Ltd. Partnership
- Hilgart-Wilson
- Jennings Strouss & Salmon
- JF Properties
- Johnson Utilities
- K. Houmanian
- Kimley Horn and Associates
- Lago Del Oro Water Company
- Landmark Engineering
- Lennar Homes
- Litchfield Park Service Company (Liberty Water Co.)
- Lynx Creek Associates
- Mace Truck Washes
- Maricopa Mtn. DWID
- Meritage Homes
- Navajo Nation
- Newport Development
- One Camelback, Inc.
- Phelps Dodge Development Company
- Phelps Dodge Mining Company
- Pima Utilities
- Pivotal Group
- Pulte Homes
- Queen Creek Water Company
- RBF Consulting
- Recorp
- Ridgeview Water Company
- Robson Communities
- Roston Southwest
- SaddleBrooke Development Co.
- Salt River Project (SRP)
- Santa Cruz Water Company
- Sempra Energy
- Shamrock Water Company
- Stanley Consultants, Inc.
- Stardust Development Company
- Stone Container Corporation
- Stone Forest Industries, Inc.
- Strickland and O'Hair, P.C.
- Sunbelt Holdings (Vistancia)
- SunCor Development Company
- Sunrise Engineering
- The Roston Company
- The Wickenburg Inn
- Town of Chino Valley
- Town of Clarkdale
- Town of Florence,
- Town of Jerome
- Town of Payson
- Town of Prescott Valley
- Town of Quartzite
- Tres Rios Consulting Engineers
- Trillium West, L.L.C.
- University of Arizona
- Vanguard Properties
- Waterworks Engineers
- White Mountain Country Club
- Wilson & Company
- WLB Group
- Yavapai County Public Works Department
- Yavapai Development Co., Inc.
- Yavapai Ranch

