Ivins City Staff Report
City Council Meeting 7/21/16

Agenda Item: Approval of expenditure for engineering services to construct Tuacahn Drive Trail

Submitted by: Thomas J. Jorgensen, P.E., Assistant Public Works Director

Recommended City Council Action:
Approve expenditure of $19,835 for engineering services to construct the Tuacahn Drive Trail plus an additional $5,000 for contingency for a total of $24,835

BACKGROUND:
Ivins City is planning on constructing a trail along Tuacahn Drive from Snow Canyon Parkway to the property boundary of Sentierre. The City has worked with the County to provide funds for the project and they have agreed to provide a grant of $150,000 and a zero interest loan of up to $150,000 to fund the construction and engineering of the project. Staff has submitted a request for proposals (RFP) for engineering services to several engineering firms. Additional details are identified in the attached RFP.

FINDINGS AND ANALYSIS:
The selection process was fee based due to the fact that all engineering firms had the qualifications to design the project. The fees are summarized below.

	Total Design and Construction Administration Fees
Alpha Engineering	$19,835
Rosenberg Associates	$28,900
Horrocks Engineers	$32,159
Sunrise Engineering	$36,900

Staff has evaluated the proposals and is recommending Alpha Engineering be selected. Details regarding the scope and compensation has been attached for Council to review.

Engineering services will be lump sum and are included in this approval of expenditure action item. A contingency of $5,000 has been added to help account for unforeseen expenditures during final design and construction administration phases.

SUPPORT MATERIALS:
- Request for Proposals
- Alpha Engineering Proposal

FINANCIAL IMPACT:
The expense has been budgeted and will be taken from the $150,000 Grant and the $150,000 loan from the Washington County funding.
$24,835

Respectfully Submitted:

Thomas J. Jorgensen, P.E., Assistant Public Works Director

Content Review:

Dale Coulam, City Manager

Ivins City
Request for Proposals for
Engineering Services
for design of
Tuacahn Drive Trail

Ivins City, Utah is soliciting letter proposals from qualified engineers to provide services as outlined in the **Scope of Services** section of this request.

I. Background:

Ivins City desires to construct a 10' wide trail along Tuacahn Drive between Snow Canyon Parkway and the Sentierre property boundary as shown on the attached concept map. The project scope will likely include survey, geotechnical analysis, design of trail alignment and profile, minor storm drain design, ADA ramp design, and design and provide details necessary for culvert and tortoise crossing extensions. It is anticipated that the design will also include some retaining wall with railing to keep the trail within the existing right-of-way and some barriers at critical curve locations to increase safety along the trail.

The following information will be provided by the City:

- 2016 Aerial Photography by Pictometry, 3-inch pixels

II. Scope of Services:

The City has compiled an anticipated scope of work for this project, but we'd ask the consultant to add or delete items from this list as necessary.

A. Coordination Meetings (2 meetings)
B. Initial Data Gathering
    a. Review right-of-way boundaries.
    b. Survey and topo existing roadway and location of new trail.
    c. Identify location of existing culverts and tortoise crossings.
C. Geotechnical and Geological Investigation
    a. Include the costs for a qualified geotechnical engineer to provide geotechnical recommendations.
D. Prepare Design Drawings
    a. Provide 60% and 100% design sets for review by the City.
    b. Design trail centerline alignment and profile, generally following existing Tuacahn Drive alignment and profile.
    c. Design storm drain as it relates to the project, considering the following elements:
        i. The area between Canyon Rd. and the boundary with Red Cliffs Desert Reserve, storm water should be collected and concentrated before diverting to the wash to prevent erosion along the landscaped swale.

ii. The area between the boundary with Red Cliffs Desert Reserve and the Sentierre property, storm water should be addressed to prevent silt and debris from being deposited on the trail.

d. Design and provide details for ADA trail ramps at Canyon Rd. and Citadel Rd.
e. Tie in proposed trail into existing facilities at Snow Canyon Parkway, Canyon Rd. and Citadel Rd.
f. Provide other details if Ivins City standard details do not address the requirements to the contractor.

E. Technical Specifications
   a. Provide 100% technical specifications for review by the City.
   b. Provide specifications if Ivins City standard specifications do not address the requirements to the contractor.
F. Preparation of the construction cost estimates.
G. Contract Documents
   a. Provide 100% contract documents for review by the City.
   b. Prepare final bid documents for the project, including final design drawings, technical specifications, and standard City bid documents and contract conditions.
H. Make revisions for final bid set as directed by City following the 100% review by the City.
I. City will coordinate all bidding services with limited follow-up from consultant for questions.
J. City will provide construction administration and inspection with the consultant providing construction engineering services limited to attendance of preconstruction meeting, construction staking and minor follow up with questions or field changes.

III. Project Schedule:

The city would like to proceed on construction of the project as soon as possible. Please indicate the quickest timeframe for which the consultant can solidly commit to provide the scope of services upon execution of a contract.

IV. Contracting and Compensation for Services:

Ivins City intends to enter into a professional services contract with the successful engineer. The terms of the Ivins City standard contract are attached to this document. Compensation for the services rendered, is to be based upon a time-expended basis with an agreed maximum not to exceed value. The consultant must be willing to sign the attached engineering services contract.

VI. Proposal Letter Format and Content

The proposal shall be in a letter format with company letter head and shall consist of no more than three pages and shall identify the following information: commitment to a time frame for completion, breakdown on total estimated fees for each major task and subtask level of detail (should be presented

in table form), and total proposed cost. Qualifications and experience are not necessary in the proposal, as this RFP is only being submitted to a short list of qualified firms.

VII Submittal Requirements

Submit letter proposal by email to Thomas Jorgensen, P.E., Assistant Public Works Director at tjorgensen@ivins.com by 3:00 p.m., Friday, July 8, 2016.

Attachment A: Concept Map

Attachment B: Typical Cross Section (from Red Cliffs Desert Reserve to Sentierre property)

Attachment B: Sample Engineering Services Contract

ALPHA ENGINEERING

43 South 100 East, Suite 100 T 435.628.6500
St George, Utah 84770 F 435.628.6553
alphaengineering.com

July 8, 2016

Ivins City
Attn: Mr. Thomas Jorgensen, P.E.
Via Email: tjorgensen@ivins.com

Re: Ivins City Tuacahn Drive Trail Proposal

Dear Thomas:

We appreciate the opportunity to submit this proposal to provide engineering services for the above referenced project. We understand the project consists of the design of a 10-foot wide trail along Tuacahn Drive between Snow Canyon Parkway and the Sentierre property; the preparation of construction drawings, specifications and contract documents; and limited bidding and construction administration services as outlined in the project Request for Proposals.

We have prepared the following proposal for your consideration.

ARTICLE I – SCOPE OF SERVICES

1.1. Coordination Meetings. The ENGINEER will meet with City personnel on two occasions to coordinate design criteria for the project and will be available for additional discussion and coordination throughout the design of the project to ensure a thorough understanding of the project. We have visited the site and are ready to provide insight into the design and additional recommendations that we have noticed in our initial assessment of the project. We will be prepared to discuss alignment challenges and other potential obstacles for the design and construction of the project. We understand there are many elements involved that will make coordination with the City a critical aspect to its successful completion, including storm drain design, tortoise crossings, structural culvert extensions, retaining walls and railing.

There may be additional items that the City will want incorporated into the design, which could be added to the contract on a time and materials basis. For example, it is our understanding that the trail is to be used by pedestrians only and that bike traffic will be within the Tuacahn Drive roadway. As the roadway section has only three-foot shoulders with 11-foot driving lanes, it may be desirable for the City to extend the section of the roadway an additional four (4) feet to the east. The additional asphalt would provide additional buffer for a safer roadway and trail. Additionally, it may be desirable for the City to install curb instead of the mentioned railing or jersey barrier as it would be less intrusive. Similar items may be discussed during the design coordination meetings.

1.2. Initial Data Gathering. The ENGINEER will make additional visits the site to observe conditions and will perform an existing conditions and topographic survey, which will include existing improvements and topography within and directly adjacent to the project. The right-of-way boundaries will be identified along with adjacent property owners. An Existing Conditions Plan will be prepared to include all of the gathered data from this item.

1.3. Geotechnical Investigation. We propose to use Landmark Testing and Engineering as our geotechnical consultant for the project. Landmark Testing has experience working in Ivins City. This item will include an assessment of subsurface conditions for the future trail, including five (5) hand-auger investigations within the alignment, at a spacing of

approximately 900 feet. A Geotechnical Investigation will be provided by the ENGINEER to the CLIENT focusing on suitability for construction and to ensure adequate over-excavation and subgrade preparation.

1.4. **Design Drawings.** Based on coordination with the City, existing conditions and the results from the geotechnical investigation, drawings will be prepared by the ENGINEER reflecting a thorough and effectual design for the trail. Sixty and One Hundred Percent Design Drawing Sets will be provided for review by the CLIENT. The drawings will include demolition requirements, ADA ramps and tie-ins to existing facilities, plan and profile of the trail, sections, traffic safety barriers, storm drainage improvements, utility work, detailed grading, culvert and tortoise crossing extensions, and all other pertinent information necessary to construct the project including details of all improvements. There are various utilities along the alignment which will be fully coordinated up front with the respective entities.

We have discussed the project with the Red Cliffs Desert Reserve, who expressed concern for the erosion occurring along the tortoise fence. Due to the highly erodible materials and in order to prevent unnecessary erosion, the design of the trail will be such that storm water will be collected and concentrated before diverting to the wash without collecting silt and debris along the trail. The drawings will detail the extension of the existing tortoise crossings with similar materials and further specify the contractor's need for tortoise training before starting construction. As we provided the original design for the tortoise crossings and Tuacahn Drive Improvements, we feel we can provide a cost-effective design.

1.5. **Technical Specifications.** The ENGINEER will prepare Technical Specifications as needed for the construction of the project, including specifications where Ivins City standards do not cover a certain aspect of the project. The Technical Specifications will be provided with the 100% Design Drawing Set to the CLIENT for review and comment.

1.6. **Construction Cost Estimates.** We have extensive experience working with contractors in the area and will provide an accurate cost estimate based on current construction costs.

1.7. **Final Review and Contract Documents.** Contract Documents, which will include standard City bid documents and bid conditions, will be prepared and incorporated into the Technical Specifications to be provided to the City for review with the 100% Design Drawing Set. Final Construction Drawings based on the City's final review will be prepared along with final Technical Specifications and Contract Documents.

1.8. **Limited Bidding Services.** We understand the CLIENT will be bidding the project. The ENGINEER will be available for any discussion items during the bidding process. We have assumed approximately four hours of time spent for this item.

1.9. **Construction Administration and Staking.** The ENGINEER will provide construction engineering services limited to attendance of the preconstruction meeting, construction staking and minor follow up with questions or field changes. It is estimated that this item will include approximately six hours of time in addition to five trips to the site for staking.

ARTICLE II – PROJECT SCHEDULE

2.1 **Project Schedule**. The ENGINEER will complete the work discussed in Article I "Scope of Services" within a 3-month timeframe. A breakdown for each task is shown below:

Project Schedule	Month 1				Month 2				Month 3			
Coordination Meetings	→											
Initial Data Gathering		→	→	→								
Geotechnical and Geological Investigations	→	→	→	→								
Design Drawings				→	→	→	→	→	→	→		
Technical Specifications							→	→	→	→		
Construction Cost Estimates									→	→		
Final Review and Contract Documents									→	→	→	→

ARTICLE III – CONTRACTING AND COMPENSATION FOR SERVICES

3.1 Design Fee. For all design engineering services as outlined in Article I "Scope of Services," the CLIENT agrees to compensate the ENGINEER a lump sum of Nineteen-Thousand Eight-Hundred Thirty-Five Dollars ($19,835.00). A break-down of the fee is provided below:

3.1.1	Coordination Meetings	$713.00
3.1.2	Initial Data Gathering	$2,070.00
3.1.3	Geotechnical Investigation	$2,482.00
3.1.4	Design Drawings	$3,892.00
3.1.5	Technical Specifications	$778.00
3.1.6	Construction Cost Estimates	$446.00
3.1.7	Final Review and Contract Documents	$2,521.00
3.1.8	Limited Bidding Services	$344.00
3.1.9	Construction Administration and Staking	$6,589.00
	TOTAL	**$19,835.00**

3.2 Additional Services. Additional work including, but not limited to, construction management and reproduction expenses will be invoiced per our Standard Rate Schedule (Attachment A). No extra work will be performed without the consent of the CLIENT.

Attachment A, which is our "Standard Rate Schedule" is incorporated herein by this reference. If you have any questions regarding the above or if you have questions regarding the scope or cost of the proposal, please call. If this proposal is acceptable, please sign and return one original copy to our office.

Sincerely,

Glen E. Carnahan, P.E.
ALPHA ENGINEERING COMPANY

Thomas Jorgensen, P.E.
IVINS CITY

Encl: Attachments A

ATTACHMENT "A"

ALPHA ENGINEERING COMPANY
STANDARD RATE SCHEDULE

March 2016

Principal Engineer (PE): $157.00 / hour

Senior Engineer II (PE): $130.00 / hour

Senior Engineer I (PE): $116.00 / hour

Project Engineer II (PE): $106.00 / hour

Project Engineer I (PE): $99.00 / hour

Project Engineer (PE): $86.00 / hour

Engineer (EIT): $78.00 / hour

Head Design Technician: $69.00 / hour

Design Technician: $60.00 / hour

Senior Licensed Surveyor: $109.00 / hour

Licensed Survey Crew Chief: $79.00 / hour

Survey Crew Member: $55.00 / hour

GPS Survey Equipment: $35.00 / hour

Inspector: $55.00 / hour

Accountant: $66.00 / hour

Secretary: $44.00 / hour

Type I Survey Monuments: $364.00 each

Type II Survey Monuments: $156.00 each

Mileage: $0.55 / mile

Large Format Prints / Copies:	15x22 (b&w) $1.00 / sheet	
	22x34 (b&w) $2.00 / sheet	
	24x36 (b&w) $2.50 / sheet	24x36 (color) $8.00 / sheet
	30x42 (b&w) $3.00 / sheet	30x42 (color) $9.00 / sheet
Photocopies:	8.5x11 (b&w) $0.10 / page	8.5x11 (color) $1.00 / page
	11x17 (b&w) $0.20 / page	11x17 (color) $2.00 / page

*Other expenses will be billed at cost plus 10%.
*Rates will be adjusted periodically to reflect inflation and cost changes.