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Kim K. Kock, P.E.

JN 12 008 01
Date October 23, 2013

Pueblo Conservancy District
c/o Kidd Engineering, Inc.
1001 East Evans Avenue
Pueblo, CO 81004

Attn: Rick Kidd, P.E.

Re: "As-Constructed" Survey, Visual Conditional Assessment/Evaluation, and Geotechnical Investigations

We are pleased to present this Proposal for performing professional engineering and surveying services with regard to the above referenced project. Please find a list below of the services that are to be provided:

BID SCHEDULE A: "AS-CONSTRUCTED" SURVEY, to include:

1. Levee cross-sections, to 0.1' vertical and 0.05' horizontal accuracy, at 50' maximum intervals (and any changes of alignment or grade) to include the following minimum points: inside toe of levee, water surface elevation (if any) at date of survey, kayak course constructed improvements, existing slope paving construction joint at approximate mid-height of levee, inside top of levee/slope paving, existing improvements at top of levee (i.e. guardrails, in service or abandoned utilities, etc.), outside top of levee/embankment, outside mid-height of levee/embankment, outside toe of levee/embankment, ground surface 20' away from outside toe of levee/embankment, railroad access road edges, and nearest set of railroad tracks. Survey point data shall coincide with cross-section intervals. The 50' cross-section interval will net a minimum of 300 levee cross-sections. Due to levee slopes (approximately 1.5:1 and 40' height), field personnel will need to be "tied off" for any survey work on levee slopes in accordance with OSHA requirements. The survey will also identify and detail any known: levee penetrations (i.e. storm sewers), existing or abandoned utilities (based on locates by others but coordinated by surveyor), levee foundation system elements which can be identified, slope paving panel layouts (including all existing panel construction joint intersections estimated to be at 10' x 25' grid), test hole locations from Task C below (including static water level 24 hours after drilling), etc. All survey data will be included on a "Topographic Survey Drawing" with 1' contour intervals and a maximum horizontal scale of 1" = 100'. Topographic survey will be overlaid on existing City/County aerial mapping and shall be tied to State Plane Coordinates. Cross-sections, at 50' maximum intervals, will also

be plotted as supplemental drawings (horizontal scale 1"=20', vertical scale 1"=10') to the "Topographic Survey Drawing." Surveyor shall develop and maintain, for all Tasks of this Project, a GIS Database into which all survey data and cross-sections are incorporated and retrievable. The Surveyor shall also be responsible for the incorporation of geotechnical information (from Task C) and visual assessment data (from Task B) into the database as attributes. The database shall allow for retrieval of any and all data pertinent to any slope paved levee panel (via panel identification point) or levee cross-section. The Surveyor shall carry minimum Professional Liability (E&O) Insurance of \$1,000,000 and all other standard District required insurance.

TOTAL BID SCHEDULE A: \$72,500.00

BID SCHEDULE B: VISUAL CONDITIONAL ASSESSMENT/EVALUATION, to include:

1. The existing wet side of the levee is approximately 40' deep and is surfaced with concrete slope paving with a construction joint at center height (approximately) and longitudinal joint spacing approximately equivalent to one half panel height. Based on the existing slope of the levee, the existing slope paving panels are approximately 10.5' x 25'. Based on the 2.8 mile levee length and a two panel height, there are approximately 2820 panels to visually evaluate. Each existing slope paved panel of the wet side of the levee will be locationally tied to the "Topographic Survey" and GIS Database of Task A above. Each panel will be visually evaluated for cracking, spalling, settlement, buckling, undercutting, water intrusion, foundation conditions, pile cap conditions, etc. The condition of each panel, and photos thereof, will be documented in Tables supporting the "Topographic Survey" and GIS Database. All personnel will need to be "tied off" per OSHA requirements for safety during this levee evaluation process due to levee slopes and height. The final deliverables of this Task, in conjunction with Tasks A and C, will allow the District to more accurately estimate Levee Improvement Costs which have been estimated in a preliminary manner only in the "Pueblo Conservancy District Assessment Project – Phase II- Development of Assessment" Report dated September 25, 2012. This information will also provide the basis for Final Design of Levee Improvements and for the Final Certification of the Levees process in accordance with FEMA 65.10. The Consultant for this Task shall carry minimum Professional Liability (E&O) Insurance of \$1,000,000 and all other standard District required insurance.

TOTAL BID SCHEDULE B: \$53,000.00

BID SCHEDULE C: GEOTECHNICAL INVESTIGATIONS, to include:

1. Drill and log test holes at 500' intervals along the top of the levee with a portable, narrow wheel base (less than 5') drill rig "lifted" into place at not less than five access points by a crane. Consultant shall be responsible for all traffic control plans and devices at all access/lifting points. Depth of the test holes will be the maximum achievable by the portable drill rig but not less than the overall levee height. "Companion" test holes will also be drilled, to a depth not less than 25', and logged at the outside toe of the levee using the same 500' spacing with a conventional drill rig. Samples from borings shall occur at 2.5' intervals through fill areas, at 5' intervals in natural soils and at noted changes in soil type. All boring logs and supporting tests and analysis shall be formatted in a manner suitable for incorporation into the Project GIS Database as identified in Task A. The Consultant for this Task shall carry minimum Professional Liability (E&O) Insurance of \$2,000,000 and all other standard District required insurance. Geotechnical consultant shall be responsible for utility locates prior to drilling. If significantly varying soils conditions are encountered between the test holes of this Task, and the Consultant and the District Engineer deem additional test holes are necessary, the cost for those additional holes shall be as bid in Task C-4 below. \$80,000.00
2. Lab testing and analysis of samples taken from each of the test holes. Testing shall be sufficient to allow for slope stability evaluation and shall include evaluation of strength and seepage properties of embankment and foundation materials. Proctor moisture/density relationships shall be prepared to compare in-place densities of the embankment fills. Classification tests shall also be conducted. \$25,000.00
3. Final Report preparation including construction recommendations for Levee Improvements to include stability analysis and seepage considerations, their impact on performance of the levee and methods to enhance overall stability as appropriate. \$20,000.00
4. Allowance for intermediate test holes, with all required testing and analysis, referenced in Task C-1 above:
 - a. At top of levee with portable drill rig:

5 each @	<u>\$175.00</u>	=	<u>\$8,750.00</u>
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 - b. At outside toe of levee:

5 each @	<u>\$1,000.00</u>	=	<u>\$5,000.00</u>
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TOTAL BID SCHEDULE C: **\$138,750.00**

TOTAL BID SCHEDULES A, B, and C: **\$264,250.00**

We will perform the above listed services on a Fixed Fee Rate basis. Our fees for providing these services will be as shown above. Any item or service not specifically listed in the scope of services given above is not included in this contract. Any extra services which may be required

to complete the job will be billed per our current time and material rates. Any extra work that is required by NorthStar or by the client to complete the project shall be in writing, acknowledged and made a portion of the Agreement.

Please note that any City, County, utility company, or title company fees are the responsibility of the client and are not included in this budget. Also, all direct reimbursable expenses incurred in performance of this project will be invoiced at cost plus ten percent.

Our company policy is to send an invoice to the address listed above no later than the 1st day of every month; payment is due on receipt of invoice and to be received no later than the 25th day of that month. Should you require a different submittal date, please so advise. Payment not received by NorthStar by the 25th will cause all work to stop on the project, and an assessment of two percent monthly.

NorthStar agrees to assign to the District all intellectual property rights in all data gathered, analysis made and work product of Providers concerning this project.

NorthStar agrees that the District may use as the District deems necessary or desirable all information provided to the District by NorthStar which shall become the exclusive property of the District.

This Contract however shall not be construed to give to NorthStar any right beyond the rights set forth in this Contract and should District choose to use third parties for additional services relative to completing the project, the District shall have the right to do so.

NorthStar agrees to comply with all applicable local, State and Federal laws concerning NorthStar's services to Conservancy.

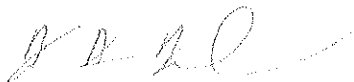
This Agreement may not be assigned by NorthStar without the written consent of Conservancy.

In the event the client wishes to terminate the services of NorthStar, the client shall pay NorthStar time and materials rates up to the date of termination.

NorthStar and the District each agree to indemnify and hold the others harmless, and their respective officers, employees, agents, and representatives from and against liability for all claims, losses, damages, and expenses, including reasonable attorneys' fees, to the extent such claims, losses, damages, or expenses are caused by the indemnifying party's negligent acts, errors, or omissions.

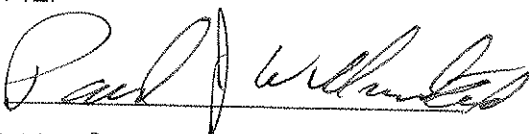
Please review this proposal carefully, for it represents a binding contract when signed. If this proposal is acceptable, please have a duly authorized representative sign on the space provided below and return the original to us as notice of authorization to proceed. We appreciate the opportunity to be of service to you.

NorthStar Engineering and Surveying, Inc.



Kim K. Kock, P.E.
President

Accepted By:



Title:

BOARD PRESIDENT

Date:

11-20-2013