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GOLF COURSE ARCHITECTURE • IRRIGATION DESIGN • LANDSCAPE ARCHITECTURE

July 11, 2019

Mr. Brandon Frye  
Supervisor – Parks Department  
City of Douglas  
420 West Grant Street  
Box 1030  
Douglas, WY 82633

**RE: Keith Rider & Washington Parks Irrigation System and Lighting Replacement: *Design and Construction Period Services Proposal***

Dear Brandon,

We appreciate the opportunity to provide a fee proposal to develop plans and specifications for the new irrigation systems at Keith Rider & Washington Parks as well as new pedestrian lighting at Keith Rider. With over 30 years of large-scale turf irrigation system design experience, our office is well qualified to undertake this important project for you. In addition to design expertise, we have a trained staff and well-equipped office to produce the project documentation quickly and efficiently. I have been involved with turf irrigation design regionally since 1997. Complete information on our company, including resumes, experience examples, and service brochures is available for viewing and download at our web page, [www.steinerthuesen.com](http://www.steinerthuesen.com). Not only am I licensed in Wyoming as a Landscape Architect, I am also certified through the Irrigation Association as a Golf Irrigation Auditor. The experience I gain from performing audits is applied to the irrigation systems that are designed by our office. All work under this project will be prepared by me or under my direct supervision, and will bear my professional seal as required by statute.

This letter will serve as an outline of our proposed scope of services, project approach, and fee to provide the assistance you have requested. The following key points represent our understanding of the project based on our recent discussions:

**Keith Rider Park:**

- Approximately 5.5 acres of the park is irrigated. An additional 3 acres of irrigated lawn area is planned for the future. Mainline sizing and control wire requirements will be designed for the full 8.5 acres.
- Our office has previously prepared base mapping for the park. We will touch base with Clara Chaffin to see if updated mapping is readily available. From what I have seen to date, we shouldn't have any problems with mapping.
- The raw surface water supply was upgraded 3 years ago with a new pump station being installed. The station includes a 300 micron self flushing filter that will be more than adequate to provide water for spray heads. The storage facility was also dredged. There are no improvements planned for the water source or pumping equipment.
- In 2014, a basic head layout was developed to aid in sizing of the pump station. This head layout will be provided to you for another review to confirm that conditions have not changed. The new irrigation system design employs Rain Bird 8005 rotors and 1800 series spray heads. In addition to the sprinkler equipment, durable park/commercial grade equipment will be employed in the system design. To the extent possible, similar or the same equipment that has been used at the

previous projects we have designed for the City will be used. We will recommend equipment based on our experience and knowledge of available products. Ball valves will be added to the control valve detail.

- The irrigation controller has previously been upgraded and brought on-line with the City's existing central irrigation control system.
- Piping from the existing irrigation system will be abandoned in place. Existing heads, valves, boxes, etc. will be flagged by the Contractor and removed from the project.
- We have included H&H Electric on our team as the electrical engineer during the design phase. H&H will address the pedestrian lighting replacement portion of the project. H&H will most likely Bid on the project so they will not be involved during the Construction Period Services portion of the project. We will work with you to select a lighting fixture for use in the park. It is anticipated that an LED type fixture will be used. We will rely on H&H for recommendations.

### **Washington Park**

- Approximately 6 acres of the park is irrigated.
- Our office has previously prepared base mapping for the park that will be used for the project.
- A new booster pump will be installed this summer on the potable supply system along with electrical supply upgrades.

Earlier this year, a basic head layout was developed to aid in sizing of the pump station. This head layout will be provided to you for another review to confirm that conditions have not changed. The new irrigation system design employs Rain Bird 8005 rotors and 1800 series spray heads. In addition to the sprinkler equipment, durable park/commercial grade equipment will be employed in the system design. To the extent possible, similar or the same equipment that has been used at the previous projects we have designed for the City will be used. We will recommend equipment based on our experience and knowledge of available products. Ball valves will be added to the control valve detail.

- The irrigation controller is being upgraded and brought on-line this summer with the City's existing central irrigation control system.
- Piping from the existing irrigation system will be abandoned in place. Existing heads, valves, boxes, etc. will be flagged by the Contractor and removed from the project.
- There is approximately 64 feet of elevation change across the park. Elevation change creates an added challenge when zoning multiple sprinklers together. Typical irrigation heads include a check valve that will seal and hold water as long as the elevation change across the zone is 10' or less. We have discussed having a basic survey of the site completed so that we have accurate grade information to aid in zoning.

### **Both Parks**

- Any necessary permits and approvals for the improvements will be obtained by your office. Our office will provide you with the information necessary and assist in obtaining any required permits or approvals. The Contractor will be responsible for any building and electrical permits, etc.
- The project will be bid and awarded as a single public contract. Our standard contract and technical specifications will be used with edits customized for this project.
- Review drawings, etc. will be digital to the extent possible. Primary file type will be PDF. Hard copies of plans and specifications will be provided as needed.
- Depending on Contractor availability, the project will be bid in late this summer or early January of 2020.

Please let me know if I have misunderstood your needs or have incorrectly scoped any portion of the work. I will be happy to make adjustments to the scope and corresponding fee schedule accordingly.

**PHASE 1 - DESIGN PROCESS:**

We have proposed a multi-tasked approach to work with you in the decision making as we work through the design process. We will be in regular communication with you regarding design thoughts and decisions. The following tasks are suggested.

1. Base Mapping
  - a. Import all available electronic mapping files. City to provide for our use in an acceptable digital format without cost.
  - b. City to provide copies of as-built drawings for existing irrigation systems. We already have the drawing for Washington Park. We will need the drawing for Keith Rider if available.
  - c. City to provide the original topography map of Keith Rider park
  - d. City to provide topography information for Washington Park. I have made contact with CEPI about this. They should be getting in touch with you.
  - e. Digital information will be imported into our working environment (MicroStation) and configured for viewing and plotting.
  - f. A visit to the site will be coordinated with you to review the overall scope of the project and discuss key elements in the design. The following items will be verified or discussed while on-site.
    - i. Equipment options
    - ii. Existing control system.
    - iii. Verification of base map information with needed adjustments noted.
    - iv. System operating pressures
    - v. Existing piping and equipment locations.
    - vi. Elevations and topography.
2. Coverage Plan
  - a. Any needed adjustments will be made to the base map information.
  - b. Schematic irrigation coverage plans have previously been developed. The coverage plan shows:
    - i. The proposed areas to be covered by the irrigation system, as an overlay to the park planimetrics.
    - ii. Boundaries of the system coverage are clearly identified.
    - iii. The plan will indicate head types used including full and part circle equipment.
  - c. Construction estimate based on square footage will be developed.
  - d. Coverage plans will be formatted for this project and submitted for final review and comment.
3. Construction Documents
  - a. Upon approval and receipt of direction from you regarding coverage limits we will initiate the system design and construction document preparation.
  - b. The concepts that formulate through the coverage plan and our initial assessment will be refined through CAD methods to create actual construction plans.
  - c. Specific materials and systems to be included in the work are selected.
  - d. Hydraulic engineering will be conducted.
  - e. Lighting fixture selection and layout.
  - f. Details of the design will be prepared
  - g. The following sheets and scales are anticipated based on past experience.

<u>Sheet #</u>	<u>Sheet Description</u>	<u>Sheet Scale</u>
1	Cover Page	
2 - 4	Keith Rider Park Irrigation Layout & Piping Plans	1"= 30'
5 - 8	Washington Park Layout & Piping Plans	1"= 30'
9 - 11	Keith Rider Park Pedestrian Lighting Plans	1"= 30'
10 - 14	Construction Details	N/A

Actual sheets prepared may vary slightly in response to job conditions and CAD requirements.

- h. 65% Design submittal and review
    - i. Submit 65% design deliverables to City for review.
    - ii. City review.
    - iii. We will schedule a formal review via teleconference after you have had a chance to review the design.
      - 1. Present design rationale.
      - 2. Receive comments and discuss.
  - i. 95% Design submittal and review
    - i. Plans
    - ii. Construction details
    - iii. Project manual containing bidding requirement, contract forms, and technical specifications. We anticipate preparation of the following sections based on past experience:
      - 1. Bidding Requirements-
        - a. Invitation to Bid
        - b. Instruction to Bidders
        - c. Bid Form
        - d. Alternatives (If Used)
        - e. Unit Prices (If Used)
        - f. Contract Forms-
        - g. Contract for Construction
        - h. Application and Certificate for Payment
        - i. Continuation Sheet
        - j. Bid Bond
        - k. Performance Bond
        - l. Labor and Material Bond
        - m. General Conditions
        - n. Supplementary Conditions to the General Conditions
        - o. Contractor's Affidavit of Payment of Debts and Claims
        - p. Contractor's Affidavit of Release of Liens
        - q. Consent of Surety Company to Final Payment
        - r. Certificate of Insurance
        - s. Substitution Request Form
        - t. Special Provisions
      - 2. Division 1 – General Requirements
        - a. Definitions and Standards
        - b. Schedules, Reports, Payments
        - c. Procedures and Controls
        - d. Submittals
        - e. Temporary Facilities
        - f. Products and Substitutions
        - g. Project Closeout
      - 3. Division 2 - Site Work
        - a. Excavation, Trenching and Backfilling
        - b. Irrigation System
        - c. Lawn Restoration
      - 4. Division 16 – Electrical
        - a. Electrical
- Actual specification contents may vary slightly in response to job conditions and requirements.
- iv. Itemized cost estimate.
  - v. Submit 95% design deliverables to City for review.
  - vi. City review.

- vii. We will schedule a formal review via teleconference after you have had a chance to review the design.
    1. Present design rationale.
    2. Receive comments and discuss.
4. Bid Ready Plans
- a. Incorporate review comments in to design.
  - b. Finalize Bid Documents.
  - c. Develop alternates Bid items if necessary.
  - d. Final deliverables
    - i. Two hard copies of final documents.
    - ii. Digital copy of final documents.

#### ***PHASE 2 – CONSTRUCTION PERIOD SERVICES:***

This effort will be comprised of several tasks to assist in Contractor selection, monitor the progress of construction, interpret the documents with respect to conditions discovered during the course of construction, and to assure completion of the project as we have envisioned.

We suggest a high level of personal involvement of the irrigation designer to speed construction and assure quality. Our involvement provides you with the expertise needed to build the project correctly initially, eliminating potential major maintenance difficulties later. The following services are recommended.

1. Bidding Period Services
  - a. Our office will coordinate distribution of the plans and project manual, and maintain the planholders list.
  - b. Contractor questions pertaining to technical lighting & irrigation design and system component issues will be reviewed and addenda will be drafted and distributed by our office as necessary.
  - c. We will conduct one pre-bid conference on the site. These meetings are held to inform all bidders of the job conditions and requirements. They are an effective way to assure comparable and responsible bids for construction.
  - d. Your office will handle the bid opening. We will participate via teleconference.
  - e. Following the bid opening we will tabulate and check the bids, consider possible alternative bid items, and issue a letter of award recommendation to you for action.
  - f. Following your approval of the Bids, a Notice of Award will be issued to the successful Contractor.
  - g. We will finalize the Contract for Construction and complete all necessary documentation to permit construction activities to begin.
2. PreConstruction Meeting
  - a. We will prepare and issue the Notice to Proceed to the Contractor.
  - b. We will schedule and attend a preconstruction meeting on-site with the Contractor and City personnel prior to the work beginning. During this meeting, all aspects of the project will be reviewed with the Contractor to ensure that all requirements and procedures are understood. This meeting will take place just before or soon after the Contractor arrives on-site to begin work.
3. Shop Drawings and Submittals
  - a. Review shop drawings and submittals and determine compliance with documents.
  - b. Substitution requests will be reviewed.
  - c. Written response will be submitted to the Contractor.
4. Project Administration
  - a. Assist you with administration of the contract by providing guidance and review of issues pertaining to technical design and system component issues.
  - b. Document any necessary change orders. We do anticipate change orders due to conditions that may not have been evident during design or a need to adjust the scope of work.

- c. Review of Contractor pay requests and accompanying incremental as-built drawing.
- 5. Periodic Construction Inspection
  - a. Periodic inspections during the construction period are performed to check on installation methods, make any judgments necessary for field adjustments, and to monitor work in progress.
  - b. Five site visits will be made during construction.
  - c. Digital reports will be filed with copies to you and the Contractor. Inspection reports may include graphic materials as necessary for clarity.
  - d. Depending on Contactor performance, the number of inspection trips can be adjusted. Additional trips will not be made without prior approval of the Cemetery Board.
- 6. Substantial Completion
  - a. Upon notification of project substantial completion, we will conduct one substantial completion inspection on the job site to determine if the project is ready for occupancy by the Owner.
  - b. Prepare "Punch List" of deficiencies in the work and submitted to the Contractor for completion with a copy to the Owner.
  - c. Provide supplemental graphic materials for clarity.
  - d. A Certificate of Substantial Completion will also be prepared to legally transfer ownership of the project from the Contractor to the Owner.
- 7. Final Inspection
  - a. After the Contractor feels all "Punch List" items have been satisfactorily addressed, a final completion inspection will be conducted to be sure the job is 100% complete as specified before issuance of final payment to the Contractor.
  - b. Advertisement for Final Payment will be coordinated.
- 8. Record Drawings and Operations & Maintenance Manuals
  - a. Draft the as-built drawings from the Contractor's field drawings using CAD methods.
  - b. Both hard and digital copies of the Record Drawings will be provided.
  - c. Our office will retain permanent electronic copies of the record drawings in our project files.
  - d. Review Contractor provided Operations & Maintenance Manuals to determine compliance with documents. Copies of the approved manuals will be provided at the completion of the project.

**FEE PROPOSAL:**

We propose that the design and construction period service for a lump sum fee, including all expenses. The following fee structure is proposed for the scope of work outlined above. These fees will be honored for a period of 60 calendar days following the date of this proposal. After that period, we reserve the right to renegotiate fees and schedules.

**DESIGN PROCESS:**

	<i>FEE</i>
1 Base Mapping (1 trip)	\$ 3,389.00
2 Coverage Plan	\$ 1,736.00
3 Construction Documents	\$ 24,993.00
4 Bid Ready Plans	\$ 2,868.00
Subtotal	\$ 32,986.00

**CONSTRUCTION PERIOD SERVICES:**

	<i>FEE</i>
1 Bidding Period (1 trip)	\$ 4,704.00
2 Pre-construction Meeting (1 trip)	\$ 2,235.00
3 Shop Drawings and Submittals	\$ 1,206.00
4 Project Administration	\$ 3,146.00
5 Periodic Construction Inspection (5 trips)	\$ 11,965.00

Mr. Brandon Frye

July 12, 2019

6	Substantial Completion (1 trip)	\$	4,000.00
7	Final Inspection (1 trip)	\$	2,857.00
8	Record Drawings and Operations & Maintenance Manuals	\$	<u>1,982.00</u>
	Subtotal	\$	32,095.00
	Total	\$	65,081.00

Present workload will permit us to begin work on the project within 30 days following receipt of an executed agreement for services. I anticipate that the design process as outlined herein will take 4 – 6 weeks to complete assuming all necessary information is readily available and depending on the time required for your review and comment.

Thank you for consideration of our scope of work and proposal. If acceptable, I will prepare an agreement for review and approval. I am confident that you will find our work creative, thorough and professional in every respect. We look forward to working with you on this exciting project and continuing out service to the citizens of Douglas. Please feel free to contact me with any questions that you may have.

Sincerely,



Nathan G. Steiner, ASLA | CLARB | CGIA  
Landscape Architect