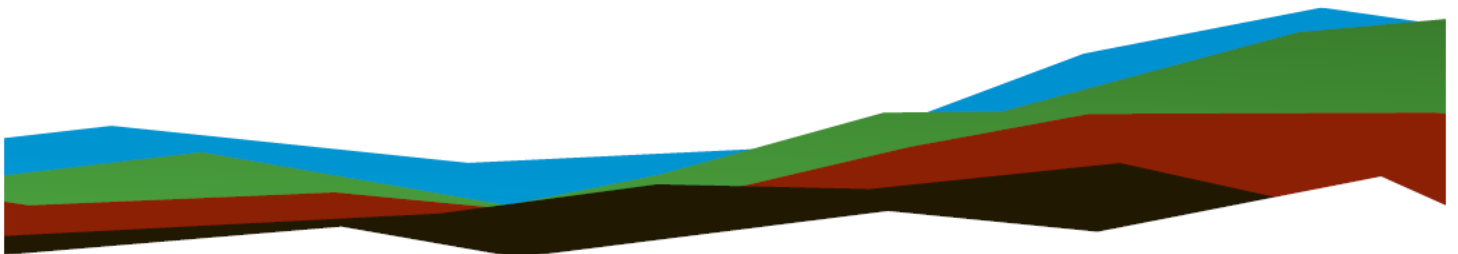


# Cochise County Procurement Department

## EPA Brownfields Grant Implementation Assistance

RFP No. 23-17-DEV-01

February 24, 2023



4685 S. Ash Avenue, Suite H-4  
Tempe, Arizona 85282  
P (480) 897-8200



Nationwide  
[Terracon.com](https://www.terracon.com)

- Facilities
- Environmental
- Geotechnical
- Materials



4685 S. Ash Avenue, Suite H-4  
Tempe, Arizona 85282  
P (480) 897-8200  
[Terracon.com](http://Terracon.com)

February 24, 2023

Cochise County Procurement Department  
1415 Melody Lane, Building C  
Bisbee, Arizona 85603

Attn: Anne Coppola, Contracts Administrator  
E: [ACoppola@cochise.az.gov](mailto:ACoppola@cochise.az.gov)

**Re:** Proposal  
EPA Brownfields Grant Implementation Assistance  
RFP No. 23-17-DEV-01

Dear Ms. Coppola:

Terracon Consultants, Inc. (Terracon) is pleased to submit this proposal to assist Cochise County with implementation of its Fiscal Year 2022 Brownfields Community-Wide Assessment grant. Terracon has been an active leader in the United States Environmental Protection Agency's (EPA's) Brownfields program since its inception in 1995 and we are well-positioned to assist Cochise County and its Target Area partners with elevating its Brownfields program to the next level. Our dedicated project team is composed of local professionals and subject matter experts experienced with small, rural local government, Arizona, and EPA Region 9 Brownfields programs.

We look forward to a positive response to this proposal and working with Cochise County. Should you have any questions, please contact Tod Whitwer at your convenience.

Sincerely,  
**Terracon Consultants, Inc.**

A handwritten signature in black ink that reads "Tod Whitwer".

Tod Whitwer, PE  
Program Manager  
(602) 370-4646  
[tod.whitwer@terracon.com](mailto:tod.whitwer@terracon.com)

A handwritten signature in black ink that reads "Noelle Espinosa".

Noelle Espinosa, PhD  
Project Manager  
(520) 798-4822  
[noelle.espinosa@terracon.com](mailto:noelle.espinosa@terracon.com)

**Attachments:** Proposal  
Signed Request for Proposal  
Appendix A – Vendor Submission Form  
Solicitation Addendum 1



# 1.0 BUSINESS/ORGANIZATION

**Firm Name:** Terracon Consultants Inc. (Terracon)

**Areas of Expertise:**

<ul style="list-style-type: none"> <li>■ Brownfields Grant Preparation</li> <li>■ Brownfields Program Management</li> <li>■ Phase I Environmental Site Assessment (ESA)</li> <li>■ Phase II ESA, Limited Site Investigation (LSI), and Regulated Building Materials (RBM) Survey</li> <li>■ Remediation Planning and Remedial Design</li> <li>■ Site Cleanup and Closure</li> <li>■ Remediation System Operations and Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>■ Community Engagement</li> <li>■ Redevelopment Planning</li> <li>■ Economic Analysis</li> <li>■ Facilities and Structures Condition Assessment</li> <li>■ Landscape Architecture</li> <li>■ Environmental Planning</li> <li>■ Cultural Resources</li> <li>■ Property and Portfolio Marketing</li> </ul>
--	---

**Brief History of Firm:** Terracon was founded in 1965 and is a 100 percent employee-owned consulting and engineering firm specializing in environmental, facilities, geotechnical, and materials services. We were one of the early leaders in the Brownfields program and have built a national presence that is respected by the United States Environmental Protection Agency (EPA), State Brownfields agencies, and our clients. We have provided meaningful and effective program implementation for over 290 Cooperative Agreement projects nationwide. As an employee-owned firm, Terracon has a heightened commitment to professional ethics, safety, quality, and client satisfaction.

**Size:** 170 (Arizona), 5,000+ (Nationwide)

**Office Locations:**

175+ Offices Nationwide

Arizona Offices:

4685 S. Ash Avenue  
Suite H-4  
Tempe, Arizona 85282

1050 N. Fairway Drive  
Building G, Suite 103  
Avondale, Arizona 85323

355 S. Euclid Avenue  
Suite 107  
Tucson, Arizona 85719

**Contact Persons:**

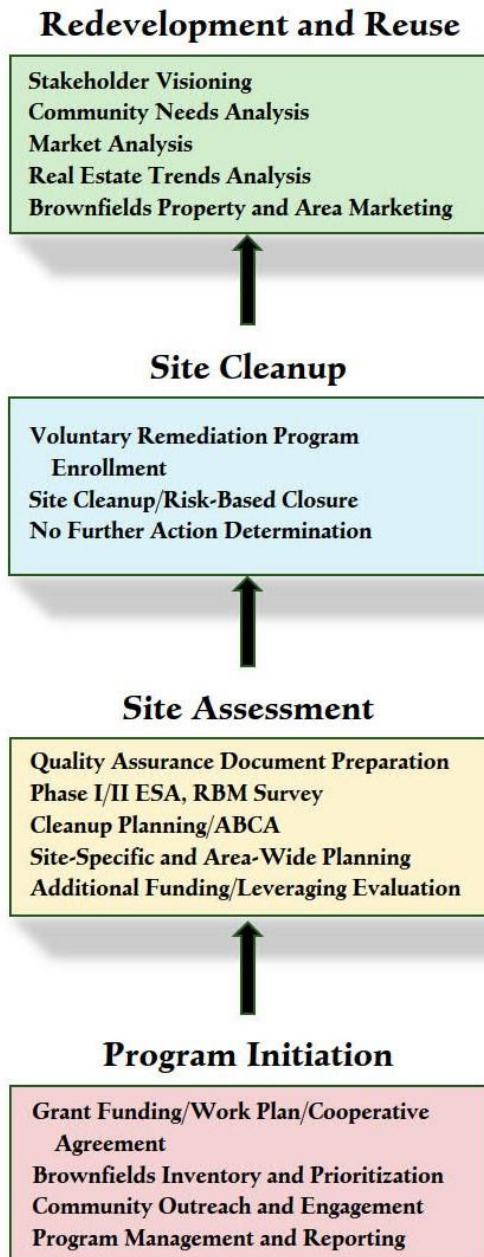
Tod Whitwer, PE, Program Manager  
[tod.whitwer@terracon.com](mailto:tod.whitwer@terracon.com)  
(602) 370-4646

Noelle Espinosa, PhD, Project Manager  
[noelle.espinosa@terracon.com](mailto:noelle.espinosa@terracon.com)  
(520) 798-4822





## 2.0 MANAGEMENT OUTLINE PROJECT APPROACH



Terracon's technical team of environmental, community engagement, planning, and property marketing specialists will partner with Cochise County to reach the next stages of Brownfields redevelopment and reuse to help you move from Site Assessment through Site Cleanup to the ultimate goal of Site Redevelopment and Reuse

### ***Brownfields...To the Next Level***

Since the inception of the Brownfields program in 1995, many communities have used grant funding to successfully identify and assess impaired sites and some have cleaned these sites up so they are ready for development. In some cases, site-specific and area-wide plans have also been prepared to capture the community's redevelopment vision and strategies. However, many Brownfields sites remain undeveloped and fail to provide these communities with the economic, social, and civic benefits that they inherently possess.

**The Terracon team has the resources, capabilities, and experience to elevate your Brownfields program to the next level.**

We offer a unique and forward-looking approach that will help you attain your environmental and redevelopment objectives. Terracon brings years of practical and productive Brownfields grant management resources and experience that complements our comprehensive environmental assessment, community engagement, planning, and cleanup expertise. We have assembled a team of local firms with specialized talent and background to allow Cochise County's Brownfields program to move to the next level of redevelopment and value to the community.

In the remainder of this section, we will briefly discuss our understanding of the current state of Cochise County's Brownfields program and our *Principles of Brownfields Program Sustainability and Resiliency* that we integrate into our Brownfields program support services. In Sections 2.1 and 2.2, we will outline how we plan to build on the County's successful community involvement activities and how we





will incorporate stakeholder input into Brownfields planning. Our planning approach will encompass more than just cleanup planning; we propose to provide technical assistance with site-specific reuse, market studies, economic evaluation, area-wide planning, growth opportunity identification, community and regional resource and needs assessment, and other areas specific to Brownfields reuse and redevelopment. In Section 2.3, we will provide an overview of how we intend to assist the County with specific tasks that will allow the County to effective use grant funds and maintain compliance with the Cooperative Agreement. Finally, in Section 2.4, we outline our management approach as it relates to communication, budget, schedule, quality control, and safety.



**Doc's Gas Station and Convenience Store - Benson**



**Lyric Theatre - Bisbee**



**Cole Building (aka) McGregor Building - Bisbee**



**Brophy Building - Douglas**



**Baker Building - Douglas**

### **Cochise County Brownfields Program**

Terracon understands Cochise County is an experienced Brownfields grantee having received and successfully expended \$600,000 in funding from a FY2019 Coalition Assessment grant. The County and the Target Area communities have established a Brownfields Advisory Committee (BAC), facilitated strong community participation, prepared a Brownfields inventory, completed multiple Phase I/II ESAs, and developed site-specific and area-wide plans.

The County was awarded a Fiscal Year (FY) 2022 Brownfields Community-Wide Assessment grant to address sites in the Target Areas of Benson, Bisbee, Douglas, and Willcox. These communities suffer from disproportionately high poverty, unemployment rates, and exposure to environmental burdens. There are numerous buildings and land parcels within each Target Area community that are vacant or underutilized and have some type of environmental record associated with them.

We understand the Brownfields funds will be used to promote workforce development, create consequential jobs, and produce affordable housing. The County intends to focus on the following priority sites to produce these outcomes: Doc's Gas Station in Benson; Lyric Theatre and Cole Building in Bisbee; the Brophy, Baker, and Grand Theatre Buildings in



**Grand Theatre - Douglas**

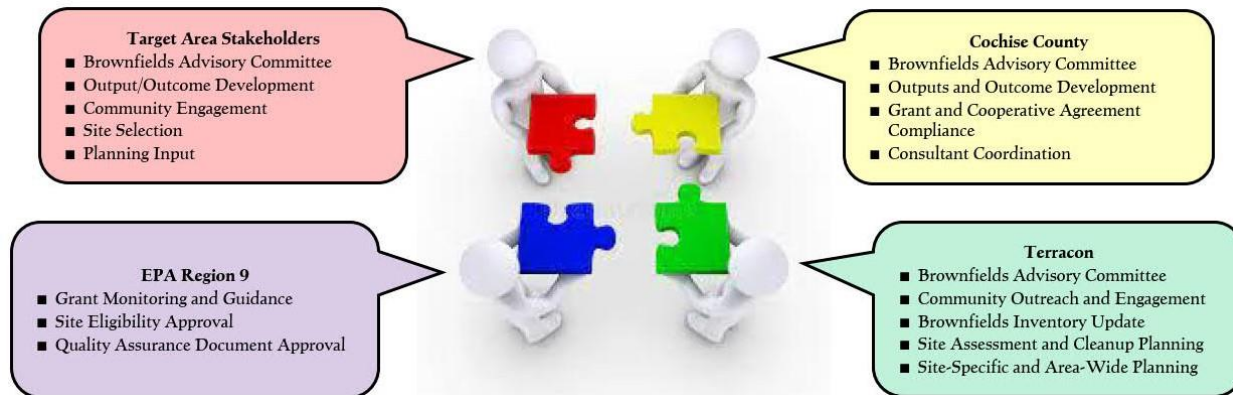


**Riggs Bank Building - Willcox**



Douglas; and Riggs Bank in Willcox. The significant outputs that the County intends to produce from the \$500,000 grant are<sup>1</sup>:

- Conduct eight stakeholder meetings
- Update project Quality Assurance Project Plan (QAPP) and prepare eight Sampling and Analysis Plans (SAPs) and Health and Safety Plans (HASPs)
- Update and maintain Brownfields inventory in Geographic Information System (GIS) format via web server application
- Complete 12 Phase I ESAs, with at least one completed in each Target Area
- Complete eight Phase II ESAs or RBM Surveys
- Prepare five Analysis of Brownfield Cleanup Alternatives (ABCAs) and/or Site Reuse Plans
- Prepare two Area-Wide Plans (AWPs)



Cochise County’s Brownfields program is at a stage where we can elevate your program to the next level. Terracon routinely works with small local governments and we understand the unique opportunities and challenges associated with these communities. We can assist the County with attaining its desired program outputs and outcomes while maximizing grant funding. Furthermore, we will be true partners invested in your success and assuring that this program is sustainable and resilient so that it will contribute to positive, long-term benefits to the citizens, businesses, leaders, and visitors in the Cochise County.

### Principles of Brownfields Program Sustainability and Resiliency

The EPA Brownfields program provides equitable and significant opportunities for communities throughout the United States to find hope of community transformation and produce real, positive change. However, to realize the full advantages of the catalytic effects of a Brownfields grant, the community’s program must be **sustainable** (able to continuously mature and maintain its mission long-term) and be **resilient** (able to adjust and thrive under adverse conditions or challenges). Terracon provides the Brownfields

<sup>1</sup> Outputs listed in the Task table on Page 7 do not match the Cost Estimate table on Page 9. We assume the highest greatest output listed in either table will be attained.





experts, successful project experience, and proven processes and practices to incorporate the following tenets of sustainability and resiliency into our approach for your Brownfields grant program:

- Selecting Brownfields experts to partner with the County
- Understanding local priorities and tailoring services to support these priorities
- Identifying and assisting with procurement of additional funding sources, investments, and resources
- Promoting program success and fostering stakeholder involvement



**Principle 1 - Brownfields Experts.** Terracon has been an active leader in EPA’s Brownfields program since its inception in 1995. Terracon team members have prepared more than 200 grant applications for municipalities, Counties, Tribes, redevelopment agencies, and others to obtain assessment, cleanup, revolving loan fund, and job training grants. We have completed 290 Cooperative Agreement-funded projects in eight EPA Regions. More than 75% of our projects include full-service grant management to assist clients to be compliant with the EPA Brownfields program and the terms and conditions with EPA, the Cooperative Agreement, and the Work Plan. Brownfields projects that we have managed have had no ineligible expenditures identified during EPA Federal audits. With our depth of experience managing Brownfields programs, we have developed best practices for all stages of Brownfields program management and will apply these to your program.

**Principle 2 - Understanding Local Needs and Priorities.** Although project requirements and tasks are similar for most Brownfields programs, every community has unique needs and redevelopment goals that are integrated into our approach. Our home is in Arizona and our project team understands what is important and how to get things done in Arizona. Even more importantly, we have extensive experience in Cochise County and will continue to support the County in the manner it deserves. We will listen to program stakeholders, provide technical feedback and advise, and implement tasks to support your program in a manner that fulfills your priorities and meets your goals.

*Local Team – Local Knowledge*

Terracon has completed more than 600 projects in Cochise County since 1992, of which 215 were environmental services including Phase I/II ESAs, RBM surveys, regulatory compliance, and historical/cultural resources. Furthermore, we have completed over 80 environmental projects in the four Target Area communities.

**Principle 3 - Additional Funding, Investment, and Resources.** EPA Brownfields funding is intended to catalyze redevelopment and to promote leveraged investment from other





funding sources – it is not meant to be a “be all, end all” solution. For this reason, Terracon assists our Brownfields recipients with identifying and obtaining additional financial, partnership, and resource assistance that enables a community to meet its redevelopment goals and objectives. Our project team has successfully helped our communities identify and partner with other programs and resources to complement Brownfields funding including:

- EPA – Tribal Response [Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) § 128(a) grants), Environmental Justice, National Headquarters Technical Assistance, Targeted Brownfields Assessment (TBA), Environmental Workforce Development and Job Training, Solid Waste Infrastructure for Recycling (SWIFR), Lead-Based Paint Hazard Control
- Arizona Department of Environmental Quality (ADEQ) – State Response [CERCLA § 128(a)]
- Economic Development Administration (EDA) – Local Technical Assistance, American Rescue Plan Act (ARPA) Indigenous Communities
- United States Department of Agriculture (USDA) – Rural Development Cooperative Grant, Solid Waste Management Grant,
- Housing and Urban Development (HUD) – Community Development Block Grants (CDBG)
- Department of Health and Human Services (HHS) – Environmental Regulatory Enhancement
- State of Arizona – Tax Increment Financing (TIF), Government Property Lease Excise Tax (GPLET), Low Income Housing Tax Credits (LIHTC)
- Technical Assistance to Brownfields (TAB) providers – Kansas State University, California Center for Land Recycling (CCLR), New Jersey Institute of Technology
- Non-Profit Organizations – Primavera Foundation, Chicanos Por La Causa

**Principle 4 - Program Success and Stakeholder Engagement.** “Everybody loves a winner” as the saying goes. Grant program accomplishments and successes tend to breed active community participation and success because people want to be part of winning strategies that lead to community transformation and improvement and will continue to support these programs. We have proven methods and strategies to effectively identify and quantify program successes that are most important to stakeholders and deliver the message in diverse and productive channels that fuels a flourishing Brownfields program.

## 2.1 Community Outreach

A robust and comprehensive community involvement strategy is crucial to the success of the Assessment grant program. An effective community engagement program will raise awareness and willingness to participate in the program ultimately resulting in redevelopment of high-priority sites. Private property owners must understand the benefits of the program and be willing to allow Phase I/II ESAs to be conducted at their sites. Real estate, land development, and business leaders must be engaged to provide technical input



and redevelopment criteria. Citizens must be kept engaged and informed of the status of the assessment activities in order to keep them energized and supportive of the program.

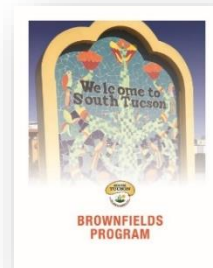
In our experience, community outreach and engagement are most successfully conducted if it is supported by local organizations and residents that have a proven history of working in the community and understand significant issues facing the community. We concur with the County’s plan to include community partners listed in the grant application in the BAC. We suggest the BAC be led either by a member of the Cochise County Brownfields staff or by Terracon’s Project Manager, Noelle Espinosa. Technical support to the BAC will be provided by additional Terracon personnel and our community outreach partner, Gordley Group.



Terracon will assist the County in conducting a transparent, fair, and effective Brownfields program that will result in equitable community benefits and results. Our team will partner with the County and other stakeholders to disseminate information to the community and successfully solicit active involvement through several means – individual and group meetings, websites, social media, brochures, working groups, television, newspaper articles (Bisbee Observer, Arizona Range news, San Pedro Valley News-Sun, and Douglas Dispatch). Terracon has developed effective processes and procedures that will be readily tailored to the Target Area to support community involvement and participation including:

- Informational letters, jobsite signage, and brochures for business owners and private citizens and meetings with these entities to describe the program, answer questions, and address potential concerns
- Site Access Agreements to allow the County and its consultants to come onto a property to conduct Phase I/II ESAs (this agreement has been reviewed and approved by two municipal legal departments)

Terracon team members have supported the City of South Tucson’s Brownfields program since 2006 and Terracon began working with the City in 2021. South Tucson’s population is less than 6,000, almost 50% of its residents live below the Federal poverty level, and almost 70% of residences are occupied by renters. These demographic conditions foster a lack of public inclusion, outside interest, or comprehensive citizen involvement. We employed many outreach techniques to bring about public participation and increase program knowledge. As an example, we developed a brochure introducing the program, benefits, and contacts. **As a result, South Tucson expended \$300,000 in Brownfields Community-Wide Assessment funding in less than 1 year.**





- Brochure that describes the Brownfields program, highlights the objectives of the grant program, and details the advantages of participating in the program
- Technical support, including written information and presentation materials and graphics, to guide community meetings
- Public meetings to invite input and participation
- Planning and design charettes, visioning sessions, and surveys to guide planning and redevelopment goal-setting
- Meetings with economic development, real estate, and banking professionals to develop a strategic redevelopment plan
- Status reports and graphics for presentation to citizens, community leaders, and government leaders

## 2.2 Planning

Redevelopment of the County-identified high-priority Brownfields sites will be facilitated through completion of two AWP. In alliance with the desired outcomes of the grant, the primary goals of the AWP will be to promote workforce development, job creation, historic preservation, increased tourism, and greater affordable housing stock. The Brownfields Plan will be developed in the context of existing County and Target Area resources such as Cochise County’s Comprehensive Plan and Strategic Work Plan, and individual Target Area General Plans. The goals and objectives of these resources will be used to inform decisions around Brownfields site redevelopment planning. Typically, a complete and comprehensive AWP contains the following components:

<i>Components of Comprehensive Area-Wide Plan</i>	
<ul style="list-style-type: none"> <li>■ <b>Define planning area boundary</b></li> <li>■ <b>Define specific goals, objectives, and outcomes of the plan</b></li> <li>■ <b>Conduct market analysis</b></li> <li>■ Identify regulatory compliance and permitting requirements</li> <li>■ Identify resource and technical partners</li> <li>■ Assess high-priority building conditions</li> <li>■ Evaluate climate change impacts</li> <li>■ <b>Identify information and data gaps and methods to fill gaps</b></li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Engage community and incorporate input</b></li> <li>■ <b>Define current demographics and trends</b></li> <li>■ Inventory property uses</li> <li>■ Evaluate existing infrastructure</li> <li>■ Identify local government support requirements (code, zoning, incentives)</li> <li>■ <b>Identify leveraging and funding options</b></li> <li>■ Prepare marketing plan</li> <li>■ <b>Incorporate Environmental Justice</b></li> <li>■ <b>Define milestones and schedule</b></li> <li>■ <b>Prepare AWP report</b></li> </ul>

The County’s FY2022 grant application stated that \$70,000 is budgeted to complete two AWP. As the County is aware, this funding is not sufficient to develop a complete and comprehensive AWP (in Terracon’s experience, a detailed, complete AWP costs about \$200,000 for a single target area). However, several components of a more complete AWP have been started and can be easily integrated into the initial AWP (such as community engagement and current demographic information). Funding is adequate to prepare an initial plan (which we will refer to as the “Baseline AWP”) that lays the groundwork for a



more comprehensive plan and which will allow the community to begin to initiate and develop a framework for a complete AWP.

The Baseline AWP will be prepared in collaboration with the County, Target Area representatives, and other stakeholders. Terracon will work closely with these partners to assure that a meaningful, implementable plan is delivered by scheduling regular meetings, providing written updates, and sharing drafts of deliverables at important milestones.

**Define Planning Area Boundary, Goals, Objectives, and Outcomes.** Terracon recommends that the tasks highlighted in **bold** in the table above be completed and incorporated into the Baseline AWP. We understand that the County desires to prepare two AWP's, the boundaries of which will include at least one of the priority Brownfields sites. We will collaborate with the County to identify in which two of the four Target Areas the Baseline AWP will be conducted and then further define the planning area boundary for each Baseline AWP. We then suggest a representative stakeholder team be identified to initially develop specific goals, objectives, and outcomes of the planning area Baseline AWP. We would then suggest these ideas be consolidated into a draft document for review by the larger community. Our team partner, Gordley Group, will use innovative strategies and include existing resources, partners, and venues to expand the reach of community inputs. The larger planning group and smaller issues groups will be engaged to address community comments and finalize the goals, objectives, and outcomes.

**Market Analysis.** The bulk of the effort to prepare the Baseline AWP will be devoted to a Market Analysis of the planning area, Target Area, and region, as appropriate. The Market Analysis is foundational to development of the Baseline AWP and future comprehensive AWP because it coalesces a vision and identifies tangible economic goals; builds on the strengths and competitive advantages; and mitigates deficiencies and weaknesses. We suggest the Market Analysis include the following:

<i>Market Analysis Elements</i>	
<ul style="list-style-type: none"> <li>▪ Historical Trends</li> <li>▪ Business Inventory</li> <li>▪ Retail leakage/surplus analysis</li> <li>▪ Retail gap</li> <li>▪ Job creation and tax increase potential</li> <li>▪ Transformation strategies</li> </ul>	<ul style="list-style-type: none"> <li>▪ Business retention and expansion opportunities</li> <li>▪ Competitive Context</li> <li>▪ Secondary benefit identification</li> <li>▪ Required worker skill and workforce gaps</li> <li>▪ Brownfields redevelopment opportunities</li> </ul>

The Market Analysis will be completed for the defined planning area and data will be incorporated into a GIS-based platform to facilitate data analysis and visualization. Outcomes of the Market Analysis will be used to assist with decisions related to the redevelopment of priority Brownfields sites. For example, two potential uses of the Grand Theatre in Douglas were identified in the grant application – a public museum to serve as a community youth center or affordable housing. The Market Analysis may support these uses or suggest alternative uses that are more feasible and beneficial. The final report will





contain recommendations, action items, and milestones to implement the findings of the Market Analysis. Terracon will also identify data and information necessary to prepare a more robust Market Analysis and recommend means to capture the missing data and information.

**Final Report.** A final Baseline AWP and supporting GIS database will be prepared and submitted for review and evaluation by the Brownfields program team. In the report, we will provide recommendations for next steps with defined milestones, schedule, required resources, and budgetary estimates. We will also provide a list of potential resources, partners, and funding sources that can be used to implement the Baseline AWP and to develop a more comprehensive AWP.

## 2.3 Program Organization

Terracon has chosen a select group of professionals experienced with small, rural local government, Arizona, and EPA Region 9 Brownfields programs to support the various projects anticipated from the Community-Wide grant and consulting contract. Our dedicated project team is composed of local staff and subject matter experts who will deliver Brownfields services on-time and cost-effectively. With over 18 local and 100 specialized Brownfields staff nationwide, Terracon's resources provide extensive experience and knowledge of the EPA Brownfields Program necessary to support Cochise County's Brownfields program. Key members of our proposed project team organization is highlighted on the following page and select resumes for key individuals who will lend their services to this grant program are provided in Attachment A.



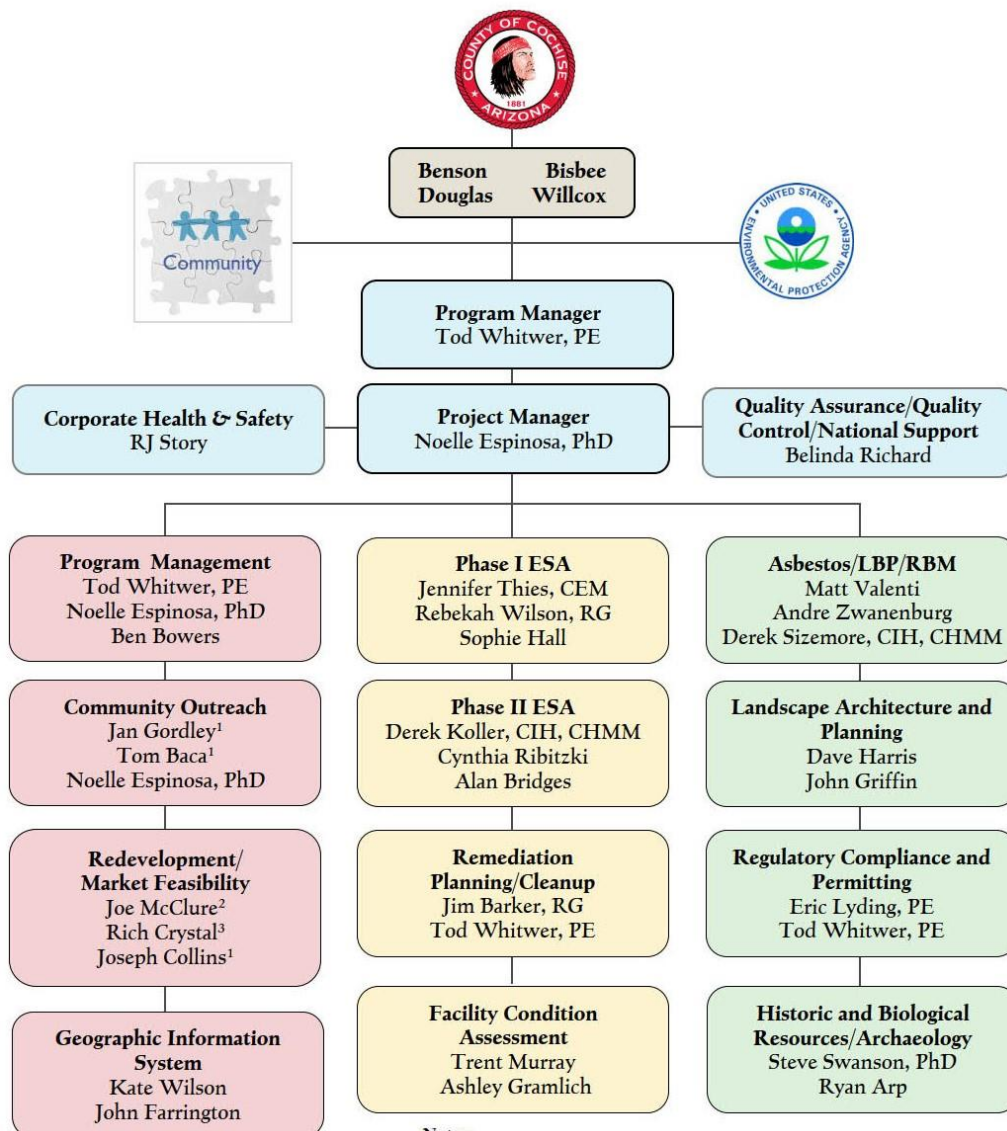
### **Tod Whitwer, PE, Program Manager**

Mr. Whitwer who has 35 years of environmental consulting experience and has been actively involved in EPA's Brownfields Program since 2001. He has considerable experience working with Tribal governments, municipalities, developers, attorneys, and private landowners with site assessment, cleanup, and redevelopment. He has managed numerous Arizona Brownfields Programs and has an in-depth working knowledge of Brownfields grant requirements from the application stage to grant closeout. He has prepared over 40 EPA Brownfields grant applications resulting in awards of more than \$8 million in grant funding. He prepared the first Coalition Assessment grant awarded to an Arizona entity (City of Flagstaff, 2013) and the first Multi-Purpose grant awarded to an Arizona entity (White Mountain Apache Housing Authority, 2019). His project experience includes more than 1,000 Phase I/II ESAs and asbestos surveys acting as Principal or Environmental Professional. Tod's remediation experience includes a wide range of projects including complex, large-scale civil and environmental projects. As the Program Manager, Mr. Whitwer will provide technical and programmatic guidance; client, EPA, and community interaction; and program oversight.



**Noelle Espinosa, PhD, Project Manager**

Ms. Espinosa has 10 years of environmental experience and received a PhD in Natural Resource Management focusing on soil restoration in December 2020. Her relevant work experience includes Phase I ESAs; long-term environmental monitoring projects; asbestos and lead-based paint (LBP) surveys; EPA Community-Wide and Multi-Purpose and Cleanup grants; ADEQ Brownfields State Response projects; EPA Brownfields grants; and working with small municipalities on community outreach notifications, events, and presentations, as well as Quality Assurance (QA) deliverables and ABCAs. Ms. Espinosa is a Qualified Environmental Professional (QEP) as defined in ASTM E1527. Primary responsibilities include project management and project quality oversight, overseeing and conducting Phase I ESAs compliant with ASTM standards and All Appropriate



Notes:  
 1 - Gordley Group  
 2 - McClure Consulting  
 3 - Crystal Consulting





Inquiry (AAI) requirements, asbestos surveys in compliance with National Emission Standards for Hazardous Air Pollutants (NESHAP) standards, and LSIs, including subsurface soil and groundwater investigation. Ms. Espinosa has experience in regulatory compliance and working with local, state, and Federal government entities in such work.



**Belinda Richard, QA/QC, National Support**

Ms. Richard is responsible for overseeing Terracon’s National Brownfields Program and will provide Quality Assurance/Quality Control (QA/QC) for this project, providing technical review for all grant stages. Belinda has 23 years of environmental consulting experience, with the last 18 years dedicated to managing Brownfields projects. She has assisted over 75 communities in successfully implementing over \$40 million in EPA Brownfields grant funds. Her experience includes grant compliance and reporting, community outreach, QAPP preparation, budget management, Brownfields inventories, environmental assessments, remedial planning, grant closeouts, cleanup oversight, and leveraging state Brownfields incentives. Belinda has assisted clients in securing over \$22 million in EPA Grant funding and in every aspect of the Brownfields grant lifecycle ensuring compliance with EPA Terms and Conditions of the grant. Belinda works closely with the EPA Brownfields administration and is an experienced negotiator with the regulatory community. Her knowledge of Brownfields requirements will be a valuable asset to our team to ensure that quality requirements are achieved.



**Jennifer Thies, CEM, Phase I ESA Task Manager**

Ms. Thies has over 18 years of experience in the environmental field of site assessment/investigation and project management with 9 years in the government sector. Ms. Thies is the Environmental Department Manager in Terracon’s Phoenix office and oversees more than 30 environmental professionals. She is a QEP and her Phase I ESA experience includes environmental due diligence for purchases, leases and acquisitions. As a senior scientist her focus is on public sector and national clients. She has significant experience with environmental projects including Phase I ESAs, Phase II investigation, remedial action, and regulatory compliance. As part of the team, her responsibilities include project oversight, site inspections, records reviews, compliance audits, and employee training.



**Derek Koller, CIH,CHMM, Phase II ESA/LSI Task Manager**

Mr. Koller is an Environmental Project Manager in the Tucson office with 12 years of experience and an Environmental Professional as defined by ASTM 1527-13 and Terracon’s internal approval process. His primary responsibilities include conducting Phase I Environmental Site Assessments (ESAs) compliant with AAI standard using ASTM E1527-13, conducting Asbestos and Lead-Paint Surveys, Asbestos Abatement Oversight, and planning and conducting Phase II ESAs and Limited Site



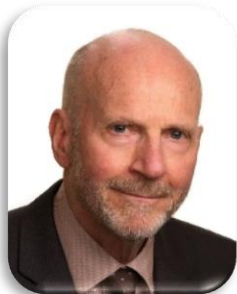
Investigations (LSIs) which include subsurface soil, soil vapor, and groundwater investigations and subsequent site remediation. Mr. Koller has also prepared EPA-compliant Sampling and Analysis Plans (SAPs) for Brownfields funded projects and site-specific Health and Safety Plans (HASPs). Mr. Koller has been the primary lead and/or project manager in the preparation of more than 350 Phase I ESAs that have included industrial, commercial, and residential properties for both government and private sector clients. Mr. Koller has assisted with over 50 Phase II ESAs (including HASP and SAP Preparation on many of those projects), more than 150 Asbestos Surveys, over 75 Lead-Based Paint Inspections, and is also involved in local Industrial Hygiene (IH) projects for medical, railroad, and gas/oil clients.



**Jan Gordley, Community Engagement Task Manager**

Ms. Gordley is president of Gordley Group and has more than 40 years of community relations, communications, and public involvement experience. She has provided highly successful, award-winning public involvement strategies, plans, and implementation for more than 70 government agencies, educational institutions, and utilities throughout Arizona. Jan specializes in public involvement strategies and implementation for government agencies and related organizations, and has provided public outreach and communications throughout Cochise

County, engaging many of its diverse communities and populations. In addition to county-wide communications, those communities have included Sierra Vista, Willcox, Douglas, Huachuca City, Hereford, Bisbee, and Tombstone. Her experience in public-sector projects ensures that client goals are met through effective public involvement strategies. Jan has also accomplished successful public outreach initiatives across rural and hard-to-reach areas of the state, ensuring that these communities are properly informed and engaged.



**Joe McClure, Market Analysis/Economic Development Task Manager**

Mr. McClure has served as principal or manager of land economics research and advisory-services organizations for the last 35 years. Mr. McClure has been retained by both private developers and public agencies at all levels of government, for projects in small and large cities, undeveloped and heavily developed regions, and regions with special demographic and cultural characteristics. He has facilitated



workshops, prepared grant applications, and presented findings to stakeholders. During this tenure, Joe’s practice has focused on the following outputs: (1) Market analyses with fiscal and strategic components: highest and best use analysis, analysis of rapidly growing trade areas, cash flow and development strategy analysis, fiscal benefits of development. (2) Fiscal/economic analyses with a strategic component: impacts on the business community and tax receipts from freeway and other road projects, and assessing redevelopment prospects of under-performing areas. (3) Economic development strategic focus: consolidating views on a region’s economic development targets, workforce, development challenges, and strategic options, integrating target industries into the local economy, and





relating a region's existing economic base to its competitive environment. (4) Special research projects, including studies of local labor forces and employer-employee relations, economic impacts of bicycle recreation, water quality cost/benefit modeling, and transit behaviors and opinions in rural regions.



**Matt Valenti, Asbestos, Lead-Based Paint, RBM Task Manager**

Mr. Valenti has over 30 years of professional experience, including Brownfields-funded asbestos surveys. He is responsible for project management; performing asbestos, lead paint surveys, and Asbestos Hazard Emergency Response Act (AHERA) inspections and re-inspections; preparing operations and maintenance (O&M) plans; preparing asbestos and lead abatement designs; and managing abatement projects. Mr. Valenti has developed project manuals, technical specifications, plans for asbestos abatement projects, cost estimates related to asbestos and lead abatement and various phases of contract administration. He has performed contractor pre-qualification, bidding, contract coordination, submittal review, bid valuation, and payment application review and authorization. He has managed and been a part of numerous city and state on-call contracts.



**Jim Barker, RG, Remediation Planning/Cleanup Task Manager**

Mr. Barker is a Registered Professional Geologist in the State of Arizona and is a QEP with over 23 years of experience with a wide variety of environmental and geotechnical engineering projects. He is a Registered Professional Geologist (R.G.) in Arizona and a QEP. His experience includes conducting Phase I/II ESAs through on-call contracts, including Arizona Brownfields State Response; environmental drilling oversight; and sampling, remediation, and geological investigations. Projects have included: hand sampling; drilling of test borings; sampling and testing of soil; logging of test borings and test pits; coordination of underground utility and metal detection surveys; soil gas surveys; exploratory excavations; groundwater sampling and testing; free product recovery; vapor extraction system design, permitting, installation, and operation; sampling and testing during hydraulic lift, oil/water separator, and underground storage tank (UST) removal; and observation during groundwater well abandonment. He has also prepared comprehensive technical reports presenting the results of the Phase II ESA services.



### **Steve Swanson, PhD, Cultural Resources Task Manager**

Dr. Swanson has more than 15 years experience and has managed dozens of cultural resources survey, testing, data recovery, and monitoring projects throughout the Western United States for National Environmental Policy Act (NEPA) and/or National Register of Historic Places (NRHP) Section 106 compliance. For the last 9 years, he has directed archaeological on-call work for the Western Area Power Administration's Desert Southwest Region in California and Arizona, with over 50 projects to date, including pre-construction clearance, cultural resources awareness training, and construction monitoring. He applies his knowledge of archaeological principles, fieldwork techniques, and cultural resource regulations to the management of historic and prehistoric cultural resources.

## **2.4 Program Management**

### **2.4.1 Brownfields Grant Management Approach**

With our depth of experience managing Brownfields programs, Terracon can assist Cochise County with assuring grant funds are maximized and avoiding unnecessary or ineligible expenditures. Terracon routinely collaborates with governing regulatory agencies and personnel as project stakeholders. We have long-established relationships with EPA's Brownfields Program, having worked with EPA Project Officers, Brownfields Regional Coordinators, and EPA National Directors and Administrators. We are actively working with Travis Barnum, ADEQ Brownfields Coordinator as one of five consultants contracted to provide site assessment services to support the State of Arizona State Response Program contract. We have completed numerous site remediation and closures via the ADEQ Voluntary Remediation Program (VRP).



**Output and Outcome Tracking.** The grant application and EPA-approved Work Plan identified outputs and outcomes that EPA will use as the primary means for evaluating the success of the County's Brownfields program. Outputs and outcomes will also be used to prioritize Brownfields sites and guide program decisions. Terracon will work with the County to establish metrics necessary to adequately and appropriately measure the outputs and outcomes. We suggest a tracking system be established to clearly outline the metrics to be measured, means and methods, variables to be either calculated or estimated, and criteria for updating and/or revising the tracking system.

**Property Approval.** The use of Brownfields funds is governed by the conditions outlined in the CERCLA § 104(k). Site eligibility is based on several factors, most importantly



proposed activities; primary contaminant type; operational and contaminant disposal history; acquisition type, date, and AAI requirements; existence of a viable responsible party; and regulatory program status. Eligibility requirements for Petroleum Products and Hazardous Substances vary. The County must verify a candidate site is eligible for funding and obtain approval from either EPA (for Hazardous Substances) or ADEQ (for Petroleum Products) prior to expending Brownfields funds at a site. This is accomplished by obtaining an approved Eligibility Determination.

Determining Brownfields funding site eligibility requires knowledge of CERCLA requirements, especially as it relates to AAI, bona fide prospective purchaser, eligible assessment activities, and contaminant identification (including whether contaminants are co-mingled). Through our grant application and program implementation experience, we have become very knowledgeable of the regulatory requirements associated with Brownfields funding and can help Cochise County appropriately use funding, avoid negative audit findings, and complete necessary assessment and cleanup activities.

One example of how our experience benefitted our clients and how Terracon can successfully help the County navigate the eligibility determination process as illustrated by the following example.

The City of Tucson was considering applying for a Brownfields Cleanup grant for a former mill site. One of the Threshold requirements was that the City demonstrate that it did not own the property at the time that the site contamination occurred and that AAI had been conducted prior to property purchase. However, title records associated with the property were ambiguous and the property was purchased by the City prior to formalized AAI standards. Therefore, it was uncertain whether this site met the Threshold Criteria. Terracon's Program Manager worked with the City's Environmental and Legal Departments to develop a strategy to demonstrate that the City was not the responsible party. We then prepared a matrix to compare site acquisition activities to current AAI standards in order to demonstrate that the City met AAI requirements. This matrix was submitted to EPA technical and legal staff prior to submitting the grant application and they concurred that the Threshold Criteria had been satisfied. The grant application passed the Threshold Criteria evaluation at Region 9, who were familiar with the issues, and this grant was eventually awarded to the City.

**Reporting.** Two important reporting requirements for communicating with EPA are Quarterly Reports and property profile entry into the Assessment, Cleanup, and Redevelopment Exchange System (ACRES) database. Terracon can assist Cochise County by compiling and submitting these important performance metrics as follows:

- Quarterly reports are due to the EPA Project Officer within 30 days following the end of the reporting period beginning January 1, 2023. Terracon will include the following in the Quarterly Reports: (1) Activities completed during current reporting period; (2) Activities planned for the next reporting period; (3) Summary of quarterly and to-date outputs and outcomes completed and comparison to Work Plan goals; (4) Description of any problems that may impact program schedule or goals; (5) List and description of properties assessed during the reporting period; and (6) Budget



summary, reconciled with EPA's Automated Standard Application for Payments (ASAP) system, to include funds expended during reporting period, funds expended to date, budget, and remaining funds.

- Terracon routinely enters property profile data into the ACRES Database within 10 days of project completion (such as completion of Phase I ESA) or any significant changes to the property (such as redevelopment). We generally work within a shared-workspace scenario in which the grantee delegates joint access to allow us to enter property data and progress into ACRES. We also include the ACRES 'identification number' on our technical reports and invoicing for clarity and to better accommodate the grantee's ACRES reporting.



Terracon can prepare and assist with submittal of annual and final reports required by the Cooperative Agreement. The Federal Financial Report – SF 425 (FFR) covers the 12-month period from October 1 to September 30 and is due no later than December 30. The Minority Business Enterprise (MBE)/Woman-Owned Business Enterprise (WBE) Utilization Form – EPA Form 570-52A covers the same period as the FFR but is due no later than October 30. The final FFR and MBE/WBE

Utilization Form are due to EPA within 90 days after the end of the project period or October 30, whichever comes first.

Terracon can also prepare and submit a Final Closeout Report that must be submitted to EPA within 90 days following the end of the project period. Components of the Final Closeout report that Terracon will provide include the following, at a minimum: (1) Community outreach efforts; (2) Brownfields inventory system development; (3) Reporting (including an affirmation that Quarterly Reports were submitted, and property data entered into ACRES); (4) Assessed sites descriptions (contaminant type, funds expended, Recognized Environmental Conditions (RECs) identified, contaminants assessed, discussion of field activities); and (5) Project photographs.

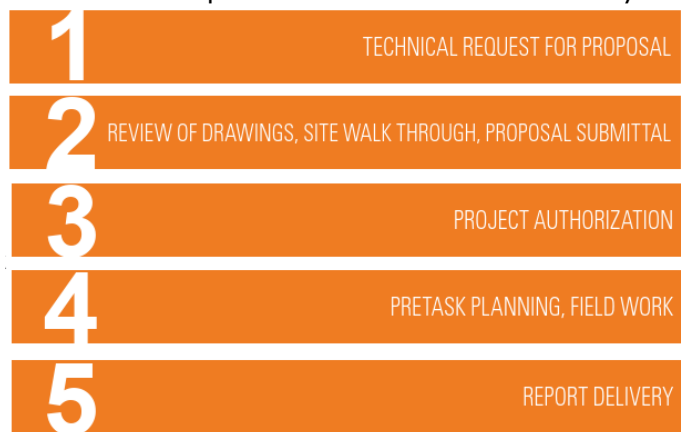
**Quality, Health, and Safety.** The Cooperative Agreement stipulates that data collection for Brownfields assessment must be completed in accordance with EPA-approved quality assurance documents. Terracon will prepare a Generic QAPP will serve as the program's general QA/QC document for Phase II ESAs and asbestos and LBP surveys, and describes the processes for producing analytical data of sufficient quality and quantity to accurately evaluate site conditions and meet data quality requirements in accordance with EPA standards. The QAPP will provide the functions, procedures, and specific QA/QC activities to achieve the EPA-required data quality objectives (DQOs). The DQOs and QA/QC procedures of the analytical laboratories and consultants conducting field measurements are consistently reviewed to verifying they meet the QAPP requirements. Terracon has developed hundreds of Generic and Site-Specific QAPPs specific for EPA's Brownfields program and we will use EPA Region 9's QAPP template as a baseline and prepare the QAPP using Community-specific data and additional agency guidance. The Generic QAPP will be supplemented by a site-specific SAP and a HASPs. HASPs will be prepared under the



supervision of and review by a Certified Safety Professional (CSP) or Certified Industrial Hygienist (CIH). Terracon will ensure that subconsultants selected to provide Brownfields grant support will adhere to the quality, health, and safety requirements outlined in these plans.

### 2.4.2 Project Management Approach

**Project and Task Scope Development.** Terracon believes one of the most important keys to initiating and completing a successful project starts with the development of a detailed scope of work to identify and document our understanding of the project objectives and expectations for the work to be completed. Detailed proposal scope development helps Terracon convey our understanding of the work to be completed and will allow the County and Target Area communities to be able to review our concept, schedule, and the tasks to be completed and provide comments and feedback. This communication is a critical component for Terracon to meet your expectations. Once the technical and management tasks are clearly defined, Terracon will prepare an accurate cost estimate for the work to be completed. Terracon will not commence any unauthorized work without prior consent from Cochise County.



**Project Schedule.** Another important key to managing successful projects is the ability to coordinate and schedule the various milestones, deliverables, and tasks accurately. Development and use of a project schedule keep project tasks functioning efficiently and project costs controlled. Terracon develops and implements detailed project schedules appropriate to the size and scope of the project, which are then reviewed and updated on a regular basis to show tasks completed and to check the progress of the project and various tasks.

**Project Status Reporting.** Once a project is underway, Terracon updates the schedule as various activities progress with input from the project team members who are responsible for the various elements to ensure proper sequencing and an awareness of the critical path elements. This approach increases the productivity in the completion of various tasks and helps limit issues that can contribute to project delays. Terracon’s project team has demonstrated this approach and application on many projects, and we are confident our organization can meet Cochise County’s expectations in performance, scheduling, and budgets.

**Project Budget Tracking and Invoicing.** Terracon’s budget tracking system has various components and processes that establish the task order budget and track the anticipated





and actual costs against the budget. The primary data for ongoing budget tracking is our detailed weekly input of labor, materials, subcontractor time, and invoices from the previous week. The project manager is given a weekly printout by project of costs incurred over the previous week for review and evaluation. Typically, on a monthly basis or on a timeframe required under the contract, Terracon prepares an invoice along with an update and evaluation of the budget. Terracon places high levels of attention on invoicing and budget review for our clients.

**Federally-Funded Project Experience.** Terracon has extensive experience assisting our clients with complying with Cooperative Agreement-related requirements. Through our experience, we have a thorough understanding of the CERCLA rules and regulations that guide the Brownfields Grant Program and can help our clients navigate issues such as site eligibility, allowable tasks and expenditures, and programmatic requirements. We regularly assist our clients with communications with Regional EPA personnel and preparing quarterly, annual, and final MBE/WBE utilization reports and financial reports. In many grant programs, we are contracted to assist with MBE outreach, providing contracting opportunities, tracking program results, and submitting reports to EPA.

Terracon has participated in numerous Federal contracts as both a prime contractor and as a subcontractor for thousands of projects around the country, including project that required payment of prevailing wages in accordance with the Davis-Bacon Act and other State and local regulations. Our work experience has included asbestos and lead paint surveys at the San Luis and Lukeville Ports of Entry in Arizona. We have also provided environmental services on military bases including Luke Air Force Base and Davis-Monthan Air Force Base; airports including Phoenix Sky Harbor, Tucson Intl. Airport, Grand Canyon National Park Airport, Pinal Airpark, Ryan Airfield and the Cochise County Airport; United States Veterans Administration (VA) Hospitals in Phoenix, Prescott, and Tucson; and tribal projects for Salt River Pima-Maricopa Indian Community, Pascua Yaqui Tribe, and Gila River Indian Community.

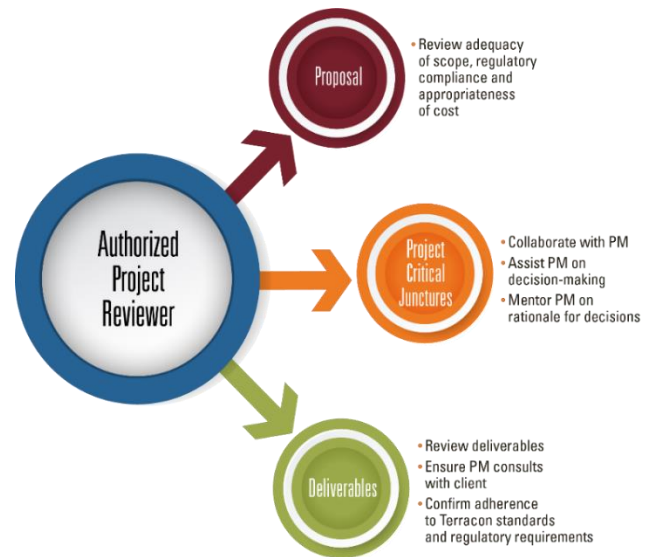
Specific to this project, our project management team has provided environmental and planning services for a number of CDBG entitlement and non-entitlement communities in Arizona. As an example, our team members were contracted by the City of South Tucson to use CDBG funds provided by Pima County to conduct asbestos surveys, environmental assessments, and construction planning for a large, multi-structure, dilapidated, and vacant motel complex that was slated for demolition and redevelopment for affordable housing. We have also completed Asbestos and Lead Services for dilapidated residences and/or structures located within the right-of-way of roadway expansion projects that were funded by Federal grants from the Federal Highway Administration and the EPA.

### **2.4.3 Quality Assurance/Quality Control**

Terracon is committed to providing quality services with experienced technical and professional staff through our comprehensive Corporate Quality Program. As required by our internal quality review process, every project is assigned a highly-experienced, senior



professional to provide guidance and technical review for the project team. In this manner, we are able to deliver consistent, high-quality consulting services to our clients across the country. This program is based on a continuous improvement philosophy involving our employees and, when applicable, subconsultants, vendors, and users of our services. Quality service for our clients is achieved by following the methods and practices that have been developed at Terracon for the services being provided. Our primary mechanism for achieving quality on every project begins with the individual performing the work. Each Terracon employee has responsibilities for professional, technical, or administrative quality, whether for client projects or internal service assignments.



Terracon maintains a living, written internal QC/QA program to assure Terracon’s reports and documents are complete, technically accurate, regulatory compliant, and defensible. The QC/QA program is detailed in a Project Quality Review Manual, which is Terracon’s primary QC/QA mechanism, relying on the industry best practice of secondary and independent review. Terracon-selected reviewers, termed Authorize Project Reviewers (APRs), provide the foundation for our quality review process. Our philosophy behind quality review is founded on the premise that our projects and associated deliverables are completed under the direction and oversight of our experienced senior technical professionals. Integrated with the requirements of the EPA Quality Program, our approach provides a second level of quality assurance for your Brownfields Program.

To ensure our personnel execute their responsibilities, Belinda Richard (Terracon’s designated QA Manager for this grant program) and the appropriate APRs will be responsible for conducting checks and reviews, as required, as the work progresses to verify that the appropriate QC elements are continuously addressed during the project.





### 3.0 EXPERIENCE AND CAPABILITIES

Since our founding in 1965, Terracon has grown and evolved to become a thriving, employee-owned, multidiscipline engineering consulting firm. Our Arizona offices have been in operation for more than 25 years and we have more than 170 professional and support personnel in these offices who are ready to support this grant program. Our firm has more than 5,500+ curious minds including engineers, scientists, architects, facilities experts, and field professionals focused on solving engineering and technical challenges from more than 175+ locations nationwide. Our environmental services are extensive, varied, and include the following:

- Due Diligence and Transactional Support
- Site Investigation and Closure
- Remedial Design and Implementation
- Brownfields and Site Redevelopment
- Asbestos and Industrial Hygiene Consulting
- Cultural and Biological Resources
- Environmental Planning and Permitting
- Landscape Architecture, Planning, and Design
- Regulatory Compliance
- Solid Waste Planning and Design



Terracon provides Cochise County with a local, full-service team of environmental professionals that can support the full scope of Brownfields services including grant management, environmental assessment and cleanup, planning, site redevelopment, community involvement, and GIS. Terracon’s grant implementation services will be overseen by Tod Whitwer, PE, who is based in Terracon’s Phoenix office. Tod has 35 years of environmental engineering and site redevelopment experience, and has worked with municipal, County, Tribal, and redevelopment agency Brownfields programs since 2001. Noelle Espinosa, PhD, will serve as the Project Manager and will be responsible for grant management and client coordination. She has 10 years of experience and is currently working with several small municipalities and Tribes to effectively carry out their grant programs. Belinda Richards, Terracon’s national Brownfields leader, will provide technical assistance and coordinate assistance, as needed, from more than 100 experienced Brownfields practitioners across the country.

#### ***Our Brownfields Methods Result in Meaningful Community Transformation***

- ▶ **Town of Show Low** – We efficiently characterized a former bulk oil storage facility, leveraged ADEQ SRG funding, and obtained an EPA Cleanup grant to develop an effective cleanup plan to allow expansion of the Town’s civic facilities.
- ▶ **City of South Tucson** – We are partnering with a developer to help transform a former automobile salvage and repair yard to provide much-needed mixed use of multi-family housing and retail.
- ▶ **White Mountain Apache Tribe** – Using leveraged EPA Technical Assistance and ADEQ SRG funds, we obtained an EPA Cleanup grant to redevelop rental cabins at Hawley Lake to provide critical income and jobs for the Tribe.





Over 75% of Terracon’s work is with repeat clients, many of whom we have worked with for decades and completed dozens of projects. We invite you to contact the following clients to discuss our technical, safety, quality, and project management services for projects similar to those outlined in the RFP. Additional references can be provided upon request by Cochise County.



Debi Goodwin  
Senior Risk Assessor  
Arizona Department of Environmental Quality  
(602) 771-4453  
[goodwin.debi@azdeq.gov](mailto:goodwin.debi@azdeq.gov)

Frank Bonillas  
Environmental Manager  
City of Tucson  
Environmental and General Services Dept.  
(520) 837-3814  
[Frank.Bonillas@tucsonaz.gov](mailto:Frank.Bonillas@tucsonaz.gov)

**We have supplemented our internal capabilities with specialized technical expertise in the areas of public involvement, real estate market analysis, and redevelopment planning.** Our partners are:



Founded in 1991, Gordley Group is a leading Arizona communications and public involvement firm located in Tucson. The firm is known for developing and implementing both large- and small-scale public participation and community outreach programs for planning, study, design and construction projects across Arizona, ranging from long-term regional planning projects to smaller sensitive efforts. Gordley Group is well regarded for collaborative and productive efforts that help ensure a process where the needs of both the public and the client can be better met, including in regional projects that involve elected officials, community opposition, environmental concerns, and agency staff from multiple jurisdictions. Gordley’s staff of 12 communications professionals includes four bilingual public involvement staff who are experienced in adhering to the National Environmental Policy Act, Title VI of the Civil Rights Act, the Americans with Disabilities Act, and other national agency and local jurisdictions’ public involvement requirements. The firm’s graphic design and media specialists create easy-to-understand graphics and collateral materials, and provide multimedia planning and implementation, including social media, website, digital communications and a variety of online engagement tools.

The firm has a 30-year history of successfully engaging the public in a broad range of projects that require special attention to environmental and social concerns such as visual and noise impacts, wildlife and vegetation protection, private property and economic impacts, and public health and safety. Gordley Group has effectively engaged Arizona’s diverse communities including those traditionally underserved segments of the public, including Hispanic, Native American and low-income populations, as well as ages ranging from youth to retirees. Successful outreach has included building strong connections with those representing persons with disabilities to define the best methods of communication, including workshops engaging Native American youth to define transit and non-motorized





transportation needs, and digitally geofencing events to deliver digital ads to engage attendees. Staff members are certified in various aspects and levels of public participation by the International Association for Public Participation (IAP2) including planning, communications, facilitation, and methods. The firm is an Arizona corporation recognized as a Disadvantaged Business Enterprise certified under the Arizona Unified Certification Program and a Small Business Enterprise by the City of Tucson.



Founded in 1996, McClure Consulting, LLC is based on Joe McClure's experience as a principal or manager of regional economic consulting organizations over a 35-year period. McClure Consulting conducts regional economic analyses for government organizations and real estate developers, for purposes of strategic planning, setting policies for development and redevelopment, communicating real estate market conditions, and documenting economic and fiscal impacts from development. Specifically, the firm and affiliated colleagues address the following issues:

***For communities and public agencies:***

- What is the economic status of the jurisdiction, and how do economic conditions influence strategies for development
- What role can and should a specific industry play in overall development strategy
- What are the economic/fiscal impacts of new projects, industries, or policies
- What is the relationship between a jurisdiction's budget and its growth trajectory
- How can the costs of growth best be addressed and allocated among citizens
- How are publicly owned real property assets best acquired, utilized, and disposed of

***For owners/developers of individual properties***

- What is a property's highest and best use on the basis of market data, financial analysis, or the special character of an area
- What is the best location for a development project or particular use
- What alternative investment strategies for a project or site yield the greatest benefits
- What is the nature and scope of the competitive environment for a project or property
- What are the benefits and costs to the host community from a development project

In dealing with these questions the firm prepares reports and also assists in negotiations, conducts workshops, consults with engineers and planners, prepares grant applications, and recommends actions to help ensure implementation.



### 3.1 PHASE I/II Environmental Site Assessments

Terracon specializes in due diligence services to identify and address environmental issues that pose risks to the community, our clients, and their investments. Our nationwide network of environmental experts offers experience in all 50 states and performs due diligence services on more than 10,000 projects every year. Our local knowledge, expertise, and familiarity with local regulations, regulatory agencies, and agency personnel allow us to provide our with thorough and accurate reports to protect our clients against potential environmental liabilities.

#### 3.1.1 Phase I Environmental Site Assessments

**Terracon’s local team has performed over 1,600 Phase ESAs since 2018**, ranging from vacant greenfield properties to 100-year-old industrial sites. This local expertise enables our Phase I team to begin a project with a strong baseline understanding of major environmental conditions throughout the state and streamline our assessment process. As a top-tier Phase I ESA provider, Terracon is knowledgeable and experienced with satisfying the requirements of the EPA AAI and ASTM International E1527-21 standard. Terracon meets the AAI and ASTM requirements through researching the physical setting; reviewing historical property use, regulatory database search, regulatory files and previous environmental reports; site reconnaissance; and interviews with property personnel and clear, concise, and comprehensive reporting. Terracon provides next level consulting services through direct communication of the environmental concerns gained through our research, as well as, outlining the path forward depending upon site-specific considerations and stakeholders.

For each Brownfields-funded Phase I ESA project, an approved Eligibility Determination from EPA for the site is obtained prior to initiating the project. Phase I ESAs are performed in

#### ***Brownfields Assessments, Site Cleanup, and Reuse Former Cotton Gin; Duncan, Arizona***

Terracon worked with the City of Duncan to conduct Phase I/II ESAs and oversaw the remediation of a former cotton gin facility. The City wanted to redevelop the former industrial site to a community center that would provide fresh market food and other community services to the surrounding underserved food desert areas. Due to the industrial nature and abandoned structures, the site created unsafe conditions for the community. Terracon was contracted through the ADEQ 128(a) State Response Program and concluded chemicals of concern at the site were below Arizona Soil Remediation Levels (SRLs). However, Terracon identified asbestos and guano/rodent droppings, which were abated under Terracon’s supervision. Terracon coordinated additional safety measures at the site that enabled the preservation of historical structures and present-day use of the site as a community farmers, makers, and growers market and historical place.

#### **Relevance to this Contract:**

- ✓ Grant application preparation
- ✓ Phase I/II ESAs and asbestos survey
- ✓ ADEQ 128(a) State Response Program
- ✓ Community engagement
- ✓ Remediation and redevelopment planning
- ✓ Site Cleanup and Reuse
- ✓ Historical preservation





accordance with AAI requirements found in 40 CFR 312 and required by the Cooperative Agreement with EPA. This requirement is most often met by conducting a Phase I ESA that conforms to the ASTM E1527-21 standard. The objective of the Phase I ESA is to identify RECs at the Property.

### 3.1.2 Phase II ESAs and LSIs

Annually, Terracon’s Arizona offices perform nearly 70 LSIs and Phase II ESAs in general accordance with ASTM E1903-19 for a wide variety of private and public sector clients. Our Phase II ESAs have been performed for a diverse mix including Brownfields sites, CERCLA sites, regulated sites such as dry cleaners and gasoline stations, and sites potentially impacted by a variety of contaminants of concern expected in four Target Areas. These include chlorinated hydrocarbons, petroleum hydrocarbons, polychlorinated biphenyls (PCBs), pesticides, herbicides, metals, and perfluoroalkyl and polyfluoroalkyl (PFAS) chemicals.

Scopes of work are thoughtfully designed based on the findings of a Phase I ESA, prior investigations, regulatory file review, and/or our local area knowledge. Terracon assures that site activities are conducted in a safe manner in accordance with the Hazardous Waste Operations and Emergency Response (HAZWOPER) rules found at 29 CFR 1910. HASPs are reviewed and approved by internal safety officers. Project personnel have the appropriate level of HAZWOPER and other OSHA-required training.

**Phase II ESA.** Phase II ESAs are conducted at sites identified as having RECs to obtain information on subsurface conditions and evaluate health risks and liabilities that may affect future land use activities. Soil, soil vapor, groundwater, and/or building material samples are collected in accordance with the Region 9-approved QAPP and site-specific SAP.

#### ***Brownfields Phase II ESA, Cleanup Planning, and Site Cleanup Former Woody’s Parcel; Show Low, Arizona***

Terracon has been working with the City of Show Low for the past 3 years to conduct assessments and develop cleanup plans for a former fuel storage facility. The City wishes to redevelop this vacant site to support expanded public library services and programs. Terracon’s Phase II ESA services identified petroleum product releases that have impacted soil and groundwater underlying the site at levels greater than the SRLs and Aquifer Water Quality Standards (AWQS), respectively. Terracon was initially contracted by ADEQ through the 128(a) State Response Program to install groundwater monitor wells, collect soil and groundwater samples, and prepare a Conceptual Site Model (CSM) to guide cleanup planning activities. Terracon prepared an ABCA and identified a remedial action consisting of soil vapor barrier, groundwater injection, and limited soil excavation to meet the City’s site reuse objectives. Terracon prepared a FY2022 Brownfields Cleanup grant to implement the cleanup plan identified in the ABCA. We are currently designing the final remedial action plan which is planned to be implemented in the spring of 2023.

#### **Relevance to this Contract:**

- ✓ Grant application preparation
- ✓ QAPP/SAP/HASP preparation
- ✓ Phase I/II ESAs and asbestos survey
- ✓ ADEQ 128(a) State Response Program
- ✓ Community engagement
- ✓ Remediation and redevelopment planning
- ✓ Site Cleanup





Terracon’s due diligence team understands sampling of multiple types of media (soil, rock, groundwater, surface water, soil vapor, indoor air, explosive vapors) with a variety of different drilling and sampling methods. Whether the site warrants a three-borehole LSI or full characterization and delineation using high-resolution site characterization (HRSC), our staff professionals have the experience to deliver superior results to our clients.

The results of the field activities, laboratory analyses, and office analysis are presented in a written Phase II ESA report that includes a description of the field activities; site map showing site features and sample locations; description of sampling procedures; laboratory analysis procedures and results; summary table of analytical data; analytical laboratory testing results and chain-of-custody forms; data verification and/or validation results; comparison of analytical results to applicable standards; interpretation(s) of the data obtained; and recommendations for further assessment or remediation.

**Asbestos-Containing Material/Lead-Based Paint Survey.** Terracon’s Arizona office has conducted over 800 comprehensive asbestos surveys (CAS) over the last five years. Terracon provides a full range of asbestos and lead-based paint consulting services, from the initial building survey to abatement project design, monitoring, and O&M plans. Terracon offers a one-source solution for most asbestos concerns. In 2021, Terracon was again listed as the highest ranked Asbestos and Lead Abatement firm



***Asbestos, Lead Paint, Mold, and Guano Surveys and Consulting  
Historic City Hall and Tombstone Union High School; Tombstone, Arizona***

In 2020, Terracon was approached by two different developers who were interested in purchasing and redeveloping the vacant Tombstone Union High School site; however, potential asbestos inspection and removal costs have hindered the sale of this property for approximately eight years. Terracon assisted Tombstone Unified School District in preparing a Brownfields State Response Grant (SRG) application in May 2020 and the site was accepted into the program in August 2020.

ADEQ selected Terracon to provide asbestos, lead paint, mold, and guano consulting services at the historic City Hall building. Work was performed using ADEQ’s Arizona Brownfields Response Contract and was requested prior to planned restoration and re-occupancy of the building. The project scope of work included completion of a comprehensive building survey to identify and quantify hazardous materials that would be impacted during renovations and/or identify special handling and disposal requirements. Terracon subsequently performed abatement oversight, perimeter air monitoring, and air clearance testing during removal of asbestos, lead paint, and mold/guano-impacted building materials. Terracon’s knowledge and expertise in building material assessments and sampling for sensitive historic structures enabled this building’s successful renovation and reuse, aiding in the preservation of an iconic piece of culture for the City of Tombstone.

**Relevance to this Contract:**

- ✓ QAPP/SAP/HASP preparation
- ✓ Phase I/II ESAs
- ✓ Asbestos/ LBP/mold/guano surveys and abatement oversight
- ✓ ADEQ 128(a) State Response Program
- ✓ Property condition assessment
- ✓ Community engagement
- ✓ Remediation and redevelopment planning
- ✓ Historic preservation



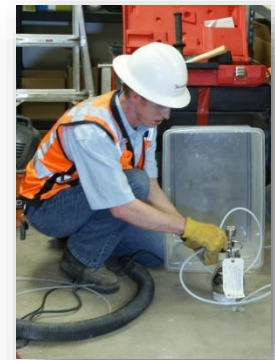


according to the Engineering News Record, an achievement Terracon has maintained for 8 consecutive years.

Terracon performs building surveys and collect samples of suspect asbestos-containing building materials (ACBM) using guidelines established under the EPA AHERA program and as required by the EPA NESHAP regulations. Terracon ensures that subconsultant inspectors are licensed and certified as required by Federal and state regulations. Asbestos surveys begin with a review of construction documents to identify suspected ACBM. A visual survey is then conducted, and suspect ACBM is sampled and analyzed for asbestos content. In accordance with Federal regulations, only those materials containing greater than 1 percent asbestos are reported as containing asbestos.

Terracon has extensive experience in preparing plans and specifications for remedial actions including enclosure, encapsulation, and partial or complete removal. Terracon can also provide or sub-contract technicians for air sampling during the abatement process. These personnel are certified through National Institute for Occupational Safety and Health (NIOSH) and use NIOSH sampling protocols..

**Vapor Encroachment Screening.** A Tier 1 vapor encroachment screen (VES) should be conducted as part of the Phase I ESA process because the presence of a hazardous substance or petroleum product due to the migration of vapors onto a property constitutes a potential REC. A VES is used to identify a vapor encroachment condition (VEC), which is the presence or likely presence of chemical of concern vapors in the subsurface caused by the releases from contaminated soil or groundwater either on or near the property. While the ASTM E1527-21 does not require the application of a given vapor migration model, the ASTM E2600-15, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions* is the consensus industry standard methodology for an initial screening.



The VES process prescribed by the ASTM E2600-15 is a two-tiered screening process. Tier 1 generally consists of review of information collected during the Phase I ESA process. If a VEC exists, then the Environmental Professional must evaluate whether this VEC constitutes a REC for the site and if soil vapor sample collection and analysis to identify the presence of volatile organic compounds (VOCs) is required.

### 3.2 ENVIRONMENTAL INVESTIGATIONS AND CLEANUPS

Terracon has extensive experience investigating and characterizing impacts to soil, soil vapor, and groundwater from releases at various types of facilities including gasoline service stations, landfills, State and Federal Superfund sites, dry cleaners, and other commercial and industrial operations. In addition to our on-call contracts with multiple Arizona



municipalities and Tribal governments, we routinely provide site investigation services to ADEQ through the Tanks and Brownfields programs. Our site investigation services include:

### *Terracon's Environmental and Cleanup Expertise*

- Soil and groundwater investigation
- Surface water and sediment investigation
- Soil gas investigation
- Vapor intrusion evaluation
- Fate and transport modeling
- UST removal, investigation, and closure
- Landfill and methane investigation
- Brownfields assessments
- Corrective action closures
- Aquifer characterization and classification
- Risk-based corrective action

Terracon's site investigation and closure services are structured to identify the extent and magnitude of site impacts to support the development of the CSM, select remedial action objectives, identify applicable rules and regulations, and define remedial actions. We will develop and refine the CSM based on site-specific geology, hydrogeology, hydrology, contaminant sources, primary and secondary release mechanisms, contaminant migration pathways, risk exposure routes, and receptors. Remedial Action Objectives (RAOs) are identified based on contaminants of concern, spatial distribution of contaminants, applicable cleanup standards, and the timeframe to achieve the desired objectives. We also identify appropriate requirements and likely remedial technologies applicable for the anticipated contaminants of concern so that all necessary data can be collected.

We have significant experience working with ADEQ and EPA in the UST, Water Quality Assurance Revolving Fund (WQARF), UST, Brownfields, VRP, and Federal Superfund Programs. We regularly develop and implement QA/QC into projects in accordance with written Work Plans, SAPs, and QAPPs. We commonly obtain permits necessary to investigate sites, including Notice of Intent to Drill permits from the Arizona Department of Water Resources (ADWR), Right-of-Way permits, and dust control and stormwater discharge permits.

Terracon's engineers, geologists, and scientists have extensive experience collecting site assessment and characterization data and information. We have advanced subsurface borings using direct push, auger, sonic, and rotary methods to collect soil data for chemical and physical analysis. We conduct subsurface vapor sampling, primarily for vapor intrusion analysis, to evaluate soil gas and sub-slab conditions. We routinely install groundwater monitor and extraction wells to evaluate contaminant impacts, water level, flow direction and velocity, and other physical and chemical parameters. We conduct field and pilot tests to measure subsurface responses and characteristics such as radius of influence in the vadose zone and groundwater pumping capacity. Terracon offers cutting-edge, resourceful site investigation services that can benefit the County's response and management of emerging contaminants and on-going environmental liabilities. We incorporate innovative tools and methodologies to develop more accurate and meaningful site data.



## **Brownfields Assessment, Cleanup Planning, Cleanup, and Remediation Operations Clyde Wanslee Automotive; Tucson, Arizona**

As part of its community outreach support to the City of Tucson, Terracon outlined the City's Brownfields Program and funding availability at a commercial broker roundtable. As a result, a developer approached the City to obtain Brownfields funding for this site. Terracon obtained Brownfields Site Eligibility Determinations for Petroleum Products (from ADEQ) and Hazardous Substances (from EPA), and conducted a Phase I ESA and Asbestos and LBP Survey as part of the environmental due diligence for the pending real estate transaction. The asbestos and LBP surveys were conducted in accordance with the EPA-approved SAP. Terracon's Phase I ESA identified RECs associated with former service station and automotive-related operations at the site that occurred from approximately 1925 until the late 1980s. USTs associated with the site were reportedly removed in 1989; however, the soil sampling performed at the time of removal did not meet current ADEQ protocol (e.g., number of samples or analytical parameters).

### **Relevance to this Contract:**

- ✓ Brownfields program expertise
- ✓ QAPP/SAP/HASP preparation
- ✓ Phase I/II ESAs
- ✓ Reporting and ACRES entry
- ✓ EPA Region 9 and ADEQ interaction
- ✓ Remediation planning and ABCA preparation
- ✓ Remediation and remedial action operations and maintenance

Terracon prepared a SAP for the site investigation work that was reviewed and approved by EPA prior to performing Phase II ESA work at the site. The Phase II ESA included subsurface soil sampling, analysis, and recommendations for additional site work. One UST was discovered to be present at the site and evidence of subsurface soil impacts were also encountered. Subsequently, a 24-hour notification was submitted to ADEQ's UST Unit and a 14-day report confirming the release was submitted to ADEQ after analytical results were received.

Additional Brownfields funding could not be leveraged to complete site work; therefore, Terracon then navigated the site owner through the ADEQ State Lead Unit (SLU) for Non-Corrective Action application process and funding was received for the removal of the UST. Terracon discovered two USTs at the site during the removal and also identified impacts to both subsurface soils and groundwater. The leaking underground storage tank (LUST) Investigation at this site is ongoing and has included installation of additional groundwater monitoring wells and quarterly groundwater monitoring to delineate the groundwater contaminant plume boundaries.



This project highlights Terracon's ability to use Brownfields to spur development at an underutilized site where there are both environmental concerns and interest in redevelopment. demonstrates Terracon's commitment to quality customer service for the end-user who utilizes the funding. Specifically, Terracon was able to navigate the site from Brownfields funding to ADEQ funding for the removal of the USTs and now, through additional ADEQ funding mechanisms, for the groundwater characterization.



### 3.3 IMPLEMENT USEPA GRANT FUNDED PROJECTS FOR LOCAL UNITS OF GOVERNMENT

Brownfields projects conducted for local units of government require specialized skills, experience, and processes to be successful. Through our years of experience assisting our clients, we have developed an understanding and approach to providing services for government that takes into account the following unique aspects:

- In some cases, services are required to meet expedited development schedules or after encountering unexpected conditions. The consultant must be able to respond quickly and with adequate resources to allow the project to proceed.
- These projects typically involve several departments and/or municipalities, some of whom have not been involved in hiring the consultant. The consultant will need to be able to coordinate and proactively communicate with these departments.
- The consultant will generally interact with the public and other stakeholders while conducting the work, some of whom may be uninformed or hostile. The consultant must be prepared to adequately respond to questions and represent the municipality in a professional manner.
- The consultant may be tasked to complete several projects concurrently. The consultant must be able to provide adequate and sufficient resources, timely and clear communication, and on-time delivery.

Terracon’s team has substantial, proven experience in implementing EPA Community-Wide, Cleanup, Multipurpose, and Revolving Loan Fund (RLF) grant programs for local governments, Tribes, and redevelopment agencies. Terracon has the experience, personnel, and qualifications necessary to support Cochise County and help leverage this grant funding to promote economic redevelopment in the Target Area communities. **Terracon is actively assisting the City of Tucson, City of South Tucson, City of Show Low, White Mountain Apache Tribe, and the Salt River Pima-Maricopa Indian Community with EPA grant-funded programs.** We are also one of three contractors on the ADEQ Brownfields Technical Assistance program. Terracon’s Arizona Brownfields program experience is summarized in the table on the following page.

**25-year History**  
Terracon has provided environmental services related to Brownfields redevelopment for over 25 years. Our team members have supported 11 EPA Region 9 Brownfields Cooperative Agreement-funded projects.



One of the most respected measures of a firm’s Brownfields capabilities is recognition through a Phoenix Award, which are touted as the Brownfields version of the Oscars. The Phoenix Awards Institute, an independent non-profit organization, honors Brownfields revitalization projects that use innovative solutions to transform blighted sites into new, significant community assets. **Terracon’s clients have won more Phoenix Awards than any other consulting firm.** Our Phoenix Award projects range from





one of the largest metropolitan areas to the smallest city to have ever won a national award. In the words of the Phoenix Committee regarding Terracon, "These groups have figured it out – and they are national models for each one of us."

<b>Arizona Brownfield Projects</b> <b>Funded by EPA Cooperative Agreements</b>	Hazardous Substances	Hazardous Substances/Petroleum	Petroleum Products	Community Outreach/Engagement	Access Negotiations, Eligibility Forms	ASTM Due Diligence/AAI/Phase I ESAs	Property Eligibility/Inventory/Prioritization	EPA-Approved Quality Plans	Phase II/III/Cleanup Plans	Phase II/III Assessment/Review/Reports	Cleanup or Reuse Planning/ABCA	ACRES/Quarter and Annual/Closeout Report	Greenspace, Recreational, or Riverfront Restoration	State Voluntary or Risk-based Evaluation/Cleanup	Redevelopment Planning/Market Studies
EPA Project Fact sheets with grant information may be viewed using EPA Region Number, State, City or Client Name and Year at <a href="http://cfpub.epa.gov/bf_factsheets/">http://cfpub.epa.gov/bf_factsheets/</a>  <b>Terracon or our wholly-owned subsidiary was the primary consultant or subconsultant. Regardless, only our services are checked as project experience.</b>  Updated 01-31-2023.															
<b>Assessment Pilot - \$200,000</b> White Mountain Apache Tribe, McNary, AZ (1999-2002)	■	■			■	■		■	■	■	■		■		
<b>Community-Wide Assessment - \$200,000</b> City of Flagstaff, AZ (2006-2009)			■						■						
<b>ARRA Assessment - \$200,000</b> City of South Tucson, AZ (2009-2012)		■	■			■			■	■		■		■	
<b>ARRA Assessment - \$200,000</b> City of South Tucson, AZ (2009-2012)	■	■				■			■	■		■			
<b>Community-Wide Assessment - \$200,000</b> City of Tucson, AZ (2010-2013)	■	■						■	■	■		■			
<b>Community-Wide Assessment - \$200,000</b> City of Tucson, AZ (2010-2013)			■						■	■		■			
<b>Community-Wide Assessment - \$200,000</b> City of Tucson, AZ (2014-2017)	■	■						■	■	■		■			
<b>Community-Wide Assessment - \$200,000</b> City of Tucson, AZ (2014-2017)			■						■	■		■			
<b>Community-Wide Assessment - \$150,000</b> City of South Tucson, AZ (2020-2023)	■	■		■	■	■	■	■	■	■	■	■	■		■
<b>Community-Wide Assessment - \$150,000</b> City of South Tucson, AZ (2020-2023)			■	■	■	■	■	■	■	■	■	■	■		■
<b>Multipurpose - \$800,000</b> Salt River Pima-Maricopa Indian Community, AZ (2021-2024)	■	■		■	■	■	■	■	■	■	■	■	■		
<b>Cleanup - \$500,000</b> City of Show Low, AZ (2020-2025)			■	■	■				■	■	■	■	■	■	
<b>Cleanup \$500,000</b> White Mountain Apache Tribe CDC, AZ (2020-2025)	■			■	■				■	■	■	■	■	■	■
<b>Tribal Response Program - \$90,000</b> White Mountain Apache Tribe, AZ (2021-2023)	■		■	■		■	■	■	■	■	■		■		





### 3.4 DEVELOPMENT/REDEVELOPMENT EXPERIENCE AND MARKET FEASIBILITY RESEARCH

McClure Consulting has conducted regional economic analyses for government organizations and real estate developers, for purposes of strategic planning, setting policies for development and redevelopment, communicating real estate market conditions, and documenting economic and fiscal impacts from development. Our services have included:

#### Economic Development

- Design strategic planning processes
- Analyze local/regional economies, including demographic and workforce conditions to assess competitive strengths
- Analyze specific industries or clusters in terms of local relevance
- Facilitate strategic planning sessions in presentations and workshop formats
- Prepare Strength, Weakness, Opportunities, and Threats (SWOT) or similar analyses
- Conduct competitive assessments of comparable communities
- Analyze and advise on economic organizational structures
- Prepare detailed action plans and documentation of methods and findings

#### Economic Impacts and Benefit/Cost Analysis

- Design studies to assess impacts
- Analyze local/regional economies to benchmark conditions
- Prepare analysis models, generally combining economic and fiscal impact inputs/output

#### *Downtown Area Redevelopment Feasibility Assessment Various Small Arizona Cities*

McClure Consulting assessed market conditions and reviewed financial feasibility and fiscal impacts associated with potential redevelopment. Projects were conducted for rural and semi-rural cities in Maricopa, Pinal, Yavapai, Coconino, and Santa Cruz Counties. Market conditions investigated typically included consideration of the varying demographic characteristics of the resident base, presence of seasonal visitors and tourists, in some cases cross-border shopping, and cross-commuting, where imbalances in the number of jobs and resident workers can affect the market-capture potential for local businesses. For suburban communities, a major focus of market research is the relationship of historic downtown areas, and the types and sizes of businesses they could typically support, to retail development in larger adjacent cities where the scale of projects may be much larger. Financial feasibility in all communities involved researching the availability of local property and associated rents for various purposes, primarily for retail but also industrial and even office uses in some cases. In Native American communities, especially, feasibility was investigated in two parts: 1) as a function of business profitability from operations, with sufficient market capture, and 2) the feasibility of a real estate development to accommodate one or more prospective businesses that could pay rents at a certain level, sufficient to cover the construction and operating costs of a building as a business in itself.



#### Relevance to this Contract:

- ✓ Area-Wide Planning
- ✓ Site-Specific Planning
- ✓ Market Analysis
- ✓ Economic Evaluation
- ✓ Small, Rural, Disadvantaged Community
- ✓ Feasibility Analysis



### Real Estate Studies

- Analyze market conditions
- Define highest and best use
- Prepare financial analyses for land and land-use development and redevelopment
- Develop comprehensive program for real estate product development and implementation

## 3.5 REDEVELOPMENT PLANNING AND COMMUNITY INVOLVEMENT

Cleanup planning differs greatly from technical remediation design. Cleanup planning entails the feasibility and redevelopment phase necessary to set the stage for cleanup that best fits intelligent, sustainable, and profitable redevelopment of Brownfields properties. When potential costs, obstacles, or restrictions are identified for a property or group of Brownfields properties, more traditional planning can incorporate and address Brownfields as a routine element in the redevelopment process. Once the Phase II ESA is completed and contaminants that exceed State of Arizona regulatory screening levels are identified, Terracon will prepare a site-specific cleanup plan, referred to by EPA as an ABCA. The ABCA will be used to evaluate options for the cleanup and regulatory closure of the site. Assessment findings will be integrated into the ABCA to select the preferred remedial action. We will evaluate cleanup options based on effectiveness, implementability, and cost with direct input from the County and other stakeholders. Options to be evaluated include in-situ active remediation, risk assessment, or a Deed of Environmental Use Restriction (DEUR). When appropriate, state-required Work Plans will be combined with the ABCA to save time and money in achieving regulatory approvals.

### *Community Relations and Engagement*

#### *Kolb Road Connection to Sabino Canyon Road; Tucson, Arizona*



Gordley Group assisted the City of Tucson with public outreach for the City of Tucson for a new four-lane roadway next to an established and politically active neighborhood. Community relations and engagement were critical for this 8-year transportation study, design, and construction process in a politically contentious and environmentally sensitive area. Gordley worked with the City to ensure the public process stayed manageable and productive, without causing delays for the project or exceeding its remaining budget. Issues of concern

#### **Relevance to this Contract:**

- ✓ Community Engagement
- ✓ Public meetings
- ✓ Task force development and public input
- ✓ Environmental concerns

included impacts to property values, public safety, and recreation at adjacent Udall Park; relief of traffic congestion and mitigation of increased traffic noise; repurposing a closed landfill; emergency services access; and preservation of nearby residents' quality of life. Gordley's public involvement team planned and staged public meetings; coordinated meetings of the Kolb Task Force advisory committee representing neighborhoods, businesses and the public; developed, distributed and analyzed responses to a questionnaire regarding neighborhood access; as well as news media materials, interview support and monitoring. The team ensured that all communications, meetings and materials complied with NEPA and Title VI of the Civil Rights Act requirements for the public process. Gordley concluded the project on a high note for the City and community. They coordinated the project opening with a well-attended bridge dedication to fallen World War II airmen. **This initiative won a 2017 Public Relations Society of Southern Arizona IMPACT Award for Special Events and Observances.**





The Terracon team has extensive experience developing and conducting stakeholder outreach and participation in Brownfields programs and will work collaboratively with the County, Target Area representatives, and other stakeholders to drive outreach efforts. Our community engagement and participation efforts have proven extremely successful in educating and overcoming initial skepticism in communities throughout the United States and with diverse Arizona grantees such as South Tucson, Tucson, White Mountain Apache Tribe, Pima County, and Santa Cruz County. For example, in most of the communities in which we have worked, we initially encountered uncertainty, misunderstanding, and lack of knowledge of the Brownfields program. Property owners did not want to have their sites assessed because they mistakenly believed that they needed to report the results to environmental agencies and immediately cleanup discovered contamination. To address these concerns, we met individually with these property owners to educate them on the process and reporting requirements of the work being conducted.

### 3.6 ENVIRONMENTAL INVENTORIES USING GIS

Terracon has extensive experience developing GIS databases for inventory, planning, and community outreach purposes using Brownfields Community-Wide Assessment grants. We have developed effective Brownfields inventories by first identifying the overarching purpose of the inventory and, based on this understanding, selecting the key data requirements that were included for each site. Properly addressing these issues transformed the Brownfields inventory from a simple list of Brownfields sites into a powerful tool for community redevelopment and revitalization.

Terracon understands that Cochise County has initiated a Brownfields inventory for each Target Area and has identified priority sites for assessment. For similar projects for other Brownfields grantees, we updated the inventory as new Brownfields were identified and incorporate data necessary to facilitate prioritization of properties for assessment, cleanup, and redevelopment. At a minimum, Terracon included the following information, most of which was easily imported into the inventory database by obtaining shapefiles from the applicable County Assessor’s office.

Developing an effective Brownfields inventory is usually an iterative process conducted in tandem with community engagement activities. Terracon developed inventories by adding sites identified by the communities BAC, Target Area stakeholders, or other entities using the community outreach activities described in Section 3.5 above (BAC and other

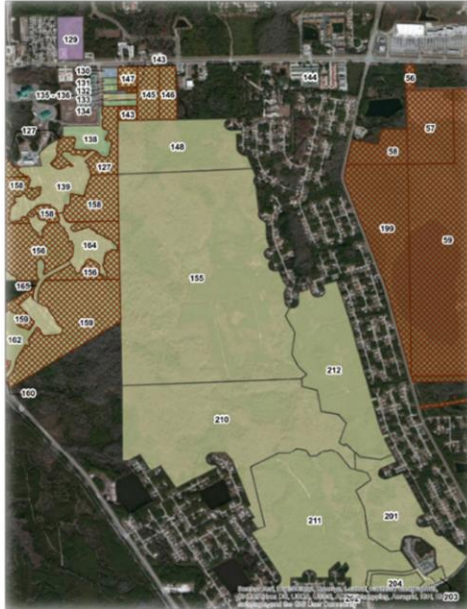
<i>Brownfields Inventory Data Elements</i>		
▪ Property Owner	▪ Zoning	▪ Section, Township, Range
▪ Assessor Parcel Number	▪ Historical Uses	▪ Community Input
▪ Land Area	▪ Assessed Property Value	▪ Aerial photographs
▪ Located in Disadvantaged Community	▪ County Recorder Information	▪ Environmental Reports
▪ Latitude and Longitude	▪ Utility Services	▪ Broker Contacts





stakeholder meetings, public meetings). In some cases, existing information was supplemented by obtaining an area-wide regulatory database report that included record such as UST registration, LUST cases, hazardous waste permits, permit violations, and historical dry cleaner and automotive use. In addition, City and County databases were

searched to identify sites with wastewater discharge or air quality permits. Identified sites were screened and added to the database as appropriate. For example, a site identified as a Large Quantity Generator was added to the inventory whereas a site identified as a Very Small Quantity Generator was not included.



Deciding as a community which properties to spend grant money on to achieve the most benefit is challenging. Terracon integrates a numerical approach to site prioritization to assure an equitable and defensible process. Scoring criteria and weighted values reflected the collaborative consensus of the community based on what was important to them before properties are evaluated.



Sites designated for assessment, cleanup, and/or redevelopment planning were selected using a thorough and priority criteria-based process. A quantifiable, numeric-based system was developed that assigns base points to specific criteria and the user then scores the sites based on the degree to which the site meets the criteria. Criteria included community support, owner participation, site use, identified redevelopment opportunities, threat to human health and the environment, and ability to leverage other funding sources.

**Terracon prepared and is actively using site inventories and GIS-based databases for Brownfields assessment, planning, and community outreach for Tucson, South Tucson, and the White Mountain Apache Tribe**

GIS inventories have been an essential element on more than 90 percent of the 290 Terracon EPA Brownfield Cooperative Agreement projects. We have used a GIS-based platform to integrate environmental data and other site characteristics to create a spatial database for managing the overlapping elements influencing property redevelopment. A concise user's manual was prepared and training provided. The Brownfields inventory was made available to communities via a web server application.





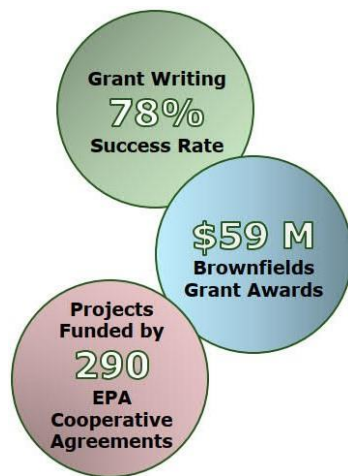
### 3.7 FEDERAL AND STATE ENVIRONMENTAL GRANT PROGRAM AND GRANT APPLICATION PREPARATION

Terracon’s experience and expertise in helping communities build and sustain their Brownfields program is recognized at EPA national, State, and local levels. Through these grants, we have helped

**Terracon has worked on 290 EPA Brownfields grants with \$0 in ineligible expenses.**

private, and public-sector clients make successful redevelopment projects a reality. Terracon has long-established relationships within ADEQ’s and EPA’s Brownfields Programs, including many EPA Project Officers in 9 EPA Regions and the Brownfield Regional Coordinators. We strongly believe no other firm can match Terracon’s local and national leadership in Brownfield’s management, assessment, remediation, local

Brownfields environmental expertise, and successful working relationships with the State of Arizona’s VRP and the EPA’s Brownfields Programs and staff.



Our staff has assisted clients in obtaining \$59 million in EPA Brownfields grants. For the recent FY 2022 EPA Brownfields grant cycle, Terracon staff assisted clients in obtaining \$8.6 million in EPA Brownfield Assessment grant funds. Over the last 5 years, Terracon has assisted clients nationwide in obtaining over \$17.5 million in EPA Assessment and Cleanup grants. **Our overall grant writing success rate is 78 percent, making Terracon one of the most successful firms in assisting communities with building their Brownfields programs.**

### 3.8 FEDERAL AND STATE ENVIRONMENTAL STATUTES AND ASSOCIATED REGULATIONS

This section describes Terracon’s knowledge and experience of environmental statutes and regulations **specifically associated with Brownfields activities** – CERCLA and the State of Arizona VRP. In Section 3.9, we detail our experience with other Federal and State regulations that may be associated with implementation of grant-funded projects.

#### 3.8.1 CERCLA and AAI Requirements

The use of Brownfields funds is governed by the conditions outlined in CERCLA § 104(k), as amended by the Small Business Liability Relief and Brownfields Revitalization Act enacted in 2002 and the Brownfields Utilization, Investment, and Local Development (BUILD) Act enacted in 2018. Site eligibility is based on several factors, the most important of which include proposed activities; primary contaminant type; operational and contaminant disposal history; acquisition type, date, and whether AAI requirements were fulfilled; existence of a viable responsible party; and regulatory program status. Eligibility requirements for Petroleum Products and Hazardous Substances vary.





Under the terms of the Cooperative Agreement, Cochise County must verify that a candidate site is eligible for Brownfields funding and obtain approval from EPA prior to expending Brownfields funds at the site. This is accomplished by submitting an Eligibility Determination Form to the EPA Project Officer who will consult with Region 9 legal staff to approve fund expenditure. Once approved, the Project Officer will sign the Eligibility Determination and return it to Cochise County for recordkeeping.

Determining whether a site is eligible for Brownfields funding requires intimate knowledge of CERCLA requirements, especially as it relates to applicability to AAI, bona fide prospective purchaser, eligible activities, and proper identification of contaminants (including whether the contaminants are co-mingled). Unfortunately, it may be incorrectly assumed that a priority Brownfields site is ineligible for funding without adequate knowledge and the ability to assure eligibility requirements are met. Through our grant application and program implementation experience, we are very knowledgeable of the regulatory requirements associated with Brownfields funding. This experience is important so that program funds are appropriately expended (and negative audit findings are avoided) and that necessary assessment and cleanup activities can be completed.

### **3.8.2 State of Arizona VRP**

EPA encourages grantees to enroll cleanup sites in a state voluntary cleanup program. Terracon has extensive experience with conducting site remediation and obtaining closure through the State of Arizona VRP. A VRP Work Plan outlining the proposed remedial action must be prepared to meet the requirements of Title 49, Section 175 of the Arizona Revised Statutes (ARS 49-175) using the Voluntary Remediation Program Work Plan Checklist (Checklist). Data quality requirements must be included in the Work Plan using VRP Data Quality Plan for Work Plan/SAP Development guidance and must incorporate the Remedial Projects Section Quality Assurance Program Plan (QAPrP). The Work Plan should be developed to obtain an NFA Determination for the chemicals of concern and media (soil or groundwater) after remedial actions are completed.

Post-remediation site characterization will need to be conducted in accordance with the ADEQ-approved Work Plan. ADEQ will require QC samples to be collected consisting of duplicates (10 percent of primary samples), equipment blanks (one per sampling day), and trip blanks [one per shipping cooler containing samples to be analyzed for volatile organic compounds (VOCs)]. Data must be qualified using State of Arizona data qualifier flags. A remediation completion report must be prepared demonstrating that the Work Plan requirements were completed in general accordance with ADEQ's Site Characterization and Remediation Completion Report template. Deviations from the Work Plan should be discussed and potential impacts to the site characterization should be described. Manifests, landfill receipts, and analytical laboratory reports should be included. Upon ADEQ's approval of the remediation completion report, a Request for No Further Action Determination is submitted to ADEQ. Upon completion of the 30-day public comment period, additional documentation is submitted containing information necessary for ADEQ to issue the NFA Determination letter.



### 3.9 EPA ENVIRONMENTAL AND OTHER FEDERAL LAWS AND REGULATIONS

Terracon has direct, relevant experience providing environmental and regulatory permitting and compliance services as required by the County and outlined in the RFP. We support municipalities, industrial facilities, and other public and private entities with permitting and compliance support including permit applications, plans, program evaluation, and regulatory agency interaction. We regularly interact with local governments, State, and Federal agencies for myriad issues involving air, stormwater (industrial and construction), wastewater (industrial and septic system), and hazardous waste compliance issues. We are experienced and proficient with ADEQ environmental compliance rules and regulations related to air, stormwater, hazardous waste, oil storage, aquifer protection, and community-right-to-know. Services that may be required for this grant are summarized below.

<b>Air</b>	
<ul style="list-style-type: none"> <li>■ Permitting (Title V, dust control)</li> <li>■ Pollution Control Equipment Design</li> <li>■ Air Emissions/GHG Reporting</li> </ul>	<ul style="list-style-type: none"> <li>■ Dispersion Modeling</li> <li>■ NESHAP and NSPS Compliance</li> </ul>
<b>Water</b>	
<ul style="list-style-type: none"> <li>■ Oil Storage/SPCC Plan</li> <li>■ Stormwater Management – Industrial and Construction (SWPPP, MSGP, individual)</li> <li>■ Industrial Wastewater (permitting, design)</li> </ul>	<ul style="list-style-type: none"> <li>■ APP (drywells, landfills)</li> <li>■ Inspections/Audits/Monitoring</li> <li>■ Surface Water permitting and compliance</li> </ul>
<b>Solid/Hazardous Waste/Community-Right-to-Know</b>	
<ul style="list-style-type: none"> <li>■ Landfill Design, Permitting, Compliance</li> <li>■ Landfill Gas</li> <li>■ Waste-to-Energy, Material Recovery</li> </ul>	<ul style="list-style-type: none"> <li>■ RCRA/Hazardous Waste Management and Permitting</li> <li>■ EPCRA (Reporting, TRI, Tier II)</li> </ul>
<b>Environmental Planning</b>	
<ul style="list-style-type: none"> <li>■ National Environmental Policy Act</li> <li>■ Endangered Species Act</li> <li>■ Wild and Scenic Rivers Act</li> <li>■ National Historic Preservation Act</li> <li>■ EO 12898: Environmental Justice</li> </ul>	<ul style="list-style-type: none"> <li>■ Section 4(f) of the Department of Transportation Act</li> <li>■ Arizona Native Plant Law</li> <li>■ Farmland Protection Policy Act</li> <li>■ Federal Land Policy and Management Act</li> </ul>
<b>Other Services</b>	
<ul style="list-style-type: none"> <li>■ Environmental Management Systems</li> <li>■ Compliance Audits/Assessments</li> <li>■ Hazardous Materials Planning</li> <li>■ Safety/Industrial Hygiene</li> </ul>	<ul style="list-style-type: none"> <li>■ Sustainability</li> <li>■ Process Safety Management/Risk Management Plans</li> <li>■ Compliance Training</li> </ul>



### 3.10 STAFF ESA, BROWNFIELDS, AND SITE REMEDIATION KNOWLEDGE AND EXPERIENCE

Terracon offers a team of professionals experienced with Arizona and EPA Region 9 Brownfields programs to support the various projects anticipated from the Community-Wide Assessment grant and consulting contract. Our dedicated project team is composed of local staff and subject matter experts who will deliver Brownfields services on-time and cost-effectively. An overview of our key technical staff’s capabilities to provide the services listed in the County’s Scope of Work is summarized below. In addition to our Arizona-based team, we have an extensive network of Brownfields experts across the US. With over 100 Brownfields staff nationwide, Terracon’s resources provide extensive experience and knowledge of the EPA Brownfields Program necessary to support Cochise County’s Brownfields program.

<i>Summary of ESA, Brownfields, and Remediation of Key Personnel</i>	Grant Preparation	Grant Management	EPA Region 9/ADEQ Coordination	Community Outreach/Engagement	Access Negotiations, Eligibility Forms	Phase I ESAs/ASTM Due Diligence/AAI	Inventory/Prioritization	EPA-Approved Quality Plans	Phase II/III/Cleanup Plans	Phase II ESA/LSI	Asbestos/LBP/RBM Surveys	Cleanup or Reuse Planning/ABCA	ACRES/Quarter and Annual/Closeout Report	Greenspace, Recreational, or Riverfront Restoration	State Voluntary or Risk-based Evaluation/Cleanup	Regulatory Compliance/Permitting	Redevelopment Planning/Market Studies
<b>Tod Whitwer, PE</b>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Noelle Espinosa, PhD</b>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Belinda Richard</b>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Ben Bowers</b>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Jennifer Thies</b>			■	■		■			■	■	■	■		■	■	■	
<b>Derek Koller, CIH, CHMM</b>		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Matt Valenti</b>			■		■	■			■	■	■	■				■	
<b>Rebekah Wilson</b>	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Jim Barker, RG</b>			■		■	■		■	■	■		■		■	■		
<b>Derek Sizemore, CIH, CHMM</b>			■		■	■				■	■				■	■	





## 4.0 PROPOSED FEE SCHEDULE

Terracon’s proposed fee schedule for work to be conducted under this project is provided in the following table.

<i>Proposed Terracon Fee Schedule</i>	
<b>Position</b>	<b>Hourly Rate</b>
Program Manager/Senior Principal/Principal	\$210.00
Senior Project Manager	\$210.00
Project Manager	\$160.00
Principal Engineer, Scientist, Geologist, Planner	\$210.00
Senior Engineer, Scientist, Geologist, Planner	\$180.00
Project Engineer, Scientist, Geologist, Planner	\$145.00
Staff Engineer, Scientist, Geologist, Planner	\$100.00
Field Engineer, Scientist, Geologist, Planner	\$90.00
GIS Specialist/ Drafting/Graphics	\$90.00
Clerical/Administrative	\$60.00
<b>Miscellaneous</b>	<b>Unit Rate</b>
Gordley Group, McClure Consulting, LLC	Cost + 8%
Contract Services (i.e., Analytical Laboratory and Drilling)	Cost + 15%
Expendable Supplies & Other Direct Costs	Cost + 1%
Per Diem	Per Current GSA Rates
Annual Escalation	2.5%

Using these fees, we have developed a proposed budget to complete the tasks and outputs outlined in the County’s grant application (detailed in the table on the following page). As this table demonstrates, Terracon’s proposed rates and project approach will maximize the grant budget and allow Cochise County to accomplish more outputs than those listed in the grant application. This is possible due to Terracon’s efficiency in completing tasks and alternative approaches to conducting the work. For example:

Because of our extensive Brownfields experience and capabilities, Terracon will help Cochise County maximize its grant funding thereby producing more outputs and benefits to the Target Area communities. In some cases, we can anticipate that we can increase program outputs by more than 200%.

- The grant application states that Phase I ESAs will cost \$5,000 per completed report. Terracon is able to prepare Phase I ESAs for a fee of \$4,200 versus the \$5,000 cost listed in the grant application. **As a result, we will be able to complete an additional 6 Phase I ESAs within the allotted grant budget, a 50% increase in this program output.**





- The grant application states that seven<sup>2</sup> Phase II ESAs and/or RBMs will be completed at an average cost of \$38,000 per report. However, it is Terracon’s experience that a Limited Site Assessment is generally sufficient to evaluate identified RECs and at an assumed cost of \$12,500 is significantly less expensive than the Phase II ESA. In addition, our experience demonstrates that a typical Brownfields RBM generally costs about \$5,000. Taking each of these alternative approaches into consideration, **Terracon estimates that the outputs from Task 4 of the grant application can be increased from 7 to 22, an increase of 215%.**

Proposed Budget				
Personnel	Units	Rate	Proposed Total	Grant Budget
<b>Project Management and Other Eligible Activities</b>				
Contractual	174	\$118.45	\$20,610	\$22,000
Expenses	1	\$500	\$500	\$0
<b>Task Total</b>			<b>\$20,610</b>	<b>\$22,000</b>
<b>Community Outreach/Site Prioritization/Eligibility Determination</b>				
Contractual	154	\$136.04	\$20,850	\$21,000
Expenses	1	\$1,000	\$1,000	\$1,100
<b>Task Total</b>			<b>\$21,110</b>	<b>\$22,000</b>
<b>Brownfields Site Inventory</b>				
Contractual	124	\$113.06	\$14,020	\$16,000
Expenses	1	\$1,500	\$1,500	\$0
<b>Task Total</b>			<b>\$15,520</b>	<b>\$16,000</b>
<b>Phase I/II ESAs and RBMs</b>				
Update QAPP	1	\$3,200	\$3,200	\$3,500
Phase I ESA	18	\$4,200	\$75,600	\$55,000
Limited Site Investigation	8	\$12,500	\$100,000	N/A
Phase II ESA	4	\$24,500	\$98,000	\$266,000
RBM Survey	10	\$5,000	\$50,000	
<b>Task Total</b>			<b>\$323,600</b>	<b>\$324,500</b>
<b>Cleanup Plan and AWP's</b>				
ABCAs	4	\$4,500	\$18,000	\$35,000
Site Reuse Plans	3	\$6,000	\$18,000	
Area-Wide Plans	2	\$35,000	\$70,000	\$70,000
<b>Task Total</b>			<b>\$106,000</b>	<b>\$105,000</b>
<b>TOTAL</b>			<b>\$488,180</b>	<b>\$489,600</b>

<sup>2</sup> The Task table on Page 7 of the grant application states eight Phase II ESAs/RBMs will be conducted and the Cost Estimate table on Page 9 states seven Phase II ESAs/RBMs will be conducted. We have used seven for this comparison.





---

Terracon is providing the following fees estimates for the five tasks outlined in the Community-Wide grant application. These estimated fees have been developed based on our experience with conducting Brownfields services of a similar nature and our understanding of Cochise County's requirements and output goals. While we have made a good faith effort to estimate the costs to provide these services, it should be noted that we assume budgets for tasks will be negotiated on an individual basis if we are awarded this contract.



# **ATTACHMENT A**

## **KEY PERSONNEL RESUMES**

# Tod Whitwer, PE

## Program Manager

## Tod Whitwer, PE

BROWNFIELDS SUBJECT MATTER EXPERT/SENIOR ENVIRONMENTAL ENGINEER

Tod Whitwer has 32 years of environmental, regulatory compliance, engineering, and project management experience and is a Professional Engineer (Chemical) and Registered Contractor in Arizona. He is skilled in the U.S. Environmental Protection Agency (EPA) Brownfields grant program having written more than 40 grant applications resulting in over \$8 million in funding for municipal, county, Tribal, and redevelopment agency entities and has managed several Brownfields grant programs. Mr. Whitwer has extensive experience supporting clients with regulatory compliance, permitting, process design, and regulatory interaction and negotiation associated with Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Recovery, Compensation, and Liability Act (CERCLA), Clean Water Act (CWA), Emergency Planning and Community Right-to-Know Act (EPCRA), Safe Drinking Water Act (SDWA), Clean Air Act (CAA), and other Federal, State, and local environmental-related rules and regulations. He has conducted numerous site assessments and has successfully remediated and obtained regulatory agency closure for sites impacted by volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals in soil, groundwater, and soil vapor. Mr. Whitwer served as the General Contractor for many of these projects, with contract values in excess of \$5 million. He has served as the program manager for multi-million-dollar, multi-year, multi-task contracts with clients in Federal and local government, electric utility, mining, and land development sectors.

### PROJECT EXPERIENCE

#### **Brownfields Multipurpose Grant Implementation – Salt River Pima-Maricopa Indian Community, AZ**

Program Manager for implementation of Multipurpose grant for small, disadvantaged Native American community. Priority site is former Roadrunner Lake Resort, a vacant manufactured home park that was vacant. Oversaw completion of update of program Quality Assurance Project Plan (QAPP); large asbestos survey of a former manufactured home park including preparing the Sampling and Analysis Plan (SAP) and Health and Safety Plan (HASP); grant reporting; and interaction with client and EPA Region 9 staff.

#### **Brownfields Cleanup Grant Implementation – Show Low, AZ**

Program Manager for implementation of a Fiscal Year 2022 Brownfields Cleanup grant. The site is a former bulk oil storage tank impacted by releases of petroleum products to the soil and groundwater. Assisted in grant proposal that provided \$500,000 in EPA funding to conduct the cleanup. Site cleanup is complicated by geological conditions and the client's desire to obtain clean closure in anticipation of the site being used for public uses. Developing cleanup plan, obtaining bids from subcontractors, interacting with Arizona Department of Environmental Quality (ADEQ) Brownfields and Voluntary Remediation Program (VRP) personnel, preparing the Analysis of Brownfields Cleanup Alternatives (ABCA), and coordinating community engagement activities.

#### **EPA and Tribal Response Program Implementation – White Mountain Apache Tribe, AZ**

Have provided grant writing, program management, and strategic planning for numerous programs for several Tribal departments including Environmental Program Office and Community



### EDUCATION

Bachelor of Science,  
Chemical Engineering,  
Arizona State University,  
Tempe, Arizona, 1986  
Master of Business  
Administration, University of  
Phoenix, Phoenix, Arizona,  
2002

### REGISTRATIONS

Professional Engineer  
(29998), Arizona, February  
1996.

Registered Contractor  
Qualifying Party, Arizona,  
since February 2013.

### CERTIFICATIONS

40-hour Hazardous Waste  
Operations and Emergency  
Response (HAZWOPER)  
certifications

8-hour HAZWOPER  
certification renewal(s)

## Tod Whitwer, PE Program Manager

Development Corporation, and Housing. Prepared over \$2 million in successful grant applications for funding from EPA, ADEQ, United States Department of Agriculture (USDA), and Economic Development Agency (EDA) and others. Assisted Tribe with successful implementation of grant funded programs.

### **Brownfields Community-Wide Assessment Grant Implementation – Pima County, AZ**

Implemented FY2008, FY2010, and FY 2015 Brownfields Community-Wide Assessment grant programs. Developed QAPP that met the requirements of the City's Cooperative Agreement with EPA. Completed 48 Phase I Environmental Site Assessments (ESAs) and 14 Phase II ESAs. Developing a Geographic Information System (GIS)-based Brownfields property inventory and management system for both grants. Routinely completed asbestos and lead-based paint surveys of commercial structures.

### **Brownfields Community-Wide Assessment Grant Implementation – Tucson, AZ**

Prepared seven successful Brownfields grant applications (Assessment, Cleanup, and Job Training) resulting in more than \$2 million in funding. Completed more than 150 projects using funds from the FY2004, FY2005, FY2007, FY2010, FY2014, FY2018, and FY2019 Brownfields Community-Wide Assessment grants, including over 150 AAI-compliant Phase I ESAs, more than 50 Phase II ESAs, Sampling and Analysis Plans (SAPs) and QAPPs that met EPA requirements. Developed projected environmental costs associated with future Downtown Development projects and assisted in preparing report for City Manager. Developed GIS-based property inventory system.

### **Brownfields Community-Wide Assessment Grant Implementation – South Tucson, AZ**

Prepared six successful Brownfields grant applications (Assessment and Job Training) resulting in over \$2 million in funding. Implemented FY2005, FY2009, FY2011, FY2014, FY2017, and FY2020 Brownfields Community-Wide Assessment programs. Developed QAPP that meets the requirements of the City's Cooperative Agreement with EPA. Completed 65 AAI-compliant Phase I ESAs and 30 Phase II ESAs. Developed a GIS-based Brownfields property inventory and management system. Routinely complete asbestos and lead-based paint surveys. Provided grant management, community outreach, and Brownfields redevelopment master planning.

### **Brownfields Community-Wide Assessment Grant Implementation – Santa Cruz County, AZ**

Implemented FY 2006 Brownfields Community-Wide Assessment and with site identification and prioritization. Completed 22 Phase I ESAs compliant with AAI standard using ASTM E1527-05, one Phase II ESA, and QAPP that meets the requirements of the County's Cooperative Agreement with EPA.

### **Brownfields Community-Wide Assessment Grant Implementation – City of Flagstaff, AZ**

Developed an environmental database within the Route 66 Corridor to identify sites that are listed in regulatory agency databases and toured the city to identify sites that appeared to be contaminated or underutilized. Compiling list of potential Brownfields sites, including parcel number, ownership, and current uses.

### **Properties Adjacent to Former USBP Firing Range – Nogales, AZ**

Project Manager and Remediation Oversight Leader for remediation of properties surrounding a former shooting range operated by US Customs and Border Protection and other military uses dating back to the late 1800s. The site was remediated under the oversight of ADEQ Voluntary Remediation Program (VRP). The site covered approximately 32 acres and was impacted by lead, arsenic, antimony, and polynuclear aromatic hydrocarbons (PAHs). Approximately 18,000 cubic yards of soil was excavated and screened to generate about 20,000 tons of soil containing elevated levels of lead. Lead-impacted soil was treated using a phosphate-based stabilizing agent so that

## Tod Whitwer, PE Program Manager

the leachable lead concentration was reduced to a level below the hazardous waste toxicity characteristic level and then disposed at a Subtitle D landfill. Prepared Site Characterization and Remediation Completion report and obtained a determination that no further remediation is required at the site (NFA Determination).

### **Former General Motors Proving Grounds, DMB Mesa Proving Grounds – Mesa, AZ**

Project Manager and Lead Environmental Engineer. Provided project management, environmental, and planning services for over 10 years for due diligence, assessment, remediation, closure, and redevelopment of the former GM Proving Grounds. The site is comprised of numerous buildings and test facilities and covers over 3,200 acres. Initial due diligence activities were completed in 60 days allowing DMB to meet a tight acquisition schedule and about \$10 million in potential environmental liability was identified. NFA allowed DMB to redevelop and sell the land for residential development. All environmental work was conducted without permit violations, injuries, or safety incidences. Work included:

- **Due Diligence and Site Assessment.** Evaluated several landfills, underground storage tank (UST) and aboveground storage tank (AST) systems, septic system, chemical storage area, storm water retention areas, and other areas of potential concern. Completed due diligence activities within 60 days, including drilling, geophysical survey of two landfills, and excavation of approximately 10 acres of landfill.
- **Landfill Remediation and Closure.** Remediated Borrow Pit and Closed Solid Waste landfills. Over 180,000 cubic yards of soil overburden and landfill material was excavated and screened, and more than 600 soil and groundwater samples were collected and analyzed. Received NFA determination from ADEQ for VOCs, SVOCs, PCBs, and 8 RCRA metals in soil and groundwater.
- **Environmental Permitting.** Responsible for compliance with Dust Control permit, Storm Water Discharge, and waste tire storage and disposal.
- **Asbestos Surveys.** Conducted an Asbestos Survey of over 50 buildings covering over 1.1 million square feet of administrative and maintenance facilities. Collected over 800 samples of potential ACM and worked closely with the Maricopa County Air Quality Department to assure that adequate characterization of the buildings was conducted prior to demolition and/or re-use of the buildings. Developed the contractor bid package; negotiated the contractor's cost and schedule; and oversaw ACM abatement in over 40 buildings.

### **Former Brown and Brown Chevrolet Dealership, Sunbelt Holdings – Mesa, AZ**

Project Manager and Lead Environmental Engineer for remediation observation, Phase I ESA, and Phase II ESA performed at a former 12-acre automotive dealership and repair shop. Contracted by Sunbelt to observe remediation performed by another consulting firm hired by AutoNation and recommended additional assessment following completion of remediation. Performed assessment of hydraulic lifts, oil-water separators, paint booths, and stained areas. Served as General Contractor and conducted asbestos abatement, site demolition, hazardous materials/waste disposal, and remediation. Received NFA from ADEQ after site remediation was completed.

### **Downtown Links, City of Tucson – Tucson, AZ**

Project Manager and Lead Environmental Engineer for completion of Phase I ESAs for 16 sites located along the Downtown Links to extend Barraza-Aviation Parkway to Interstate 10. Completed additional Phase II ESAs at seven sites, including vapor surveys (VOCs from nearby WQARF site and historic dry cleaners) and soil sampling (RCRA metals, VOCs, SVOCs/PAHs, PCBs). Removed an undocumented UST system and restored site in 1 week and received closure within 4 weeks following removal. At a second site, excavated and disposed over 1,000 tons of building demolition material buried on site.

## Noelle J. Espinosa, Ph.D.

Project Scientist

### PROFESSIONAL EXPERIENCE

Ms. Espinosa is a Project Scientist in Terracon's Phoenix office. She has 10 years of environmental experience and is a qualified Environmental Professional as defined in ASTM E1527. Her environmental experience includes project and staff management, proposal and cost estimate, field assessments and investigations, technical reporting, and consulting throughout the life of a project. Ms. Espinosa has experience in conducting environmental assessment and other consulting services in Arizona, California and Nevada.

Ms. Espinosa's significant work experience includes industrial, commercial and telecom Phase I Environmental Site Assessments (ESAs), Limited Site Investigations (which include subsurface soil, soil vapor, and groundwater investigations, proposals preparation, health and safety plans, sampling and analysis plans), long-term environmental monitoring projects, and Asbestos and Lead-Paint Surveys and Brownfields. Ms. Espinosa received a Ph.D. in Natural Resource Management focusing on soil restoration in December 2020.

### PROJECT EXPERIENCE

#### **Brownfields Multi-Purpose Grant Management – Salt River Pima-Maricopa Indian Community**

Noelle is Project Manager for management of a \$800,000 Multi-Purpose grant. In this capacity, she has overseen the update of the program Quality Assurance Project Plan (QAPP); managed a large asbestos survey of a former manufactured home park including preparing the Sampling and Analysis Plan (SAP) and Health and Safety Plan (HASP). She prepares Quarterly Reports and assists the client with eligibility issues, including use of funds for site cleanup.

#### **Brownfields Cleanup Grant Application and Grant Implementation – Show Low, Arizona**

Terracon has been providing Phase I/II ESA services for a former bulk oil storage facility under contract to the Arizona Department of Environmental Quality (ADEQ) Brownfields State Response Grant for 3 years. The site is impacted with volatile organic compounds (VOCs), primarily benzene, at concentrations greater than the Arizona Soil Remediation Levels (SRLs) and Aquifer Water Quality Standards (AWQS). Noelle prepared a FY 2022 Brownfields Cleanup grant to remediate soil and groundwater for site reuse as a civic facility. The City was awarded a \$500,000 Cleanup grant. Noelle is preparing the final Analysis of Brownfields Cleanup Alternatives (ABCA), conducting community outreach, and working closely with City officials to implement the grant.



### EDUCATION

Ph.D., Natural Resource Management, University of Arizona, Tucson. December 2020

Bachelor of Science, Environmental Science, University of Arizona, Tucson, 2013

### PROFESSIONAL TRAINING

OSHA 40-hour Health & Safety  
Asbestos Building Inspector  
CPR and First Aid

### AFFILIATIONS

Environmental Professionals of Arizona, Board of Education

Southern Arizona Environmental Management Society, Member (President, 2018)

Society for Ecological Restoration

American Geophysical Union Soil Science Society of America

### AWARDS

Marshall Foundation Fellow, 2019

Southern Arizona Environmental Management Society Graduate Student Scholarship, 2015

# Noelle J. Espinosa, PhD

## Project Manager

### **Brownfields Community-Wide Grant Application – Tolleson, Arizona**

Noelle prepared the Fiscal Year 2023 Brownfields grant application for this small urban, disadvantaged community. The focus of the grant is redevelopment of the downtown area and local retail and light industrial facilities throughout the City.

### **Brownfields Tribal Response Program Support – Whiteriver, Arizona.**

Noelle has supported the White Mountain Apache Tribe Environmental Protection Office and Community Development Corporation with several Brownfields projects conducted using the Tribe's 128(a) grant funding. Projects have included asbestos surveys, cleanup planning, site redevelopment, and site assessments.

### **Long Term Environmental Monitoring - Arizona**

Huachuca City Landfill: Performed the continuing quarterly explosive gas monitoring activities on the municipal landfill located in Cochise County, Arizona. Project activities include client and regulatory agency communications. Sampling and ADEQ submittals.

Saginaw Hill Mine: Prepared the Sampling and Analysis Plan, site safety meetings, and quarterly groundwater sampling with reporting. Project activities include managing long-term project timelines and goals, data analyses, regular updates to client and formal reporting.

### **Environmental Services for Industrial Redevelopment - Casa Grande, Arizona**

*Project Management and supervision as Environmental Professional.*

Terracon was contracted to complete multiple environmental services including Phase I ESA, Hazardous Building Materials Survey and an Asbestos Survey for a confidential client. The history of agricultural land at the site was extensive. However, through extensive review of historical and regulatory resources, evidence of chemical storage, mixing and or other indication of historical release were not identified. Based on Terracon's assessment Recognized Environmental Conditions (RECs) were not identified. However, asbestos in roofing materials and transite pipe was identified. Additionally, lead paint, hazardous, special and/or universal wastes such as polychlorinated biphenyls (PCBs) were identified and quantified for the client. Personnel utilized for this project had expertise in a wide variety of environmental assessments and as such were able to complete multiple environmental services in conjunction with the standard Phase I ESA. Ongoing work at the site includes regulatory compliance services (stormwater, wastewater & air).

### **Phase I ESA for Automotive Redevelopment - Casa Grande, Arizona**

*Role: Environmental Professional, ESA and Asbestos Survey.*

Terracon was contracted to complete a Phase I ESA and Asbestos Survey on a former fuel station in Casa Grande for a confidential client. Terracon conducted a thorough review of the history of former underground storage tanks (USTs) as well as previous soil assessments completed for the site. Based on the regulatory status and history of assessment associated with the former fuel station's USTs, were determined to be a Historic REC (HREC). Asbestos containing material was not identified.

### **Phase I ESA for Fast-Food Restaurant Redevelopment - Yuma, Arizona**

*Field Services:* Terracon was contracted to complete a Phase I ESA for vacant land surrounded by commercial development in Yuma, Arizona for the purposes of redevelopment as a fast-food restaurant. Through historical research, the site was determined to have been utilized as a concrete block manufacturing facility in the 1960s that operated an underground storage tank. Regulatory records, previous assessment and/or closure/removal documentation associated with the tank was not identified. Based on historical records and incomplete regulatory records, a

# Noelle J. Espinosa, PhD

## Project Manager

Limited Site Investigation was recommended to further investigate the area of the tank. Due to the client's need to expedited field services for a short due diligence period Terracon completed necessary LSI planning and safety procedures and quickly mobilized drillers and ground penetrating radar as a part of LSI services at the site. Based on the LSI, evidence of underground tanks remaining at the site was not identified.

### **Durham Landfill Slope Revegetation - Florence, Arizona**

*Environmental Professional and Field Services:* Terracon was contracted by Waste Connections, Inc. to provide consulting services associated with revegetation and erosion control of a pre-closure waste cell slope at the landfill. Soil samples were collected and analyzed for contaminants of concern as well as nutrients and other properties that would enable assessment and recommendations for soil management and vegetation applications. Within 6-months of the project the bare slope had growth and minimal erosion from surface rainwater run-off. Terracon continues to monitor erosion at the landfill slopes.

### **Air Monitoring - Arizona**

*Field Services:* Air sampling included both sample collection in media utilizing both low flow and high flow volume samplers and direct read monitoring equipment.

### **Site Characterization Reports - Tucson, Arizona**

*Field Services:* Subsurface site characterization of contaminated soils and groundwater. Project activities include concrete coring with soil and vapor intrusion sampling, hand auger soil sampling and grab sampling from soils. As a part of these projects Health and Safety Plans and Sampling and Analysis Plans are written and submitted for client or agency review and approval.

### **Grant Road Widening – Tucson, Arizona**

*Field Services:* Multiple Phase I ESA's, asbestos building inspections and assisted in limited site investigations (as needed) for properties slated for acquisition by the city of Tucson for Phase II of the Grant Road Widening Project.

# Belinda S. Richard

National Brownfields Program Manager

## PROFESSIONAL EXPERIENCE

Ms. Richard has 23 years of environmental experience with the recent 16 years dedicated to managing brownfield projects. Ms. Richard has provided Brownfields Program Management or assistance to 75 brownfields grant programs totaling over \$38 million in funding. Her experience includes grant development, project management, grant compliance and reporting, community outreach, Quality Assurance Project Plans (QAPPs), budget management, brownfield inventories, environmental site assessments, remedial planning, grant closeouts, cleanup oversight, brownfield incentives and state brownfield programs. Ms. Richard has assisted clients in securing over \$30 million in EPA Grant funding and in every aspect of the brownfields grant lifecycle ensuring compliance with EPA Terms and Conditions of the grant. Ms. Richard works closely with the EPA Brownfields administration, and is an experienced negotiator with the regulatory community.

## PROJECT EXPERIENCE

### **City of Fort Worth, Brownfields Services, Brownfields Program Consulting Support**

Brownfields Program Manager providing general project oversight and guidance regarding implementation of the City's Brownfields program. Provided assistance with compliance of EPA grant application and reporting requirements.

### **City of Alexandria, Brownfield Services, Assessment Grant**

Brownfields Manager, provided grant writing assistance and currently working with the city of their brownfields assessment grant. Providing programmatic assistance, outreach, reporting, environmental site assessment services, and brownfields inventory services.

### **Salt Lake County, UT – Salt Lake, UT**

Brownfields Program Manager, provided grant writing assistance on the County's FY19 EPA Coalition Assessment grant application. Assists with Project oversight including report reviews, general project planning and inventory support.

### **Centro Civico Mexicano, Brownfields Services, Cleanup Grants**

Brownfields Program Manager, providing programmatic cleanup grant assistance for multiple parcel redevelopment project funded by EPA Cleanup and Revolving Loan Fund grants. Providing grant management assistance including Qualified Environmental Professional (QEP) guidance, general reporting, and Davis Bacon requirements. This project was recently the focus for the Environmental Business Journal Industry Leader in Brownfields award for 2019.

### **City of Coralville, Brownfields Services, Assessment Grants**

Brownfields Program Manager, providing programmatic grant support and general project oversight for the City's brownfields grant. Scope of services



## EDUCATION

Bachelor of Science, Environmental Engineering, University of Florida, Gainesville, Florida, 1997

Associate of Arts, Central Florida Community College, Ocala, Florida, 1994

## CERTIFICATIONS

Qualified Environmental Professional

40-hour Hazwoper and 8-hour Site Supervisor Training, University of South Florida

8-hour Hazwoper OSHA certification renewal(s)

Hazcom Certification

## ADDITIONAL TRAINING

Terracon Authorized Project Reviewer (APR) & Brownfields Subject Matter Expert (SME)

## AFFILIATIONS

Florida Brownfields Association (FBA), Board member 2017, 2016, 2015 & 2004, 2015 Conference Co-chair, member

National Brownfield Coalition, Member, 2020, 2021

## PUBLISHED ARTICLE

Benefits to Groundwater by Diverting Construction and Demolition Wastes from Landfills, International Journal of Environmental Technology and Management, January 2005, co-author

# Belinda S. Richard

## QA/QC, National Support

includes grant writing and programmatic assistance including grant reporting, environmental sites assessments including Quality Assurance Project Plans (QAPPs), site inventory, and cleanup planning.

### **South Central Planning and Development Commission. Brownfields Services, Assessment Grant**

Brownfields Program Manager providing general project oversight and guidance regarding adherence to federal grant requirements. Provide Quality Assurance reviews on document deliverable.

### **Town of Central, Brownfields Services, Assessment Grant**

Brownfields Program Manager, providing programmatic grant support and general project oversight for the City's brownfields grant. Scope of services includes community engagement, web site development and program brochure, grant management reporting, environmental sites assessments including Quality Assurance Project Plans (QAPPs), site inventory, and cleanup planning.

### **City of Jacksonville, Brownfields Services, Two Assessment Grants**

Brownfields Manager, providing programmatic grant support and general project oversight for the City's brownfields grant. Services includes community engagement, web site development and program brochure, grant management reporting, environmental sites assessments including Quality Assurance Project Plans (QAPPs), site inventory, and cleanup planning. Authorized Project Reviewer (APR) for the project.

### **Flagler County Coalition, Brownfields Services, Assessment Grant**

Brownfields Project Director, provided programmatic grant support and general project oversight of the county's brownfields grant. Developed the Coalition's Generic Quality Assurance Project Plan and assisted with environmental site assessments, EPA reporting, grant compliance, budget management and grant closeout report (2016).

### **City of Opa-locka, Brownfields Services, Assessment Grant**

Brownfields Manager, provided programmatic support, community support, and general project oversight of the city's brownfields grant. Responsible for budget management, grant reporting and closeouts, development of program Quality Assurance Project Plans (QAPPs) and the Community Involvement Plan (CIP).

### **City of Tampa, Brownfield Services, 1 Multi-purpose Assessment/Cleanup Grant, 3 Assessment Grants**

Brownfields Manager (Terracon) on the City's 2014 assessment grant and have provided programmatic grant support for the City's Brownfields Program for more than ten years. Responsible for development of the City's SMPS award winning brownfields marketing brochure. Responsible for budget management, grant reporting and closeouts with oversight of the development of QAPPs, and CIP. Responsible for the completion of Phase I and Phase II Environmental Site Assessment at various sites. Grant closed 2016.

### **Central Florida Regional Planning Council, Brownfield Services, Coalition Assessment Grant and Revolving Loan Fund**

Brownfields Manager, provided quality assurance/quality control services to the CFRPC Brownfields program. Developed the Council's Generic QAPP and conducted reviews of assessment activities. Developed assessment protocols through coordination with the Department of Health regarding radiological screening on brownfield sites. Provided grant closeout services on the Coalition Assessment Grant.



# Belinda S. Richard

## QA/QC, National Support

### **Brownfields Program Management or Assistance to the Following Clients (Representative List)**

- Salt Lake County (UT)
- City of Fort Worth (TX)
- Centro Civico Mexicano (UT)
- City of Coralville (IA)
- City of Shelbyville (KY)
- City of Pickens (SC)
- Town of Central (SC)
- City of Talladega (AL)
- City of Winston Salem (NC)
- City of Washington (GA)
- Western Piedmont Council of Governments (NC)
- Metropolitan Development & Housing Authority (TN)
- City of Cairo/Grady County (GA)
- Treasure Coast Regional Planning Council (FL)
- City of Rome (GA)
- City of Tallahassee (FL)
- City of Jacksonville (FL)
- City of Opa-locka (FL)
- Dixie County (FL)
- Fort Pierce Redevelopment Agency (FL)
- Gadsden County (FL)
- Pasco County (FL)
- City of Eustis (FL)
- West Florida Regional Planning (FL)
- Flagler County (FL)
- City of Tampa (FL)
- Escambia County (FL)
- City of Casselberry (FL)
- Central Florida Regional Planning Council (FL)
- City of Clearwater (FL)
- City of Cocoa (FL)
- Pinellas County (FL)
- City of Plant City (FL)
- Sarasota/Manatee MPO (FL)
- City of St. Marks (FL)
- City of St. Petersburg (FL)
- Clay County (FL)
- City of Ocala (FL)

### **Brownfields Program Management or Assistance for the following RLF Programs**

- Mo-Kan Regional Council
- City of Winston Salem
- Central Florida Regional Planning Council
- Treasure Coast Regional Planning Council
- City of Clearwater
- Hillsborough County
- West Florida Regional Planning Council
- Metropolitan Development and Housing Association
- Palm Beach County

# Benjamin B. Bowers

## **BROWNFIELDS MANAGER – WESTERN OPERATING GROUP**

### **PROFESSIONAL EXPERIENCE**

Mr. Bowers is the Brownfields Manager of Terracon's Western Operating Group. He has more than 25 years of valuable and proactive experience in the environmental, construction materials, and geotechnical consulting fields. His experience includes Brownfields assessment and cleanup grant implementation, grant writing, Phase I and II environmental site assessments (ESAs), remediation, asbestos inspections, construction materials testing, and geotechnical engineering. Mr. Bowers has been a project manager for numerous site investigations and remediation projects for petroleum distributors, Brownfield assessment grants, municipalities, commercial and industrial property owners. He has developed remedial action plans based upon the property owner's objective and site-specific conditions. Mr. Bowers has extensive experience working with property owners, developers, and regulatory agencies to find ways to assess, remediate, and redevelop sites.

### **PROJECT EXPERIENCE**

#### **Salt Lake County Brownfields Coalition Assessment Grant – Salt Lake County, Utah**

Mr. Bowers assisted the Salt Lake County Coalition which includes Salt Lake County, Salt Lake City and Murray City in preparing an EPA Brownfield Coalition Assessment Grant Application (FY19) and was selected as the City's Brownfields consultant to provide services in support of this \$600,000 grant. With the success of the FY19 grant, the County's Coalition applied for additional funding and was awarded a FY21 Coalition Assessment grant in the amount \$600,000. Terracon was selected to provide services in support of this additional \$600,000 grant. The scope of services for both grants consists of programmatic support including ACRES database reporting, EPA policies and procedures, progress meetings, financial coordination and closeout reporting. Additional program support includes community outreach as well as working with the Coalition to create a brownfield inventory. The FY19 grant is closed out and the FY21 the coalition has met the 70% drawdown threshold. The Coalition has applied for their third consecutive grant in as many years. Terracon will continue to perform Phase I and Phase II Environmental Site Assessments (ESA), oversight of sub-Consultants, and Quality Assurance Project Plans (QAPPs). Through the hazardous substances and petroleum



### **EDUCATION**

Bachelor of Science,  
Environmental Policy, St.  
Norbert College, 1998

### **CERTIFICATIONS**

State of Utah UST-Certified  
Consultant, CC-0195

Certified UST Groundwater and  
Soil Sampler, Utah, GS-1419

40-Hour HAZWOPER  
Annual Updates

Utah Alliance for Economic  
Development  
NAIOP

### **WORK HISTORY**

*Terracon Consultants, Inc.*  
*Environmental Service Line*  
*Brownfields Manager, 2023-*  
*Present*  
*Dept. Manager, 2006 -2022*  
*Project Manager, 2004 - 2006*  
*Staff Scientist, 2003-2004*

*PSI, Inc.*  
*Environmental Project*  
*Manager, 2002-2003*

*Giles Engineering Assoc., Inc.,*

## Benjamin B. Bowers Brownfields Manager – Western Operating Group

grant funds, Terracon conducts Phase I and Phase II ESA with those activities being completed in accordance with the ASTM All Appropriate Inquiry (AAI) requirements, to identify recognized environmental conditions that may hinder the proposed acquisition and redevelopment of sites. In addition, Terracon developed a generic QAPP and Site-Specific QAPPs for projects requiring Phase II assessment. During the FY19 grant, Mr. Bowers oversaw the completion of 10 Phase I ESAs, 10 Phase II ESAs, six Analysis of Brownfield Cleanup Alternatives (ABCAs) or Site Specific Cleanup Plans and two Hazardous Materials Building Surveys. To date during the FY21 grant, Mr. Bowers oversaw the completion of seven Phase I ESAs, 11 Phase II ESAs, two ABCAs and five Hazardous Materials Building surveys. Terracon has played a significant role in the outreach process of this grant and helped the Coalition identify many of the sites for assessment based on relationships with property owners and developers within the community.

### **Spanish Fork City Brownfields Assessment Grant – Spanish Fork City**

Terracon was selected to provide services in support of their FY21 Brownfields Assessment Grant in the amount of \$300,000. The scope of services for the grant consists of programmatic support including ACRES database reporting, EPA policies and procedures, progress meetings, financial coordination, quarterly, annual and closeout reporting. Terracon also supported the City with outreach. The FY21 grant has met the 70% drawdown threshold and the City has plans to apply for another grant. To date, Mr. Bowers oversaw the completion of three Phase I ESAs, two Phase II ESAs, one Geotechnical Srve and one Hazardous Materials Building survey.

### **Uintah Basin Association of Governments Brownfields Coalition Assessment Grant – Duchesne County, Utah**

Terracon was selected as Uintah Basin Association of Government's (UBAOG) Brownfields consultant to provide services in support of their FY16 Brownfield Coalition Assessment Grant in the amount of \$550,000. Terracon was the second consultant to work for UBAOG on this grant after they cancelled their contract with the initial consultant due to lack of performance. As grant manger, Mr. Bowers oversaw the implementation of the scope of services that consisted of programmatic support including ACRES database reporting, quarterly and annual reporting assistance, EPA policies and procedures, progress meetings and grant closeout documentation. Additional program support included community outreach and site identification. Once sites were identified, Terracon performed Phase I and Phase II Environmental Site Assessments (ESA), oversight of sub-consultants, Quality Assurance Project Plans (QAPPs) and a remediation cleanup planning. Through the hazardous substances and petroleum grant funds, Terracon performed Phase I Environmental Site Assessments (ESAs) on seven properties and six Phase II ESAs with those activities being completed in accordance with the ASTM All Appropriate Inquiry (AAI) requirements, to identify recognized environmental conditions that may hinder the proposed acquisition and redevelopment of sites. In addition, Terracon developed a generic QAPP and Site-Specific QAPPs for projects requiring Phase II assessment. Terracon also completed one remediation cleanup plan to assist a property owner in establishing a plan to redevelop the site despite petroleum impacts. Terracon played a significant role in the outreach process of



## Benjamin B. Bowers Brownfields Manager – Western Operating Group

this grant and helped UBAOG identify sites for assessment. This outreach process was complicated early into the grant because of the COVID-19 pandemic. Property owners were unwilling to meet during the early stages of the pandemic, but by the fall of 2020, were willing to meet and participate in the community meetings. This project involved extensive interaction with UBAOG, Utah DEQ, US EPA, and individual property owners within the project area. The grant was successfully completed and the results from the assessments will be used for the evaluation of redevelopment potential and likely site management requirements consistent with UBAOG's redevelopment objectives for the area.

### **Salt Lake County Brownfields Assessment Grant – Salt Lake County, Utah**

Mr. Bowers served as the Program Manager for the Salt Lake County's Community-Wide EPA Brownfields Assessment Grant for both hazardous substances and petroleum, in support of Brownfields redevelopment within Salt Lake County. Support services included identification of environmentally compromised sites within the project area; identification of data gaps potentially hampering marketing or development; development of an EPA-approved Quality Assurance Project Plan and six Sampling Analysis Plans; assistance with public outreach and community involvement; and completion of ten Phase I ESAs, four Phase II ESAs, eight hazardous materials surveys, and two Analysis of Brownfield Cleanup Alternatives (ABCAs). Mr. Bowers frequently interacted with Salt Lake County, Utah DEQ, U.S. EPA, and individual property owners within the project area. For several of the projects, the results of the Phase IIs were used for the evaluation of redevelopment potential and Terracon worked with individual property owners, developers, and regulatory agencies to work towards a redevelopment plan for impacted sites. Beyond the Assessment Grant, Mr. Bowers continues to help these Brownfields areas move towards beneficial redevelopment and re-use.

### **North Temple Brownfields Assessment - Salt Lake City, Utah**

Mr. Bowers supported Salt Lake City with its EPA Brownfields Assessment Grant for hazardous substances and petroleum. The project is intended to support long-term urban renewal within the North Temple Corridor project area by identifying environmentally compromised sites, assessing potential impacts, and evaluating redevelopment potential, cleanup objectives, and mitigation strategies. Support services included the development of a comprehensive web-based database detailing environmental information, identification of data gaps potentially hampering marketing or development, development of EPA-approved quality assurance project plan and sampling/analysis plans, assisting with public outreach and community involvement, conducting Phase I and Phase II assessments to resolve data gaps, and evaluating cleanup alternatives and applicability for long-term site management plans.

# Jennifer C. Thies, CEM

ENVIRONMENTAL DEPARTMENT MANAGER

## PROFESSIONAL EXPERIENCE

Mrs. Thies has over 20 years of experience in the environmental fields of site assessment/investigation and project management with 9 years in the government arena. As the Environmental Department Manager, she supervises a staff of over 16 professionals including biologists, geologist, environmental planners, and chemical engineers; many of which are specialists in their concentrated areas. Terracon's Phoenix Environmental Department produces high quality and high caliber professional work in one of the fastest growing regions in the country. As the Departments lead, Phoenix continues to see solid growth with over 1500 projects in 2020. Mrs. Thies is an Environmental Site Assessment Authorized Project Reviewer.

As a senior scientist in the Phoenix office, her focus was on public sector and national clients. Significant projects include Phase I ESAs, Phase II investigation, and Remedial Action and Regulatory Compliance. As part of the team, her responsibilities include project oversight, site inspections, records reviews, compliance audits and employee training. Phase I ESAs include environmental due diligence for purchases, leases and acquisitions. Phase II investigations include subsurface soil and groundwater quality sampling and soil vapor surveys. Remediation includes soil vapor extraction, air sparge, large-diameter treatment columns, in-situ biodegradation, and groundwater pump and treat systems. Regulatory Compliance includes Clean Water Act, Section 402 National Pollution Discharge Elimination System, stormwater general permits, stormwater pollution prevention plans, monitoring, and discharge monitoring reports in Arizona for construction and industrial general permits utilizing the Arizona Department of Environmental Quality myDEQ website and EPA's Central Data Exchange. Spill Prevention Control and Countermeasure Plans for facilities with large storage quantities of petroleum. Mrs. Thies is proficient in hydrogeology, with experience in groundwater monitoring and remediation well installations, piezometer temporary wells, and proper procedures for well abandonment and development in association with non-aqueous phase liquids plumes.

## PROJECT EXPERIENCE

### **Site Investigation, Remediation and Closure – SVE and Air Sparge Former Buckeye Food and Gas – Buckeye, AZ**

Assumed responsibility for the optimization of the soil vapor extraction/air sparge treatment system from another consultant. Conducted operation and maintenance activities, monitored telemetry system, completed soil borings and a soil vapor survey for confirmation of treatment system success. Oversaw quarterly groundwater well monitoring with active and passive sampling methods, Prepared Annual reports, system discharge air permitting, and a Corrective Action Completion Report under Tier III risk based corrective action guidelines.

### **Environmental Site Assessments**

Performed numerous Phase I Environmental Site Assessments (ESA) for commercial retail and office buildings, industrial, and solid waste facilities throughout the United States. Mrs. Thies is familiar with ASTM E 1527 standards and experience completing assessing Business Environmental Risks, historic recognized environmental conditions, and is knowledgeable with hydraulic lifts, oil/water separators, wash downs, maintenance operations.



## EDUCATION

Master of Science,  
Environmental Management  
University of Maryland, 2004

Bachelor of Science,  
Environmental Sciences,  
University of California, Riverside, 1997

## CERTIFICATIONS

Certified Environmental Manager (CEM)  
#2445

Registered Sanitarian #903

## PROFESSIONAL TRAINING

OSHA 40-hour Health & Safety  
MSHA 24-hour Mine Safety

## AFFILIATIONS

Artemis Leads Group  
ADEQ Wastewater Discharge Advisory  
Group  
Env. Professionals of AZ  
AZ SWANA

## WORK HISTORY

Terracon Consultants, Inc.,  
Senior Scientist: 2017-present

Civil & Environmental Consultants,  
Project Manager: 2015-2017

Republic Services, Inc,  
Environmental Specialist, 2013-2015

ADEQ,  
State Superfund Unit Manager: 2010-  
2012  
WQARF Project Manager: 2005-2010  
Solid Waste Inspector: 2004-2005

# Jennifer C. Thies, CEM

## Phase I ESA Task Manager

### **Phase II Environmental Site Assessments**

Project Manager and Environmental Specialist for Phase II investigations that included hand sampling, drilling of test borings, sampling and testing of soil, logging of test borings and test pits, coordination of underground utility and metal detection surveys, soil gas surveys, exploratory excavations, groundwater sampling and testing, free product recovery, vapor extraction system design, permitting, installation, and operation, sampling and testing during hydraulic lift, oil/water separator, and UST removal, and observation during groundwater well abandonment. Prepared comprehensive technical reports presenting the results of the Phase II services.

### **Environmental Remediation Projects**

Experienced in the performance of vapor extraction pilot tests, the installation, maintenance, and monitoring of vapor extraction and groundwater sampling to monitor system performance and evaluate compliance with permits.

### **Leaking Underground Storage Tank (LUST) Investigations**

Conducted investigations at numerous above ground storage tanks (ASTs) and underground storage tanks (USTs). Conducted assessments to comply with the California Regional Water Quality Control Boards and ADEQ UST requirements. Produced UST closure reports and submittals. Profiled soils impacted from a leaking UST site and coordinated with excavators, owners and landfill personnel to dispose of impacted soils. Conducted magnetometer and electromagnetic surveys to locate USTs.

### **UST Removal Project**

Mrs. Thies managed the removal of eight underground storage tanks (USTs) under the ADEQ's UST Non-Corrective Action program. Services included oversight of excavation activities by a waste disposal contractor, collection and laboratory analysis of confirmation soil and slurry samples, interpretation of analytical data, and reporting.

### **Regulatory Compliance – Phoenix, Arizona**

Insured that clients and facilities are currently in regulatory compliance with the necessary local, state, and/or federal jurisdictions. The regulatory compliance projects including: environmental audits, SWPPPs, SPCCs, and air permitting for industrial, commercial, and medical facilities.

### **SWPPP Development and Employee Training, Albertson's Distribution Center - Tolleson, Arizona**

Terracon completed a stormwater pollution plan (SWPPP) for a 70-acre distribution center to comply with Section 5.1.2 of the 2010 AZPDES MSGP (non-mining) for a Sector P facility, due to facility expansion. Training consisted of reviewing the 2010 AZPDES MSGP requirements, review of potential pollutant sources, discussion of administrative and engineering controls and recordkeeping requirements.

### **Construction SWPPP and Monitoring - Gallup, New Mexico**

Project Manager for the development of the construction guidance for complying with the NPDES CGP. Conducted 14-day permit compliance monitoring where Best Management Practices with inspected. 2018.

### **Groundwater Investigation Projects**

Performed groundwater sampling and testing at numerous sites using a variety of sampling equipment and techniques. Provided supervision of groundwater monitoring well installation and development, delineation of soil contamination, groundwater sampling, and observation during groundwater well abandonment. Groundwater sampling sites included investigation of leaking underground storage tanks, drywells, mine tailings, waste piles, and landfills.

### **Well Abandonment Activities, Arizona Department of Transportation - Multiple Cities, AZ.**

Performed project management and oversight of well abandonment activities for ADOT. Scope of work included selecting and subcontracting with a qualified well drilling firm specializing in video logging, documenting structure, water level, and abiding by all Arizona Department of Water Resources requirements. Safety record is always taken into consideration. Contacting Arizona 811 Blue Stake Underground utility marking company, preparing a Health and Safety Plan, reviewing ADOT's stormwater MS4 permit and completing a Notice of Intent to Abandon well with ADWR for a completeness review. Oversight activities

# Jennifer C. Thies, CEM

## Phase I ESA Task Manager

include ensuring correct volume of bentonite chips and concrete are calculated based on field measurements, well casing is removed to five feet below grade, and location is backfilled to ground surface with clean fill. A well abandonment Competition Report and site map were provided.

### **Republic Services, Market Planning and Development, Solid Waste Facilities – Boise, Idaho**

Completed a total environmental and operational site review of both landfills in the Boise, Idaho area. Reviews included looking at environmental systems (leachate, groundwater, air and gas), waste quantities, cell construction and future sequencing, working face, County host agreements, IDEQ regulations and air space calculations.

### **Republic Services, Business Phase I ESA for Multiple Sites**

Environmental Specialist for a variety of industrial solid waste facilities including landfills, transfer stations and materials recovery facilities located in several states. In addition to ASTM standard Phase I ESA scope, business due diligence efforts undertaken included evaluation of facility operations, site equipment, and regulatory compliance history. As Project Consultant responsibilities included site visits, environmental risk assessment and report preparation.

### **State Superfund, Water Quality Assurance Revolving Fund, Arizona Department of Environmental Quality - Multiple Sites, Arizona**

As Remedial Projects Unit Manager, directly responsible for implementing the Arizona Superfund Response Action Contract (ASRAC). ASRAC governs all aspects of site characterization, emergency remedial actions, remediation and responsible party investigations for the WQARF State Superfund Projects. Drove projects that held complex, multi-phase aspects under CERCLA, Superfund and WQARF regulations. Responsible for ensuring remedial work plans, investigation reports, analytical data, treatment system design and construction are technically accurate and meet the requirements of statutes, and regulations. Delivered monthly public oral presentations of program accomplishments and site accomplishments/challenges. Arizona Department of Environmental Quality.

### **CERCLA Investigation, Motorola 52nd St - Phoenix, AZ**

As part of the site characterization for the West Van Buren WQARF site, participated in the CERCLA superfund activities, groundwater investigation and modeling and the soil vapor intrusion studies at the adjoining OU3 Motorola 52nd street site.

### **Landfill Cell Construction, Tower Rd Landfill, CO - Commerce City, CO**

Successfully completed the Denver Area Environmental Manager the construction and CQA oversight associated with expansion of an 8-acre cell at an active municipal solid waste landfill. Reviewed Engineering Budget Models and updated as appropriate.

# Derek D. Koller, CIH, CHMM

Principal/Office Manager/Environmental Department Manager

## PROFESSIONAL EXPERIENCE

Mr. Koller is an Environmental Project Manager in the Tucson office with 12 years of experience and an Environmental Professional as defined by ASTM 1527-13 and Terracon's internal approval process. His primary responsibilities include conducting Phase I Environmental Site Assessments (ESAs) compliant with AAI standard using ASTM E1527-13, conducting Asbestos and Lead-Paint Surveys, Asbestos Abatement Oversight, and planning and conducting Phase II ESAs and Limited Site Investigations (LSIs) which include subsurface soil, soil vapor, and groundwater investigations and subsequent site remediation. Mr. Koller has also prepared EPA-compliant Sampling and Analysis Plans (SAPs) for Brownfields funded projects and site-specific Health and Safety Plans (HASPs). Mr. Koller has been the primary lead and/or project manager in the preparation of more than 350 Phase I ESAs that have included industrial, commercial, and residential properties for both government and private sector clients. Mr. Koller has assisted with over 50 Phase II ESAs (including HASP and SAP Preparation on many of those projects), more than 150 Asbestos Surveys, over 75 Lead-Based Paint Inspections, and is also involved in local Industrial Hygiene (IH) projects for medical, railroad, and gas/oil clients.

## PROJECT EXPERIENCE

### **City of Tucson Brownfields Program Technical Assistance On-Call**

Derek has managed our on-call with the City of Tucson for the last seven years. Through this on-call we have provided numerous Phase I and Phase II ESAs, Asbestos surveys and have prepared project specific HASPs and SAPs. Other projects have included well closure, geophysical survey oversights, underground storage tank (UST) closures, NEPA studies and the remediation of an X-Ray Room. Over 165 projects have been completed under this contract since 2015.

### **City of Tucson Brownfields Sites**

City of Tucson was awarded a \$400K Community-Wide Assessment Grant in 2014. Mr. Koller marketed Brownfields Grant opportunities to Terracon's extensive client base and performed community reconnaissance to identify sites as potential candidates for Brownfields funding. Terracon worked with the City and guided clients through the eligibility determination process through ADEQ (Petroleum Products) and EPA (Hazardous Substances) by completing the eligibility determination forms to verify a site was eligible for grant funding. Mr. Koller acted as the PM and EP on 5 Phase I ESAs for sites that resulted in 4 Phase II ESAs and the removal of four previously unregistered USTs. For each Phase II ESA, Terracon prepared EPA-compliant SAPs. In addition to standard due diligence services, Mr. Koller acted as PM and oversaw the completion of 4 Asbestos and Lead Paint Surveys which also required EPA-compliant SAPs.

### **Raytheon Missile Systems and Defense-Related Projects – Tucson, AZ**

Mr. Koller has acted as Senior Project Manager for secure facilities associated with operations at Davis-Monthan Air Force Base (DMAFB) and Raytheon Missile Systems (RMS) facilities. Specific to DMAFB, Terracon has performed asbestos and lead paint testing as a subcontractor for various firms at several base locations that include secure working areas and other facilities such as the fire station.



## EDUCATION

Masters of Public Health  
Public Health: Industrial Hygiene  
University of Arizona,

Bachelor of Science, Environmental  
and Occupational Safety and  
Health, University of Arizona

## REGISTRATIONS

Certified Hazardous Materials  
Manager

Certified Industrial Hygienist

Certified Occupational Hearing  
Conservationist

## CERTIFICATIONS

COT Brownfields Environmental  
Technician Job Training Program,  
Certificate of Completion

OSHA 40-hour HAZWOPER

AHERA Asbestos Building Inspector

AHERA Asbestos Abatement C/S

AHERA Project Designer

## AFFILIATIONS

Southern Arizona Environmental  
Management Society, *Member  
President, 2015-2016*

American Society of Safety  
Professionals

American Industrial Hygiene  
Association

Environmental Professionals of AZ

Southern Arizona Chapter CCIM  
*Associate Member*

Tucson Clean and Beautiful (TC&B)

Southern Arizona Chapter CCIM  
(Commercial Investment)

Tucson Professional Connection

## Derek D. Koller, CIH, CHMM Phase II ESA/LSI Task Manager

The purpose of the testing was to assist in future renovations.

Specific to RMS, Terracon completed the third phase of asbestos testing of Raytheon facilities in Tucson, Arizona that commenced in 2016 and the purpose of the testing is to both assist with renovations and to provide data for the overall Asbestos Operations and Maintenance plan maintained by Raytheon. The surveyed facilities include several areas that are classified as closed secure working areas. Other work has included industrial hygiene sampling for the lab decommissioning of a former secure area that is being repurposed.

### **Western Area Power Administration - Arizona Facilities**

Mr. Koller was involved in the final preparation of one Phase I ESA performed at a WAPA Facility in Eloy, Arizona and has performed four Asbestos Surveys and four Lead-Based Paint Inspections at facilities in Eloy, Flagstaff, and Pinnacle Peak, Arizona. In addition, Mr. Koller performed has performed Asbestos Abatement Oversight at the Eloy facility and the Tucson Arizona Substation.

### **Project Cactus – Amazon Distribution Center (Scannell Properties) – Tucson, Pima County, Arizona**

Terracon was selected to perform a Phase I ESA for three non-contiguous tracts of land. Mr. Koller served as EP for the Phase I ESA which identified several RECs in connection with former uses at the site and served as PM for an Asbestos Survey and subsequent Asbestos Abatement for the site facility prior to demolition. Prior to initiating the subsurface soil investigation, Mr. Koller oversaw the completion of an electromagnetic and limited ground-penetrating radar study to identify subsurface anomalies. Mr. Koller then worked with appropriate stake holders to develop a cost-effective multi-tiered sampling strategy to delineate impacts at the site by installing test pits which were also used in Terracon's geotechnical study. Impacts were identified, and Mr. Koller oversaw the implementation of a Soil Management Plan and Oversight in areas found not to be impacted and where earthwork was commencing. Mr. Koller also served as PM for the LRAP implemented at the site. By the end of the project, 2,260 tons of soils characterized as special waste (non-hazardous) were removed from the site (97 Trucks). Soils were characterized prior to transport and disposed of at an appropriate landfill.

### **La Placita Village – Tucson, AZ**

Mr. Koller was Senior Project Manager and Lead Inspector for asbestos surveys at La Placita Village prior to demolition and provided continued consulting services and asbestos abatement oversight during the course of the demolition. La Placita Village consisted of eight interconnected buildings and two historical buildings (which were abated but not demolished). The interconnected buildings shared common construction including a basement and ground floor and up to three additional floors pending on the building. The bulk of the abatement oversight included overseeing the removal of fireproofing from over >1.25 linear miles of I-beams. Terracon has since been selected for another high-profile project by the same client.

### **Affordable HUD Multi-Family Housing Projects (Various Clients) – Tucson, Pima County, Arizona**

Mr. Koller served as PM for environmental due diligence services for two proposed multi-family HUD-Market Rate housing developments (7<sup>th</sup> Ave Commons and Valencia Crossing). Mr. Koller served as PM for two HUD-Compliant Phase I ESAs and, with the EP, assembled a team to also prepare Limited NEPA Assessments, Culture Resources Review, and HUD-Complaint Environmental Report Reviews (ERRs). At one site, an LSI was recommended based on historical uses and proximity to a perched contaminated groundwater plume. The LSI Included both a subsurface soil investigation and sub-slab soil vapor investigation. Additionally, both sites proximity to railroad lines, airports, and/or major roads warranted a community noise assessment per HUD guidelines where Mr. Koller worked with the CIH to run microphones on a 24-hour cycle to assess noise levels at the site.

# Jan Gordley

## **PRESIDENT, GORDLEY GROUP**

As president of Gordley Group, Jan specializes in public involvement strategies and implementation for government agencies and related organizations. With more than 40 years of community relations, communications and public involvement experience, she has provided highly successful award-winning public involvement strategies, plans and implementation for more than 70 government agencies, educational institutions and utilities throughout Arizona.



Jan is a strong advocate for clear, effective and compelling verbal and visual communications to engage diverse and often underserved audiences. Her experience in public-sector projects ensures that client goals are met through effective public involvement strategies. Jan has also accomplished successful public outreach initiatives across rural and hard-to-reach areas of the state, ensuring that these communities are properly informed and engaged.

Jan has assisted agencies with their compliance with federal regulations for involving the public, including Title VI of the Civil Rights Act and the National Environmental Policy Act. Her expertise in market research, defining and reaching target demographics and staging effective focus groups and workshops ensures productive input and data for public involvement efforts. She has also conducted training for organizations to advance their communications and public involvement understanding and resources.

Jan has provided public outreach and communications throughout Cochise County, engaging many of its diverse communities and populations. In addition to county-wide communications, those communities have included Sierra Vista, Willcox, Douglas, Huachuca City, Hereford, Bisbee and Tombstone.

### **MULTIPLE BENEFITS WATER PROJECTS | CITY OF TUCSON**

This multidisciplinary/departmental effort, which included the Environmental Services department encompassed a complex and diverse group of projects. The goal of this two-year campaign was to develop understanding and trust for several City programs and departments whose history in the media and with the public had been problematic. This program turned problematic environmental situations into benefits to the community through positive agency and community relationships. Issues included use of reclaimed and remediated water in public places, the viability of recharging water in the aquifer, and wetlands' scientific and environmental value with benefits weighed against public concerns. Broader awareness of the positive results of the water projects was created through community events and media coverage. Services provided by Jan and her team included public meetings and conferences, advisory group meetings, neighborhood association meetings, project newsletters and educational activities, as well as promoting project tours. This multi-faceted program was well received

Jan Gordley

Community Engagement Task Manager

throughout the community and brought neighborhoods and interested parties together to help define project benefits, reach consensus on project priorities and provide community support.

**BROADWAY-PANTANO AREA ENVIRONMENTAL INVESTIGATIONS | CITY OF TUCSON ENVIRONMENTAL SERVICES DEPARTMENT**

This project to manage and remediate contaminated groundwater in the Broadway North Landfill area involved planning and facilitating a public open house to communicate environmental and technical issues with a diverse public audience. Jan's efforts included coordinating with the City of Tucson, Pima County and Arizona Department of Environmental Quality to discuss and present to the public concepts of using treated groundwater for vegetation enhancement and other projects to benefit the community.

**BRAWLEY WASH WATERSHED PLAN/ENVIRONMENTAL ASSESSMENT | PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT**

Jan and her team developed and implemented a dynamic and comprehensive Public Involvement Plan for the Brawley Wash Watershed Plan/Environmental Assessment. The project's goal is to develop preferred alternatives to reduce flooding and erosion, improve wildlife habitat and restore natural floodplains and drainage flow paths throughout 198,000 acres of rural and agricultural land within the project area in western Pima County. Jan led public involvement efforts that incorporated National Environmental Policy Act (NEPA) guidelines and outreach to diverse rural stakeholders, including farmers, ranchers, environmental groups and the Tohono O'odham Nation. Jan's team also organized a virtual public scoping meeting, developed and implemented an interactive website and map for public comments, developed fact sheets, newspaper advertisements and other communications materials, coordinated outreach to the media and elected officials, and documented and summarized public input.

**SIERRA VISTA SUB-WATERSHED | UPPER SAN PEDRO WATER DISTRICT ORGANIZING BOARD**

Jan oversaw this effort on behalf of the Upper San Pedro Water District's Organizing Board to provide regional outreach services to the public within the Sierra Vista Sub-Watershed. The purpose of the outreach was to educate and inform the public about the issues related to starting a water district, including reasons for doing it. Two rounds of public meetings were held in the communities of Sierra Vista, Huachuca City, Tombstone, Bisbee and Palominas/Hereford. Presentations and recommendations were made to the Organizing Board regarding public surveys on public opinion regarding the formation of the District.

**WEBSITE HYDROLOGIC INFORMATION PORTAL | UPPER SAN PEDRO PARTNERSHIP**

Jan worked closely with the Upper San Pedro Partnership to plan and lead stakeholder engagement and research to develop a Website Hydrologic Information Portal (WHIP) for the Upper San Pedro Basin in southeastern Arizona. The WHIP was designed to make complex hydrologic information gathered from the Upper San Pedro Basin easily accessible and useful to water managers, decision-makers, project managers, scientists



Jan Gordley

Community Engagement Task Manager

and the general public. Jan led the planning and facilitation of two rounds of virtual focus groups and workshops to identify the desired functions of the portal and provide feedback on portal mock-ups. Stakeholders participating in the focus groups included area water and land managers, representatives of area jurisdictions and elected officials, Nature Conservancy, U.S. Geological Survey, Audubon Society, Bureau of Land Management, Bureau of Reclamation, U.S. Fish & Wildlife Service, Arizona Department of Water Resources and the University of Arizona.

**RILLITO HABITAT RESTORATION PROJECT | PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT**

Public participation in components for this restoration project addressed historic irrigation practices recreated to grow food crops for birds and wildlife, re-creation of a mesquite bosque and educational opportunities relating to water issues and recreational features. The means used to engage the public included public meetings and facilitating small group meetings with stakeholders. Public outreach engaged area schools, researched and contacted youth groups, and engaged residents in the area who were contacted on an individual basis as well as through neighborhood associations.



**Joseph E. McClure, Principal  
McClure Consulting, LLC**

Joe McClure has served as principal or manager of land economics research and advisory-services organizations for the last 37 years. During this tenure, Joe's practice has focused on the following outputs:

- Market analyses with fiscal and strategic components: highest and best use analysis, analysis of rapidly growing trade areas, cash flow and development strategy analysis, fiscal benefits of development.
- Fiscal/economic analyses with a strategic component: impacts on the business community and tax receipts from freeway and other road projects, and assessing redevelopment prospects of under-performing areas.
- Economic development strategic focus: consolidating views on a region's economic development targets, workforce, development challenges, and strategic options, integrating target industries into the local economy, and relating a region's existing economic base to its competitive environment.
- Special research projects, including studies of local labor forces and employer-employee relations, economic impacts of bicycle recreation, and transit behaviors and opinions in rural regions.

McClure has been retained by both private developers and public agencies at all levels of government, for projects in small and large cities, undeveloped and heavily developed regions, and regions with special demographic and cultural characteristics, including Native American and Pacific Island communities. To expedite project implementation, he has facilitated workshops, prepared grant applications, and presented findings to stakeholders.

Mr. McClure's multidisciplinary background incorporates many phases of the community and real estate development process: economic analysis and strategy development, market and financial feasibility assessment, and planning and design. Joe has a M.S. in Urban Planning, in a program that emphasized regional economics, from the University of Arizona and completed additional post graduate work in economic geography at UA. He has a B.S. in Architecture from the University of Cincinnati, and is a registered architect in Arizona. His organizational affiliations include the Western Regional Science Association (WRSA)-an international group of economic geographers, and the Arizona Association for Economic Development (AAED).

He has presented papers on business and economic development issues at economic development conferences, has served as Adjunct Lecturer at the University of Arizona in the Geography and Regional Development program, and on ULI Advisory/Technical Services Teams. McClure served as a Civil Engineering Officer in the U.S. Air Force. Through McClure Consulting LLC, Joe has served as "on-call" consultant to numerous Arizona state agencies.

**Tel:** 602.840.3699 • **Fax:** 602.324.0807

**Email:** [jmclure@jemclure.com](mailto:jmclure@jemclure.com) • **Web:** [www.jemclure.com](http://www.jemclure.com)



# Matthew Valenti

SENIOR ASSOCIATE/SENIOR PROJECT MANAGER

## PROFESSIONAL EXPERIENCE

Mr. Valenti is a Senior Associate and Senior Project/Group Manager in Terracon's Phoenix office and has over 30 years of professional experience. Matt is responsible for supervising the asbestos and lead group of 9 employees as well as managing Asbestos/Lead projects at professional and technical staff levels, performing asbestos and lead-based paint surveys, AHERA inspections and re-inspections, operations and maintenance (O&M) plans, asbestos and lead abatement designs, and asbestos and lead abatement projects. He has performed contractor pre-qualification, bidding, contract coordination, contractor submittal review, bid evaluation and payment application review and authorization. Matt has prepared reports of findings for asbestos and lead-based paint inspections and final abatement reports for project closeout. He has performed asbestos and lead related services for corporate and public entities. Matt is also an Asbestos Authorized Project Reviewer (APR) at Terracon.

## PROJECT EXPERIENCE

### **Arizona State University Asbestos Sampling – Tempe, Mesa, and Glendale, AZ**

Managed all aspects of the On-Call asbestos and lead based paint consulting services contract for the Tempe East and West Campuses. This work involved preparing bids, conducting surveys, writing reports of findings, preparing technical work procedures, performing abatement oversight monitoring and writing the final reports of abatement.

### **City of Phoenix Asbestos and Lead Based Paint On-Call – Phoenix, AZ**

Manages a multi-year contract preparing proposals, performing asbestos and lead paint surveys, writing reports, abatement oversight and monitoring as well as reviewing and approving invoices and all close-out documentation. Prepared Computer Assisted Drafting (CAD) base maps of the sites for the surveys and the abatement plans.

### **Salt River Pima Maricopa Indian Community Material Testing and Quality Control Services On-Call – Scottsdale, AZ**

Manages a multi-year contract with the tribe, responsibilities include proposal prep, report writing, performing asbestos and lead paint surveys, abatement oversight and monitoring, as well as QA/QC review for all asbestos/lead projects issued by the community.

### **Fort Defiance Indian Hospital Housing – Window Rock, AZ**

Lead and managed projects that consisted of performing asbestos surveys and HUD lead based paint inspections on multiple residential structures located on FDIH land. Responsibilities included performing asbestos surveys, report writing, and QA/QC review for project deliverables including recommendations for asbestos/lead confirmed areas.



## EDUCATION

Construction/Management,  
Ferris State University, Big  
Rapids, MI

## CERTIFICATIONS

Certified XRF Spectrum  
Analyzer Operator

EPA AHERA Contractor  
Supervisor with California  
endorsement

EPA AHERA Building Inspector  
with California endorsement

EPA AHERA Management  
Planner with California  
endorsement

EPA AHERA Project Designer  
with California endorsement

EPA Lead Base Paint Risk  
Assessor, Arizona jurisdiction

Inspector/Risk Assessor, New  
Jersey Department of Health

## PROFESSIONAL TRAINING

CA HAZWOPER Supervisor

NIOSH-582 Equivalence

OSHA 40-hour HAZWOPER

OSHA 10-hour Construction  
Safety

## AFFILIATIONS

Environmental Information  
Association, Arizona Chapter

## WORK HISTORY

Terracon Consultants, Inc.,  
Senior Project Manager: 2017-  
present;

\*prior experience

# Matthew Valenti

## Asbestos, Lead-Based Paint, RBM Task Manager

### **USPS Asbestos Survey and Abatement Oversight – Phoenix, AZ**

Lead and managed a limited asbestos survey and abatement oversight project for the United States Postal Service. The project was located at a facility in Phoenix, Arizona and consisted of removing asbestos containing materials in an HVAC room planned for replacement. Responsibilities included overseeing the asbestos survey and abatement oversight activities, report writing, and final QA/QC review for the project deliverable.

### **Carl T. Hayden VA Medical Center Asbestos and Lead Based Paint Inspections – Phoenix, AZ**

Senior project manager for the limited asbestos and lead based paint inspection for the planned renovations of wards 4C and 4D in building 1 of the Carl T. Hayden VA Medical Center. Responsibilities included project management, client meetings and final QA/QC review of the project deliverable.

### **Raymond G. Murphy VA Medical Center Oversight – Albuquerque, NM**

Senior project manager for asbestos abatement oversight, air monitoring, and air clearance testing at building 41 interstitial spaces of the Raymond G. Murphy VA Medical Center. Responsibilities included project management, client meetings and final QA/QC review for the project deliverable.

### **Fort Defiance and Window Rock Unified School Districts – Window Rock, AZ**

Managed and performed Asbestos Hazard Emergency Response (AHERA) and National Emission Standards for Hazardous Air Pollutants (NESHAP) surveys of all elementary, middle school and High school facilities as well as school housing. Prepared technical work procedures for the abatement of identified asbestos containing materials.

### **Bureau of Indian Affairs – Northern and Southern Arizona Schools AZ**

Conducted three-year Asbestos Hazard Emergency Response Action (AHERA) re-inspections of multiple schools.

### **Old School House Project - SRPMIC – Scottsdale, AZ**

Managed Asbestos and Lead abatement of the Old School House project over a six-month duration.

### **Salt River Project Navajo Generation Station – Page, AZ**

Perform contractor assist as competent persons on two separate removal efforts, removing approximately 35,000 tons and 48,000 tons of asbestos waste and contaminated soil from an asbestos landfill on the plant.

### **USDA Forest Service US Navy Mill Site CERCLA Removal Action – Skull Valley, AZ\***

Project included coordination with USDA Forest Service for the survey of existing structures for asbestos; removal and off-site disposal of hazardous and non-hazardous substances to a Subtitle C or D Landfill; removal and off-site disposal of solid waste; demolition, removal, and off-site disposal/recycle of cars, trucks, and other equipment and vehicles; removal and on-site disposal of tailings and waste rock; and post-cleanup rehabilitation.

### **USDA Forest Service – Carson National Forest, NM\***

Project manager for the execution of National Emission Standards for Hazardous Air Pollutants (NESHAP) asbestos surveys, HUD Lead Based Paint Surveys and sampling for Radon at the existing structures at the Canjilon and El Rito Rangers stations.

# Matthew Valenti

## Asbestos, Lead-Based Paint, RBM Task Manager

### **USDA Forest Service Jump Up Cabin, Historical Building – North Rim, Grand Canyon, AZ\***

Coordinated all aspects of the project from bidding, sub-contracting and field work, to closing out the project. The Project involved repairing some less than acceptable rodent proofing work performed by others, lead paint survey and OSHA asbestos removal activities, all to restore the historic cabin to acceptable forest service standards.

### **USDA Forest Service Chevelon Work Center Apache – Sitgreaves National Forest, AZ\***

Team lead performing National Emission Standards for Hazardous Air Pollutants (NESHAP) asbestos demolition surveys and the collection of Toxicity Characteristic of Leachable Lead (TCLP) samples of 36 structures at the old Chevelon Work Center. Responsibilities also included managing changes to the scope of work, report writing and invoicing. These surveys helped the Forest Service with the future bidding and demolition of these facilities.

### **Arizona Department of Economic Security, Arizona Training Center – Coolidge, AZ\***

Performed all field work for National Emission Standards for Hazardous Air Pollutants (NESHAP) asbestos surveys of 19 residential structures and the entire 10-acre site Ponderosa site. Coordinated the coring of nine representative slabs so under slab pesticide sampling of the soil could be conducted.

### **United States Environmental Protection Agency HUD REAC Lead Based Paint Risk Survey/Assessments – Denver, CO & St. Louis, MO\***

Performed hundreds of modified lead-based paint survey/risk assessments which included XRF testing and lead dust wipe sampling. During this project Mr. Valenti was an Environmental Protection Agency (EPA) certified Risk Assessor in 26 different states and tribal regions and was assigned to work in Denver, Colorado and St. Louis, Missouri.

### **Housing and Urban Development (HUD) Lead Based Paint Surveys (AIMCO) – Arizona\***

Performed HUD lead based paint (LBP) surveys of hundreds of apartment building throughout the state of Arizona. These surveys were performed to comply with the HUD disclosure guidelines for rental properties and to possibly eliminate the disclosure process if no lead was found.

# James T. Barker, RG

## SENIOR GEOLOGIST

### PROFESSIONAL EXPERIENCE

Mr. Barker is a Registered Professional Geologist with over 25 years of experience on a wide variety of environmental and geotechnical engineering projects. His environmental and geotechnical experience includes: project and staff management, proposal and cost estimate, field investigation plans, sampling and testing programs, computer analysis, recommendations, and technical reports.

Mr. Barker's experience includes: comprehensive knowledge and identification of soil and rock types, logging soil and rock lithologies, conducting field tests for percolation, soil resistivity, seismic surveys, earth fissures, giant desiccation cracks and salt mass research and investigation, general site planning, and site reconnaissance for infrastructure, roadways, bridges, and commercial structures and field investigations using a variety of drilling methods, including hollow and solid stem auger, ODEX, rotary rock coring, reverse circulation, and hammer percussion drill rigs. He conducted numerous comprehensive Phase I Environmental Site Assessments (ESAs) and Phase II ESA sampling and testing projects. Conducted numerous remedial investigations/site characterizations, early response actions, risk assessments, corrective action investigations, compliance audits, Leaking Underground Storage Tank (LUST) closures, soil and groundwater sampling and drilling oversight. Mr. Barker worked on remediation projects that have included the design and installation of soil vapor extraction systems, and the removal of free product from groundwater. He is familiar with standard EPA protocols for soil sampling, equipment decontamination, sample preservation techniques and chain of custody documentation.

### PROJECT EXPERIENCE

#### **ADEQ Well Investigation – Douglas, AZ**

In 2020, Terracon was contacted by ADEQ to investigate a drinking well for potential contamination. Terracon provided soil and groundwater sampling to determine the potential presence of COCs. A GPR Survey was used to determine the potential presence of an underground storage tank within the vicinity. Based on the results of the limited site investigation (LSI), there was no evidence of contamination in the groundwater samples collected from the well. Since contamination was reported to impact the well during operating (pumping) conditions, Terracon recommended further investigation of potential impact(s) to this well to be conducted under dynamic (pumping) conditions.

#### **Canyon Service Center – Black Canyon City, AZ (KOUJ List Removal & LUST Closure)**

Terracon was contacted by the Arizona Department of Environmental Quality (ADEQ) to provide an underground storage tank removal at Canyon Service Center located in Black Canyon City, Arizona. There were two tanks located



### EDUCATION

Bachelor of Science, Geology,  
Arizona State University,  
Tempe, AZ

### REGISTRATIONS

Licensed Registered Geologist:  
Arizona #53072

### CERTIFICATIONS

First Aid/CPR

OSHA HAZWOPER

### AFFILIATIONS

Arizona Geological Society  
(AGS)

Arizona Hydrological Society  
(AHS)

Arizona Land Subsidence Group  
(AZLSSG)

Association of Environmental  
and Engineering  
Geologists (AEG)

### WORK HISTORY

Terracon Consultants Inc,  
Senior Geologist, 2010-present

Fugro Consultants Inc.  
Project Geologist, 2009-2010

GEC, Inc.,  
Project Geologist, 2004-2009

Heath Barker Services, Inc.  
Business Owner, Geological  
Contractor, 2002-2004

Terracon Consultants Inc,  
Staff Geologist, 1997-2000

# James T. Barker, RG

## Remediation Planning/Cleanup Task Manager

at the station, one 10,000-gallon tank and one 4,000-gallon tank. There was an existing structure at the site that was located above the 4,000-gallon tank, which required demolition prior to the tank removal process. The UST system was then removed, and soil samples were collected and sent for analysis. The results of the analysis determined that contaminants of concern (COCs) were present in the soil above the ADEQ soil remediation levels (SRLs). Based on these results, Terracon recommended Site Characterization and groundwater monitoring and in situ chemical oxidation (ISCO) of the site and tank basin. Terracon conducted quarterly groundwater monitoring and sampling at the site and based on the results of the sampling, the site was removed from the ADEQ Known, Ongoing & Unauthorized Impacts (KOUOI) list and was closed with ADEQ LUST Case Closure recognition.

### **Love's Travel Stop #278 Site Characterization – Joseph City, AZ**

Terracon was contacted by Love's regarding ADEQ Facility #0-009304; LUST case 5526.01. Terracon was selected based on our work at Love's sites throughout the country, and our extensive experience with cost sheets and securing reimbursement over the years for multiple clients. Terracon prepared a new cost sheet with an implementation schedule for four additional horizontal extent soil borings converted to groundwater monitoring wells due to the two perched aquifers at the site. Terracon successfully secured reimbursement for Love's for the initial Site Characterization work completed by the prior consultant. Terracon worked with the UST Corrective Action Unit's Project Manager and Lead Risk Assessor to continue characterizing the site. ADEQ and Terracon determined that additional characterization was necessary. Two additional soil borings were completed and converted to groundwater monitoring wells and groundwater sampling was conducted. In late 2021, another quarterly groundwater sampling event was completed and the Site Characterization Report, including diagrams, figures, tables and the electronic Conceptual Site Model was submitted to ADEQ. From the analysis, the site was not fully characterized with work completed to date. Terracon continues to complete site characterization and quarterly groundwater monitoring at the Love's site.

### **Holbrook 76 Site Characterization – Holbrook, AZ**

Terracon was contacted by ADEQ to provide site characterization for a 76 fuel station located in Holbrook, AZ. The characterization is being completed due to a leak from an underground storage tank that was discovered from prior baseline assessment sampling completed by the prior consultant. The site currently houses three 10,000-gallon underground storage tanks and one 5,000-gallon underground storage tank. The previous sampling determined various locations at the tank hold area contained concentrations of benzene, 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene above soil remediation levels and methyl tert-butyl ether (MtBE) in groundwater above Aquifer Water Quality Standards (AWQS). Terracon is currently characterizing the site and is providing groundwater monitoring and injection well pilot testing of the site.

### **Wanslee's Auto Sales – Tucson, AZ**

Terracon prepared a Phase I Environmental Site Assessment (ESA) for the site in May 8, 2018 which was funded with Brownfields funding via the City of Tucson Community Wide Assessment Grant for Hazardous Substances. During the Phase I ESA, Terracon observed recognized environmental conditions (RECs). Terracon conducted subsurface soil sampling at the site to evaluate potential impacts from the RECs. A UST was discovered, and a release was confirmed during the installation of the one of the soil borings. A 24-hour notification and a 14-day report were submitted to ADEQ's Underground Storage Tank (UST) Program. Wanslee's Auto Sales was accepted into the ADEQ State Lead Unit (SLU) for the removal of the tank. Under SLU, Terracon removed the tank and collected samples, in accordance with ADEQ Guidance. The facility has an open LUST case number for a confirmed release to soil and groundwater and Terracon completed the 90-day report for ADEQ. Terracon is currently conducting further site characterization and groundwater monitoring and sampling for ADEQ SLU.

# James T. Barker, RG

## Remediation Planning/Cleanup Task Manager

### **Former Woody's Bulk Fuel Storage Facility – Show Low, AZ**

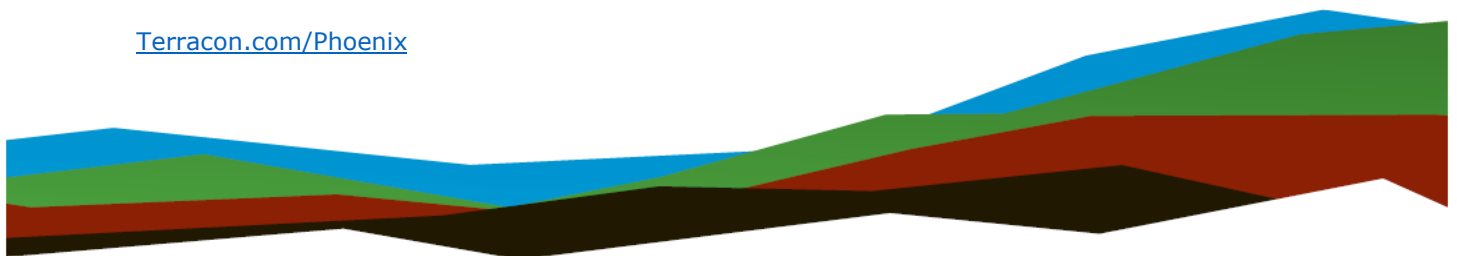
Terracon was hired by the Arizona Department of Environmental Quality under the Arizona Brownfields Response Contract to complete a Phase II Environmental Site Investigation on behalf of the City of Show Low for a 0.65-acre property that had been abandoned since 2009 and was anticipated to be redeveloped as an expansion of the Show Low municipal library. A Woody's bulk fuel storage facility formerly occupied the property beginning in 1955. Throughout each phase of the investigation Terracon worked closely with the City of Show Low and ADEQ to assess clean-up strategies, feasibility, and cost for addressing the impacted media and preparing the property for planned redevelopment into public use spaces. Based on Terracon's expertise in soil and groundwater contaminant transport it was determined there was significant potential for off-site migration requiring further investigation.

### **Carter Fuels-ADEQ Corrective Action – Flagstaff, AZ**

Project Geologist for an ADEQ UST removal, site characterization and corrective action at Unocal #0216 to determine the extent of contamination, dispose of impacted soils and to satisfy ADEQ requirements for site closure.

4685 S. Ash Avenue, Suite H-4  
Tempe, Arizona 85282

[Terracon.com/Phoenix](http://Terracon.com/Phoenix)



**CONTACTS:**

**Tod Whitwer, P.E.**  
Program Manager  
M (602) 370-4646  
[Tod.Whitwer@Terracon.com](mailto:Tod.Whitwer@Terracon.com)

**Noelle Espinosa, PhD**  
Project Manager  
M (520) 798-4822  
[Noelle.Espinosa@Terracon.com](mailto:Noelle.Espinosa@Terracon.com)



Nationwide  
[Terracon.com](http://Terracon.com)

- Facilities
- Environmental
- Geotechnical
- Materials