

City of Flagstaff

Lockett Road – Street and Water Line Improvements

Scope of Services

January 27, 2016 (REV 1)

COF Project No:

Subconsultants:

Northland Exploration Surveys (Land Surveying, R/W, Easements (as needed))

Speedie & Associates (Geotechnical Engineering)

Hubbard-Merrell Engineering (Structural Engineering)

Adams Trenching (Utility Potholes)

Task 1: Topographic Survey & Right of Way Mapping

Northland Exploration Surveys (NES) will perform a topographic survey for the project extending from Patterson Road to Fanning Road. (See attached Scope of Services from Northland Exploration Surveys)

The design team will review and reference survey plats at the County Recorder's Office and locate centerline monuments and property corners, where found, to best approximate the Right of Way. At this time, we have not included any labor or fees for obtaining title reports. Should this be necessary, the City will provide the necessary reports or we can provide this service for a mutually acceptable fee.

The topographic survey measurements are planned to be conducted in 2 phases, with the first phase to include as much topographic information as possible given weather conditions. We anticipate the first survey phase to include setting control, locating the roadway centerline (Lockett Road and side streets), back of curb (as available due to snow), and finished floor elevations of adjacent homes/garages. Side streets entering Lockett Road will be surveyed 50' from the curb returns. As weather permits, NES will include as much detail as possible in the first phase of survey.

The second phase of survey will include the remaining elements such as adjacent retaining walls, utility information (sewer manhole elevations and inverts, water valve locations and nut elevations, visible gas appurtenances, and electrical poles and appurtenances), driveways, trees, and pothole locations.

We will request franchise utility information that will be incorporated into a project base map.

Adams Trenching will perform utility investigation and potholing to identify location and depths of existing utilities. We will utilize available information from the City and franchise utilities to prepare an exhibit to identify pothole locations that will help define the underground infrastructure. We anticipate up to 17 utility potholes (8 gas line locations, 4 water line locations, 3 sewer line locations, and 2 "other" utility locations which could include reclaimed water, fiber optic, electric or telecommunications as necessary). Once completed, NES will survey the potholes for inclusion in the project base map.

We will prepare a project base map to include topographic survey information, franchise utility information, City of Flagstaff Utility information, pothole information and other readily available information that might assist in depicting the existing field conditions. After the base map is prepared, we will perform a field walk to confirm the information presented in the base map.

Deliverables: Digital Base map, Topographic Survey, Utility potholing

Task 2: Concept Plans & Design Concept Memorandum

We will organize and host a design kickoff with the City's Project Manager and staff (as invited by the City's PM) to address key project issues and concerns and confirm the work items in the scoping document. We will meet with the Storm Water Department to identify drainage concerns and obtain readily available reports/plans/specifications and studies that may impact the Project.

We will meet weekly with the City's Project Manager during preparation of Concept Plans. Three meetings are included. We will prepare agendas and meeting notes for each weekly meeting. We will prepare and utilize an issue resolution log throughout the project design process.

We will prepare a photo/video log of Lockett Road. This will include a photo log by address for each property along the road. We will also prepare a project video that we will provide on a CD or DVD to the City.

We will inventory and catalog mail boxes, driveways, and water meters.

Speedie & Associates will conduct a geotechnical investigation and provide asphalt pavement and concrete section recommendations. In addition, they will provide soil bearing pressure recommendations if repair of existing retaining walls is required. Subsurface investigation will include 5 borings to a depth of 10' below ground surface or refusal, whichever comes first. The geotechnical investigation and final report will be prepared during the topographic survey phase and concept plans phase. (See attached proposal from Speedie & Associates)

We will prepare concept plans (~30% design) showing the proposed centerline geometry, curb, gutter and sidewalk, proposed water line geometry and cross street matchups. The concept plans will be prepared using the topographic survey as the background or we may use the GIS and imagery background if the survey has not been finalized at this stage.

We will prepare a list of design variances/exceptions to accompany the concept plans. Design variances will include all those already identified and approved by the City Engineer. It is anticipated that additional design variances and exceptions will be identified but that in order to meet the project schedule, design will continue after submittal of the concept plans assuming the additional variances are acceptable. Should additional design variances be identified after submittal of the concept plans, we will issue an addendum to the design concept memo identifying the additional variances for approval.

Our structural engineer, Hubbard-Merrell Engineering, will provide concepts and recommendations to save existing site walls. We will identify existing site walls that may be impacted as a result of construction. Final determination of impacts to walls will occur during Task 3 – Final 1 Plans. This information will be presented in the Design Concept Memorandum.

We will estimate project quantities and we will prepare a conceptual level engineer's opinion of probable construction cost. We will include a contingency for items not yet detailed or fully designed.

We will submit the Concept Plans to the City for a brief review that can be conducted "over-the-shoulder" if desired. It is our understanding that the plans will not go through a formal city review

process (IDS) but will be completed as directed by the City Project Manager. It is anticipated that review comments will be received within 1 week of submittal. To accommodate the project schedule requirements, while the city review is occurring, we will continue design and move toward Final 1 plans. If major changes occur after review of the concept plans, this may necessitate a change in our scope of work.

We will meet with individual franchise utility companies (SuddenLink, Century Link, UniSource & APS) to coordinate future improvements, proposed relocations and to discuss potential conflicts and solutions.

Comments on the concept plans will be addressed in the final 1 (90%) plans.

Deliverables: 4 Design Meetings with the COF (including kickoff), Geotechnical Report (prepared by Speedie & Associates), Concept Plans, Conceptual Opinion of Probable Construction Cost, Design Concept Memorandum to include Design Variances/Exceptions List, Comment Response Form, Photo Log & Pre-Construction Video Walk-Through.

Task 3: Final 1 (90%) Plans, Specifications & Opinion of Probable Construction Cost

While the Concept Plans are being reviewed by the City of Flagstaff, we will proceed to Final 1 design. Final 1 design will further develop the design details and will address comments from the Concept Design. The Final 1 Design submittal will include 90% Plans, Drainage Memorandum, Engineer's Design Report (EDR), Draft bid schedule, Draft Special Provisions and an Updated Opinion of Probable Construction Cost.

If additional design variances are identified during the Final 1 design phase, we will prepare an addendum that will be submitted for review and approval.

We will prepare a drainage memorandum for Lockett Road between Patterson Road and Fanning Road. Drainage improvements are limited to surface improvements and will only include the addition of rolled curb, valley gutter modifications, and possible roadway vertical adjustments. Since underground storm drains are excluded, the drainage report will be limited to an evaluation of existing conditions and calculations showing the impacts of the roadway improvements, including roadway inundation. We anticipate that the improvements will improve the existing conditions but may not meet the City's Drainage Criteria given the project constraints. Since underground storm drains are excluded, it is not expected that storm water runoff problems impacting the roadway and adjacent properties will be completely mitigated. The drainage report will address this.

A registered Professional Engineer will seal the EDR and the water line plans and with the City's assistance, we will prepare the ADEQ forms and make the submittal. All fees associated with submitting to ADEQ shall be the responsibility of the City of Flagstaff. Since the City is willing to bid the construction plans prior to final ADEQ approval, it is not expected that an expedited review by ADEQ will be requested. If the City desires to expedite the review, they can pay ADEQ double the fee to cut the review period in half.

We will meet with the City's Project Manager weekly during preparation of the Final 1 Design. We will also meet with the City PM after comments are received from the Final 1 submittal.

The Final 1 plans will be fully designed and will show proposed horizontal and vertical geometry. We will show grading limits and driveway match-up limits. We will calculate the overall embankment and/or cut quantity and each sheet will be fully keynoted with corresponding construction notes and quantities. The Final 1 plans are nearly complete and should require only minor edits after review.

The Final 1 plans will include the following plan sheets:

- Cover Sheet
- City of Flagstaff General Notes & Engineer's General Notes
- Details Sheet(s)
- Demolition Plans
- Water Line & Service Replacement Plans
- Street Improvement Plans
- Striping Plans
- Traffic Routing Plan (this document will include an example of traffic routing with proscriptive requirements such as the contractor may only close X blocks at a time, but will not dictate contractor's means and methods of completing the work)
- Structural Site Wall Details (Contingency amount has been included in the project budget. Work will be completed if applicable as authorized by the City of Flagstaff. Details will be prepared by Hubbard-Merrell Engineering)
- Construction Control Sheet
- SWPPP Best Management Practice Plan & Details

We will calculate quantities and prepare a draft bid schedule and update the opinion of probable construction cost. At this stage of design, we will include a 10% project contingency.

We will prepare Special Provisions to be included in the City Bid Manual. The City bid manual will be prepared by the City.

We will submit Final 1 plans to the franchise utilities for review and approval, and we will issue a Utility Review Approval form for their completion.

We will include a water meter inventory table and we will call out which meters are to be relocated. All service lines are to be replaced from the existing main to the existing or relocated meter. It is expected that meters currently in use are to remain in use and not to be replaced. No additional (new) meters are to be installed on the existing water main.

No additional street lighting will be included in the project. If street lights require relocation due to construction of new improvements, we will include these on the construction plans.

Preparation of construction documents will not include any phasing or development of Additive Alternates (see Assumptions and Exclusions).

Deliverables: Design Concept Memorandum Addendum (if necessary), Final 1 Plans, Drainage Report, Final EDR, Draft Bid Schedule, Updated Opinion of Probable Construction Cost, Draft Special Provisions.

Task 4: Public Involvement

We will attend one public meeting / open house with the city, at a location to be determined, after Final 1 plans are submitted for review. We will prepare a 1 page (8.5"x11" max.) flyer that City staff will mail, or deliver by hand, notifying the residents and owners of the public meeting open house.

The public meeting/open house will be organized, prepared and facilitated by the City's Project Manager or other designated City staff member. We will bring enough sets of Final 1 plans to provide several "stations" where attendees can review the plans and ask questions of the design team.

Any one-on-one (door to door) efforts will be conducted by the City's Project Manager and the City's Project Manager will provide notification flyers to Thomas Elementary School.

Deliverables: Open House Attendance, Open House Flyers

Task 5: Final 2 Plans, Specifications & Opinion of Probable Construction Cost

We will address City review comments and ADEQ comments (if any) in the Final 2 Design package. We will issue an addendum to the Drainage Report, if required. A registered professional engineer will seal and sign the Final 2 documents. All documents prepared at the Final 1 stage will be finalized and submitted to the City (and ADEQ, if necessary) for final approval prior to bidding.

Deliverables: Final 2 Plans, Drainage Report Addendum (if required), ADEQ Resubmittal (if required), Bid Schedule, Final Opinion of Probable Construction Cost, Final Special Provisions.

Task 6: Bidding Phase & Construction Phase Support (CONTINGENCY)

Bidding and construction phase services will be provided hourly, as requested by the City Project Manager. An allowance has been included for this support.

Proposed Fees:

Task #	Task Description	Fee
1	Topographic Survey & Base Map	\$ 8,190
2	Concept Plans & Design Concept Memorandum	\$ 24,945
3	Final 1 Plans, Specs & Opinion of Probable Construction Cost	\$ 39,960
4	Public Involvement	\$ 2,310
5	Final 2 Plans, Specs & Opinion of Probable Construction Cost	\$ 11,730
	Subconsultant: Land Surveying*	\$ 34,936
	Subconsultant: Structural Engineering for Concept Design*	\$ 2,739
	Subconsultant: Geotechnical Engineering*	\$ 7,590
	Potholing Contractor*	\$ 16,500
	Subtotal: Design & Potholing Services	\$ 148,900

	Subconsultant: Structural Engineering (Design Details) (CONTINGENCY)	\$3,289
	Subconsultant: Land Surveying (65 TCE's)(CONTINGENCY)	\$ 10,725
6	Bidding & Construction Phase (CONTINGENCY)	\$ 7,200
	Project Contingencies:	\$21,214
	Project Expenses (ESTIMATE)	\$ 1,000
	Project Total:	\$171,114

*Includes 10% markup

Project Schedule:

Topographic Survey (Phase 1)	4 March, 2016
Topographic Survey (Phase 2)	18 March, 2016
Concept Plans & Design Concept Memorandum	11 March, 2016
Final 1 Plans, Specs & Opinion of Cost	8 April, 2016
Public Meeting	week of April 11-15, 2016
Final 2 Plans, Specs & Opinion of Cost	31 May, 2016

Overall Assumptions and Exclusions

- Changes to the design after Final 1 Design is underway may result in a change to the scope and fee.
- Phasing of the improvement plans and construction is not included in the Basic Scope of Services. If, at any time, the City determines that the project will need to be phased or bid with Additive Alternates, this will require a change in scope of services and fee.
- It is assumed that the City has determined water main sizing based on a capacity analysis, therefore, no hydraulic model for sizing the water main is included in Basic Services.
- The City will furnish information required on the ADEQ forms and sign the form. We will prepare the forms and package and ship the submittal.
- No design of sewer mains or services is included in the Basic Scope of Services.
- No traffic study or traffic impact analysis is required for the project, and is therefore excluded from Basic Services.
- Due to R/W constraints, the roadway cross section will not include a parkway.
- Design of existing street lighting is not included in the Basic Services.
- Roadway striping is limited to centerline striping, bike lanes, and crosswalks at Patterson and Fanning. Separate roadway striping sheets may be prepared for clarity but striping can also be depicted on roadway sheets.
- Driveway cross section sheets are excluded from Basic Services. These can be prepared and included in the final construction documents for an additional fee.
- Preparation of Legal and/or Parcel Descriptions is excluded.
- A Boundary Survey and other Boundary Services are excluded.
- Preparation of Traffic Control or Phasing Plans is excluded.
- As-built plans and/or Record Drawings pursuant to Section 13-06-002-008 of the Engineering Design Standards are not included.
- Construction inspection and construction observation is not included (see Task 7).
- The City will prepare the bid manual.

Client Name: City of Flagstaff
Project Name: Lockett Road - Street and Water line Improvements
Project Number: 16COF01

Client Information	
Name: Trevor Henry	
Address: 211 W. Aspen Avenue	
Flagstaff, AZ 86001	

Project Budget Summary (REV 1 - 2016-01-26)

Task	Task Description	Principal Engineer		Project Manager		Project Engineer		Engineering Designer		Engineering Intern		Technical Drafter		Clerical		Total Hours	Labor Cost per Task
		Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars		
		Hourly Rate: \$160		\$150		\$140		\$110		\$65		\$85		\$65			
1	Task 1: Topographic Survey & Base Map	1.00	\$ 160	7.00	\$ 1,050	26.00	\$ 3,640	28.00	\$ 3,080	-	\$ -	-	\$ -	4.00	\$ 260	66.00	\$ 8,190
2	Task 2: Concept Plans & Design Concept Memorandum	1.00	\$ 160	29.00	\$ 4,350	88.00	\$ 12,320	72.00	\$ 7,920	-	\$ -	-	\$ -	3.00	\$ 195	193.00	\$ 24,945
3	Task 3: Final 1 Plans, Specs & Opinion of Cost	1.00	\$ 160	64.00	\$ 9,600	107.00	\$ 14,980	136.00	\$ 14,960	-	\$ -	-	\$ -	4.00	\$ 260	312.00	\$ 39,960
4	Task 4: Public Involvement	-	\$ -	5.00	\$ 750	8.00	\$ 1,120	4.00	\$ 440	-	\$ -	-	\$ -	-	\$ -	17.00	\$ 2,310
5	Task 5: Final 2 Plans, Specs and Opinion of Cost	1.00	\$ 160	16.00	\$ 2,400	30.00	\$ 4,200	44.00	\$ 4,840	-	\$ -	-	\$ -	2.00	\$ 130	93.00	\$ 11,730
6	Task 6: Bidding & Construction Phase (CONTINGENCY)	45.00	\$ 7,200	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	45.00	\$ 7,200
7	Task 7:	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -
8	Task 8:	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -
9	Task 9:	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -
10	Task 10:	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -	-	\$ -
LABOR TOTAL:			\$ 7,840		\$ 18,150		\$ 36,260		\$ 31,240		\$ -		\$ -		\$ 845		\$ 94,335

Reimbursable Project Expenses

A	Printing & Reprographics	\$ 1,000
B	Mileage	\$ -
C	Meals & Lodging	\$ -
D	Equipment	\$ -
E	Other (Parking)	\$ -
RPE TOTAL:		\$ 1,000

Sub-Consultants

Survey	\$ 34,936 *	
Survey TCE Exhibits (CONTINGENCY)	\$ 10,725	
Structural Engineering	\$ 2,739 *	
Structural Engineering (CONTINGENCY)	\$ 3,289 *	
Geotechnical	\$ 7,590 *	
Other (Pothing)	\$ 16,500 *	
SUB-CONSULTANT TOTAL:		\$ 75,779

PROJECT TOTAL:
\$ 171,114

Client Name: City of Flagstaff

Project Name: Lockett Road - Street and Water line Improvements

Project Number: 16COF01

							Project Totals	
Total Hours per Employee Category:	49	121	259	284	0	0	13	726
Total Labor Cost per Employee Category:	\$ 7,840	\$ 18,150	\$ 36,260	\$ 31,240	\$ -	\$ -	\$ 845	\$ 94,335

Task	Sub-Task	Task Description	Principal Engineer	Project Manager	Project Engineer	Engineering Designer	Engineering Intern	Technical Drafter	Clerical	Total Hours per Task	Labor Cost per Task
			\$160	\$150	\$140	\$110	\$65	\$85	\$65		
1	Task 1: Topographic Survey & Base Map		\$ 160	\$ 1,050	\$ 3,640	\$ 3,080	\$ -	\$ -	\$ 260	66	\$ 8,190
	1	Project Administration	1						4	5	\$ 420
	2	Subconsultant coordination (survey)		1	4					5	\$ 710
	3	Review/Process topographic survey data			4	12				16	\$ 1,880
	4	Utility data gathering (utilities/COF)		1	4	0				5	\$ 710
	5	Potholing coordination		1	4					5	\$ 710
	6	Base Map Preparation		1	4	8				13	\$ 1,590
	7	GIS Map for exhibits/concept design		1	2	4				7	\$ 870
	8	QC Review (including field walk)		2	4	4				10	\$ 1,300
	9									0	\$ -
	10									0	\$ -
2	Task 2: Concept Plans & Design Concept Memorandum		\$ 160	\$ 4,350	\$ 12,320	\$ 7,920	\$ -	\$ -	\$ 195	193	\$ 24,945
	1	Project Administration	1						3	4	\$ 355
	2	Meetings, Agendas, Minutes (4 - including kickoff)		8	12	0				20	\$ 2,880
	3	Inventories (photo/video logs, mailboxes, dw's, meters)		2	12	12				26	\$ 3,300
	4	Design concept memo (variances)		4	12	2				18	\$ 2,500
	5	Concept Plans (Roadway Grading/Water line)		3	12	30				45	\$ 5,430
	6	Concept Plans (Cover, Notes, Details)		1	2	4				7	\$ 870
	7	Subconsultant & Franchise Utility coordination (Structural)		2	2					4	\$ 580
	8	Quantities and Opinion of Probable Construction Cost		2	8	6				16	\$ 2,080
	9	Drainage Calculations		2	16	2				20	\$ 2,760
	10	QC Review, Revisions and Submittal		5	12	16				33	\$ 4,190
3	Task 3: Final 1 Plans, Specs & Opinion of Cost		\$ 160	\$ 9,600	\$ 14,980	\$ 14,960	\$ -	\$ -	\$ 260	312	\$ 39,960
	1	Project Administration	1						4	5	\$ 420
	2	Meetings, Agendas, Minutes (4)		8	12	0				20	\$ 2,880
	3	Drainage calculations and report		4	24	2				30	\$ 4,180
	4	Engineers Design Report		3	8					11	\$ 1,570
	5	Final 1 Plans (Cover, Notes, Details)		2	3	6				11	\$ 1,380



January 25, 2016

Peak Engineering, Inc.
Thomas Smith
110 N. Agassiz Street
Flagstaff, AZ 86001

RE: Right-of-Way and topographical survey of Lockett Street between Patterson Road and Fanning Drive, situated in Section 11, Township 21 North, Range 7 East, Gila and Salt River Meridian, City of Flagstaff, Coconino County, Arizona.

Dear Mr. Smith,

We appreciate the opportunity to offer you survey services for the above mentioned projects.

Per our meeting on January 8, 2016, we are proposing the following survey services. We are planning two trips for the above mentioned project.

The first trip, weather permitting, will be to set survey control along the extent of the project as well as survey the existing visible street improvements along Lockett and all of the side streets for a distance of 50 feet from the curb returns. We will also survey the existing driveways, garages, sidewalks and finish floors of the existing houses. We will survey the top of nuts for water and the inverts for sewer. As a note, we are anticipating having a flag person accompanying the crew for the purpose of traffic control.

We will conduct the survey utilizing the City of Flagstaff Low Distortion coordinate system and NAVD 88 Vertical Datum. We will deliver an ASCII files of the surveyed points, a digital and a hard copy at a scale of 1" = 20'.

On the second trip, we will survey potholes for utilities and soil analysis and any other items determined to be essential for the design of the project.

We propose to conduct each the above mentioned surveys for the following fixed fees.

Right-of-Way/Control:

36 hours @ \$150	\$ 5,400.00
<u>16 hours @ \$100</u>	<u>\$ 1,600.00</u>
Subtotal:	\$ 7,000.00

Topography:

Trip # 1:	
72 hours @ \$180	\$12,960.00
<u>32 hours @ \$100</u>	<u>\$ 3,200.00</u>
Subtotal:	\$16,160.00

Trip # 2:	
36 hours @ \$150	\$ 5,400.00
<u>16 hours @ \$100</u>	<u>\$ 1,600.00</u>
Subtotal:	\$ 7,000.00

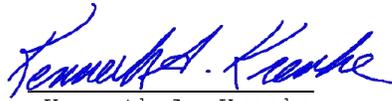
Ownership/Annotation

<u>16 hours @ \$100</u>	<u>\$ 1,600.00</u>
Subtotal:	\$ 1,600.00

TOTAL COST: \$31,760.00

As an option, we propose to draft exhibits per City of Flagstaff specifications for Temporary Construction Easements for as many lots as needed. You estimated a total of 65 possible exhibits. We proposed to conduct these survey services for a per exhibit cost of \$150 for a total possible cost of **\$9,750.00**.

If the above scope of work and the costs involved are agreeable to you, please sign below and return this letter. Again, we appreciate the opportunity to propose on this project.



Kenneth A. Krenke
Partner

Accepted this _____ day of _____, 2016.

Thomas Smith
for Peak Engineering

PEAKCOFLockettStreet

Hubbard-Merrell Engineering - Lockett Road Proposal

BD - Buildings Lockett Road Improvements

Tuesday, January 12, 2016

Peak Engineering, Inc.	Scope	Contact:	Phone:
Provide Concepts to save existing walls in a conceptual phase and work through potential issues. Design up to four retaining wall conditions and produce CD's for those walls.			

Activity Type/ Task	Type	Project Status/ Resource	PM / Reference	Task Status	Priority	% Comp	% Comp Date	Est Start Date	Est Comp Date	Act Start Date	Act Comp Date	% Dist	Hours	Resource Hours/ Units	Billing Rate	Contract	Resource Contract
Lockett Road Improvements		Preliminary	DSM										50.0	50.0		7,480	5,480
Business Development		Marketing	DSM														
Conceptual Review / Write Up		Preliminary	DSM										18.0	18.0		2,490	2,490
Labor	R Principal													12.0	160.00		1,920
Labor	Project Engineer - R E.I.T.													6.0	95.00		570
Retaining Wall Design/CD's		Preliminary	DSM										32.0	32.0		2,990	2,990
Labor	R Principal													6.0	160.00		960
Labor	Project Engineer - R E.I.T.													12.0	95.00		1,140
Labor	R Drafter													12.0	65.00		780
Labor	R Clerical													2.0	55.00		110
Construction Administration		Preliminary	DSM													2,000	

January 11, 2016

Tom Smith
Peak Engineering, Inc.
PO Box 790
Flagstaff, AZ 86002

**RE: Proposal for Geotechnical Investigation
Lockett Road Reconstruction
Lockett Road
Flagstaff, AZ
Proposal No. 56079 SF**

Dear Mr. Smith:

We are pleased to provide our cost estimate to conduct a soil investigation at the above referenced site that will satisfy site development and foundation design requirements. All work on this project will be carried out under the overall supervision of a registered Professional Engineer in the state of Arizona.

We understand that construction will consist of reconstruction of Lockett Road from Patterson Avenue as the western limit to Fanning Drive at the eastern limit, for an approximate total of 0.75 miles. The anticipated structural section is 4" AC on 8" of aggregate base course. Buried water line utilities will be upgraded. Sidewalks will be replaced and storm drain runoff will be conveyed along Lockett Road as it currently exists. Adjacent areas will be landscaped or paved to support moderate passenger and light truck traffic. Landscaped areas will be utilized for storm water retention and disposal.

We will drill and sample sufficient test borings to adequately determine subsoil conditions and provide samples for laboratory testing. Sufficient laboratory tests will be conducted to properly classify the soils encountered and provide data for engineering design. We presently anticipate drilling 5 structural borings to depths of 10 feet below existing ground surface, or refusal, whichever comes first. Access to the site by conventional truck-mounted drilling equipment is assumed to be free and unencumbered. Traffic control will be provided and the necessary permits obtained from the City of Flagstaff.

We will analyze the data obtained from field and laboratory testing and prepare a report presenting all data obtained, together with our conclusions and recommendations regarding:

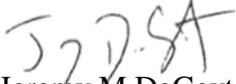
1. Lateral pressures on temporary and permanent retaining walls.
2. Groundwater conditions, if any, to the depths which will influence design and/or construction of the proposed development.

3. Swell potential of in-situ and compacted soils and recommendations for control if highly expansive.
4. Pavement design to provide economy and adequate service.
5. Suitability of site soils for use as compacted fill and preferred earthwork methods, including clearing, stripping, excavation and construction of engineered fill.
6. Local excavation and trenching conditions and stability considerations.
7. Slope requirements for cut and fill stability, both temporary and permanent.
8. Potential corrosiveness of subsoil materials and procedures to minimize the effects thereof.

Charges for our services have been determined on the basis of our standard Fee and Rate Schedule, a copy of which is attached and made a part hereof. We propose to provide the services set forth herein for a lump sum amount of \$6,900.00, which includes all testing, engineering and reimbursable expenses and 2 copies of the report. Should we be informed that additional copies of the report are needed after it has been finalized, there will be an additional charge of \$15.00 per report. Time from authorization to proceed to final report submittal at this time is on the order of 4 to 6 weeks following our receipt of this signed proposal (authorization to proceed). This time frame does not include delays due to inclement weather or delays in the field not caused by Speedie & Associates and subcontractors.

We appreciate the opportunity to submit this proposal for your consideration. If the terms set forth are satisfactory, please sign the attached copy, and return it for our records.

Respectfully submitted,
SPEEDIE & ASSOCIATES


Jeremy M DeGeyter, E.I.T.

APPROVED AND ACCEPTED
For: Peak Engineering, Inc.

By: _____

Print Name: _____

Date: _____

ENGINEERING SERVICES
2015 Fee and Rate Schedule

Fees for services will be based upon the time worked on the project at the following rates:

Title	Rate Per Hour
Principal	\$ 130.00
Project Manager	100.00
Sr. Geologist/Engineer	100.00
Project Engineer/Geologist	90.00
Environmental Specialist	85.00
Special Inspector (Architectural)	85.00
Special Inspector (Structural/Geotechnical)	75.00
Staff Engineer/Geologist	75.00
Sr. Engineering Technician	65.00
Draftsman	60.00
Materials Testing Technician	50.00
Clerical/Administrative	45.00

REIMBURSABLE EXPENSES

Light Truck Mileage Rate: \$0.50 per mile

The following items are reimbursable to the extent of actual expenses plus 25%:

1. Transportation, lodging and subsistence for out of town travel
2. Special mailings and shipping charges
3. Special materials and equipment unique to the project
4. Duplication or reprinting/copying reports

TEST BORINGS AND FIELD INVESTIGATIONS

On projects requiring test borings, test pits, or other explorations, the services of reputable contractors to perform such work shall be obtained.

SUBCONTRACTORS/SUBCONSULTANTS CHARGES

Any charges for subcontractors/subconsultants are subject to a 25% handling fee if invoiced by Speedie & Associates or such charges can be directly paid by the CLIENT.

SPECIAL RATES

The following rates may be subject to a 35% increase:

- Overtime – time over 8 hours per weekday and on Saturday
- Sunday and Holidays
- Rush orders

EXPERT WITNESS

Deposition and testimony; 4-hour minimum, \$250.00 per hour.

The following Terms and Conditions are included and hereto made a part of this agreement.

TERMS AND CONDITIONS

1. STANDARD OF CARE

In performing our professional engineering services, Speedie & Associates, Inc. (S&A) will use the degree of care and skill ordinarily exercised by members of our profession currently practicing in the same locality under similar conditions. No warranty, expressed or implied, is made or intended by our proposal for consulting services, our contract, oral or written reports, or services.

2. SCOPE OF SERVICES

2.1 "ON-CALL" SERVICES

Unless otherwise agreed by both parties in writing, all construction materials testing will be performed on an "on-call" basis. Both parties agree that test results for "on-call" testing, where the CLIENT does not request S&A's continuous construction and field observation, will be based only on the representative sample or limited location tested.

2.2 CONSTRUCTION/FIELD OBSERVATION OR REMEDIATION OBSERVATION

If the CLIENT desires more extensive or full-time project observation to help reduce the risk of problems arising during construction, the CLIENT shall request such services as "Additional Services" in accordance with the terms of this agreement. Should the CLIENT for any reason choose not to have S&A provide construction or field observation during the implementation of S&A's specifications or recommendations, or should the CLIENT unduly restrict S&A's assignment of observation personnel, CLIENT shall, to the fullest extent permitted by law, waive any claim against S&A, and indemnify, defend, and hold S&A harmless from any claim or liability for injury or loss arising from field problems allegedly caused by findings, conclusions, recommendations, plans or specifications developed by S&A. CLIENT also shall compensate S&A for any time spent or expenses incurred by S&A in defense of any such claim. Such compensation shall be based upon S&A's prevailing fee and rate schedule.

3. OWNERSHIP OF DOCUMENTS

All reports, plans, specifications, field data, notes and other documents prepared by S&A shall remain the property of S&A. Any reuse of such documents for other purposes must be with the written consent of S&A.

4. SAFETY

While on a CLIENT'S jobsite, S&A's personnel have no authority to exercise any control over any construction contractor, any other entity, or their employees in connection with their work, health or safety precautions. The CLIENT agrees that the General Contractor is solely responsible for jobsite safety and warrants that this intent shall be made evident in the CLIENT'S agreement with the General Contractor. The CLIENT may be charged for additional work for interruption, downtime required, or safety measures required by hazardous job conditions.

5. INSURANCE

Upon request, S&A will furnish certificates of insurance for Workers Compensation, General and Auto insurance, and Professional Errors or Omissions insurance. S&A is not responsible for damage of any cause beyond the coverage of its insurance.

6. INDEMNIFICATION

6.1 ENVIRONMENTAL SERVICES

It is understood and agreed that should the CLIENT hire S&A in matters involving the actual or potential presence of hazardous substances, the CLIENT will indemnify S&A, and its employees and representatives, from and against claims that are the result of negligent acts or omissions on the part of the CLIENT, its employees or representatives. S&A will indemnify the CLIENT from and against claims that are solely the result of negligent acts or omissions on the part of S&A, its employees or representatives.

6.2 NON-ENVIRONMENTAL SERVICES

Both parties agree that S&A's scope of services will not include asbestos, hazardous or toxic materials. Should it become known in any way that such materials may be present at the jobsite or adjacent area that may affect the performance of S&A's services, S&A may suspend its services without any liability until the CLIENT retains appropriate consultation to identify, abate, and/or remove the asbestos, hazardous or toxic materials and warrants that the jobsite is in compliance with applicable laws and regulations. The CLIENT will indemnify S&A and his employees and representatives from and against claims that are the result of negligent acts or omissions on the part of the CLIENT, his employees and representatives. S&A shall indemnify the CLIENT from and against claims, which are solely the result of negligent acts or omissions on the part of S&A, its employees and representatives.

7. LIMITS OF LIABILITY

The CLIENT agrees that S&A shall not be liable for losses caused by or arising from any acts of the CLIENT, his employees or subcontractors. Should any of S&A's employees be found to have been negligent in the performance of professional services rendered, the CLIENT agrees that the maximum aggregate amount of S&A's liability shall be limited to \$50,000.00 or the amount of the fee paid to S&A for professional services, whichever amount is greater.

8. WAIVER OF LIMITATION OF PROFESSIONAL LIABILITY

In the event the CLIENT is unwilling or unable to limit liability in accordance with the paragraph above, then CLIENT shall agree to pay S&A a sum equivalent to an additional 20% of the total fee to be charged for the professional services. Said sum is to be called "Waiver of Limitation of Liability Charge." This charge will in no way be construed as being a charge for insurance of any type, but will be increased consideration for the greater risk involved in performing the work up to the limit of proceeds available from S&A's professional insurance coverage.

9. SAMPLE DISPOSAL

9.1 NON-HAZARDOUS SAMPLES

Test samples are substantially altered during testing and are disposed of immediately upon completion of tests. Drilling samples are disposed of thirty (30) days after submission of our report. If requested in writing, samples can be held after thirty (30) days for an additional storage fee, or returned to the CLIENT.

9.2 HAZARDOUS SAMPLES

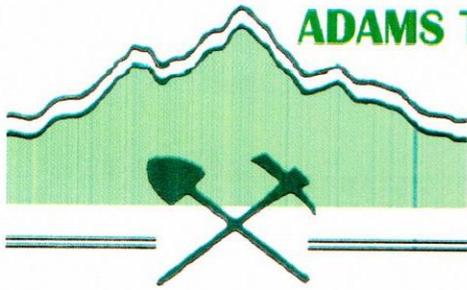
If toxic or hazardous substances are involved, S&A will return such samples to the CLIENT. Or using a manifest signed by the CLIENT, S&A will have such samples transported to a location selected by the CLIENT for final disposal. The CLIENT agrees to pay all costs for storage, transport and disposal of samples. The CLIENT recognizes and agrees that S&A is acting as a bailee and at no time assumes title to samples involving hazardous or toxic materials.

10. PAYMENT

Progress invoices will be submitted to the CLIENT monthly with a final billing at completion of services. Invoices are due and payable upon receipt. The CLIENT agrees to pay a finance charge of 1.5 % per month on all past due accounts over thirty (30) days. The CLIENT'S obligation to pay for all work contracted is in no way dependent upon the CLIENT'S ability to obtain financing, zoning approval, or the CLIENT'S successful completion of the project. S&A reserves the right to suspend work under its agreement if the CLIENT fails to pay invoices as due. The CLIENT agrees to pay all costs for collection of payment, including attorney's fees.

11. LITIGATION

In the event of litigation between parties to this agreement, if S&A is the prevailing party, S&A shall be entitled to recover all related costs, expenses, and reasonable attorney fees.



ADAMS TRENCHING INC.

Alan J. Adams, Pres.

AZ ROC A General Engineering #121998
AZ ROC B-4 General Engineering #126006

January 27, 2016

To: Peak Engineering, Inc.
110 N. Agassiz St.
Flagstaff, AZ 86001

Tom,

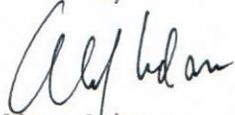
This price quote is for 17 utility potholes on Lockett Rd in Flagstaff as we discussed for your upcoming project. Included in this price quote:

- Obtain city permit (~~assuming they will waive the fee~~)
- Traffic control as needed
- Dig and backfill of potholes as per COF
- Pictures and field notes along with reference points for each pothole (for survey by others)

The cost of this work would \$15,000 (fifteen thousand dollars)

Please call with any questions or suggestions.

Thanks,

 Pres ATI
Alan Adams

809 W. Riordan Rd. Suite 100-371
Flagstaff, AZ 86001-0859

Cell: (928) 607-2312
Ph/Fax: (928) 779-5445
adamstrenching@gmail.com