Agreement Between City of Rapid City and HDR Engineering, Inc. for Professional Services for Miscellaneous Improvements Projects

Project No. 19-2540 / CIP No. 51132

AGREEMENT made July 20, 2020, between the City of Rapid City, SD (City) and HDR Engineering, Inc., (Engineer), located at 703 Main Street, Suite 200, Rapid City, SD 57701. City intends to obtain services for Miscellaneous Improvements Projects Project No. 19-2540 / CIP No. 51132. The scope of services is as described within this document and as further described in Exhibits A, B and C (attached).

The City and the Engineer agree as follows:

The Engineer shall provide professional engineering services for the City in all phases of the Project and as further defined in Exhibits A, B and C (attached), serve as the City’s professional engineering representative for the Project, and give professional engineering consultation and advice to the City while performing its services.

Section 1—Basic Services of Engineer

1.1 General

1.1.1 The Engineer shall perform professional services described in this agreement, which include customary engineering services. Engineer intends to serve as the City’s professional representative for those services as defined in this agreement and to provide advice and consultation to the City as a professional. Any opinions of probable project cost, approvals, and other decisions provided by Engineer for the City are rendered on the basis of experience and qualifications and represent Engineer’s professional judgment.

1.1.2 All work shall be performed by or under the direct supervision of a professional Engineer licensed to practice in South Dakota.

1.1.3 All documents including Drawings and Specifications provided or furnished by Engineer pursuant to this Agreement are instruments of service in respect of the Project and Engineer shall retain an ownership therein. Reuse of any documents pertaining to this project by the City on extensions of this project or on any other project shall be at the City’s risk. The City agrees to defend, indemnify, and hold harmless Engineer from all claims, damages, and expenses including attorney’s fees arising out of such reuse of the documents by the City or by others acting through the City.

1.1.4 The contract will be based on an hourly rate and reimbursable fee schedule with a maximum not-to-exceed amount.
1.2 **Scope of Work**

The Engineer shall:

1.2.1 Consult with the City, other agencies, groups, consultants, and/or individuals to clarify and define requirements for the Project and review available data.

1.2.2 Perform the tasks described in the Scope of Services. (See Exhibit A.)

1.2.3 Conduct a location survey of the Project to the extent deemed necessary to provide adequate site information.

1.2.4 Prepare a report presenting the results of the study as outlined in the scope of services.

**Section 2—Information Provided by City**

The City will provide any information in its possession for the project at no cost to the Engineer.

**Section 3—Notice to Proceed**

The City will issue a written notification to the Engineer to proceed with the work. The Engineer shall not start work prior to receipt of the written notice. The Engineer shall not be paid for any work performed prior to receiving the Notice to Proceed.

**Section 4—Mutual Covenants**

4.1 **General**

4.1.1 The Engineer shall not sublet or assign any part of the work under this Agreement without written authority from the City.

4.1.2 The City and the Engineer each binds itself and partners, successors, executors, administrators, assigns, and legal representatives to the other party to this agreement and to the partners, successors, executors, administrators, assigns, and legal representatives of such other party, regarding all covenants, agreements, and obligations of this agreement.

4.1.3 Nothing in this agreement shall give any rights or benefits to anyone other than the City and the Engineer.
4.1.4 This agreement constitutes the entire agreement between the City and the Engineer and supersedes all prior written or oral understandings. This agreement may only be amended, supplemented, modified, or canceled by a duly executed written instrument.

4.1.5 The Engineer shall make such revisions in plans which may already have been completed, approved, and accepted by the City, as are necessary to correct Engineer's errors or omissions in the plans, when requested to do so by the City, without extra compensation therefore.

4.1.6 If the City requests that previously satisfactorily completed and accepted plans or parts thereof be revised, the Engineer shall make the revisions requested by the City. This work shall be paid for as extra work.

4.1.7 If the City changes the location from the one furnished to the Engineer, or changes the basic design requiring a new survey for the portions so changed, the redesign will be paid for as extra work.

4.1.8 The City may at any time by written order make changes within the general scope of this Agreement in the work and services to be performed by the Engineer. Any changes which materially increase or reduce the cost of or the time required for the performance of the Agreement shall be deemed a change in the scope of work for which an adjustment shall be made in the Agreement price or of the time for performance, or both, and the Agreement shall be modified in writing accordingly. Additional work necessary due to the extension of project limits shall be paid for as extra work.

4.1.9 Extra work, as authorized by the City, will be paid for separately and be in addition to the consideration of this Section.

4.1.10 For those projects involving conceptual or process development services, activities often cannot be fully defined during the initial planning. As the project does progress, facts and conditions uncovered may reveal a change in direction that may alter the scope of services. Engineer will promptly inform the City in writing of such situations so that changes in this agreement can be renegotiated.

4.1.11 This Agreement may be terminated (a) by the City with or without cause upon seven days' written notice to the Engineer and (b) by the Engineer for cause upon seven days' written notice to the City. If the City terminates the agreement without cause, the Engineer will be paid for all services rendered and all reimbursable expenses incurred prior to the date of termination.
If termination is due to the failure of the Engineer to fulfill its agreement obligations, the City may take over the work and complete it. In such case, the Engineer shall be liable to the City for any additional cost to the extent directly resulting from Engineer’s action.

4.1.12 The City or its duly authorized representatives may examine any books, documents, papers, and records of the Engineer involving transactions related to this agreement for three years after final payment. All examinations will be performed at reasonable times, with proper notice. Engineer’s documentation will be in a format consistent with general accounting procedures.

4.1.13 The City shall designate a representative authorized to act on the City’s behalf with respect to the Project. The City or such authorized representative shall render decisions in a timely manner pertaining to documents submitted by the Engineer in order to avoid unreasonable delay in the orderly and sequential progress of the Engineer’s services.

4.1.14 Costs and schedule commitments shall be subject to renegotiation for delays caused by the City’s failure to provide specified facilities or information or for delays caused by other parties, excluding sub-contractors and sub-consultants, unpredictable occurrences including without limitation, fires, floods, riots, strikes, unavailability of labor or materials, delays or defaults by suppliers of materials or services, process shutdowns, acts of God, or the public enemy, or acts of regulations of any governmental agency or any other conditions or circumstances beyond the control of the City or Engineer. Temporary delays of services caused by any of the above which results in additional costs beyond those outlined may require renegotiation of this agreement.

4.1.15 The City will give prompt written notice to the Engineer if the City becomes aware of any fault or defect in the Project or nonconformance with the Project Documents.

4.1.16 Unless otherwise provided in this Agreement, the Engineer and the Engineer’s consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to hazardous materials in any form at the project site, including but not limited to asbestos products, polychlorinated biphenyl (PCB), or other toxic substances.

4.1.17 In the event asbestos or toxic materials are encountered at the jobsite, or should it become known in any way that such materials may be present at the jobsite or any adjacent areas that may affect the performance of Engineer’s services, Engineer may, at their option and
without liability for consequential or any other damages, suspend performance of services on the project until the City retains appropriate specialist CONSULTANT(S) or contractor(s) to identify, abate, and/or remove the asbestos or hazardous or toxic materials.

4.1.18 This agreement, unless explicitly indicated in writing, shall not be construed as giving Engineer the responsibility or authority to direct or supervise construction means, methods, techniques, sequences, or procedures of construction selected by any contractors or subcontractors or the safety precautions and programs incident to the work of any contractors or subcontractors.

4.1.19 Neither the City nor the Engineer, nor its Consultants, shall hold the other liable for any claim based upon, arising out of, or in any way involving the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids, or gases, waste materials, or other irritants, contaminants, or pollutants.

4.1.20 Neither the City nor the Engineer, nor its Consultants, shall hold the other liable for any claim based upon, arising out of, or in any way involving the specification or recommendation of asbestos, in any form, or any claims based upon use of a product containing asbestos.

4.1.21 Engineer hereby represents and warrants that it does not fail or refuse to collect or remit South Dakota or City sales or use tax for transactions which are taxable under the laws of the State of South Dakota.

4.2 City of Rapid City NonDiscrimination Policy Statement

In compliance with Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination act of 1975, the Americans with Disabilities Act of 1990, and other nondiscrimination authorities it is the policy of the City of Rapid City, 300 Sixth Street, Rapid City, SD 57701-5035, to provide benefits, services, and employment to all persons without regard to race, color, national origin, sex, disabilities/handicaps, age, or income status. No distinction is made among any persons in eligibility for the reception of benefits and services provided by or through the auspices of the City of Rapid City.

Engineer will permit access to any and all records pertaining to hiring and employment and to other pertinent data and records for the purpose of enabling the Commission, its agencies or representatives, to ascertain compliance with the above provisions.

This section shall be binding on all subcontractors or suppliers.
Section 5—Payments to the Engineer

5.1 Schedule of Pay Rates

The City will pay the Engineer for services rendered or authorized extra work according to the Engineer's hourly and reimbursable rate schedule described in Exhibit C.

5.2 Fee

The maximum amount of the fee for the services as detailed in Section 1.2 shall not exceed $568,429.00 unless the scope of the project is changed as outlined in Section 4. If expenses exceed the maximum amount, the Engineer shall complete the design as agreed upon here without any additional compensation. Sub task dollar amounts may be reallocated to other tasks as long as the total fee is not exceeded. Prime consultant may not mark up sub-consultant or sub-contractor services.

5.3 Progress Payments

Monthly progress payments shall be processed by the City upon receipt of the claim as computed by the Engineer based on work completed during the month per the hourly rates and allowable reimbursable as established in Section 5.1 and approved by the City.

Net payment to the Engineer shall be due within forty-five (45) days of receipt by the City.

Section 6— Completion of Services

The Engineer shall complete services on or before February 28, 2021 based on award date of July 20, 2020.

Section 7—Insurance Requirements

7.1 Insurance Required

The Engineer shall secure the insurance specified below. The insurance shall be issued by insurance company(s) acceptable to the City and may be in a policy or policies of insurance, primary or excess. Certificates of all required insurance including any policy endorsements shall be provided to the City prior to or upon the execution of this Agreement.
7.2 Cancellation

The Engineer will provide the City with at least 30 days' written notice of an insurer's intent to cancel or not renew any of the insurance coverage. The Contractor agrees to hold the City harmless from any liability, including additional premium due because of the Contractor's failure to maintain the coverage limits required.

7.3 City Acceptance of Proof

The City's approval or acceptance of certificates of insurance does not constitute City assumption of responsibility for the validity of any insurance policies nor does the City represent that the coverages and limits described in this agreement are adequate to protect the Engineer, its consultants or subcontractors interests, and assumes no liability therefore. The Engineer will hold the City harmless from any liability, including additional premium due, because of the Engineer's failure to maintain the coverage limits required.

7.4 Specific Requirements

7.4.1 Workers' compensation insurance with statutory limits required by South Dakota law. Coverage B-Employer’s Liability coverage of not less than $500,000 each accident, $500,000 disease-policy limit, and $500,000 disease-each employee.

7.4.2 Commercial general liability insurance providing contractual, personal injury, bodily injury and property damage liability coverage with limits of not less than $1,000,000 per occurrence, $2,000,000 general aggregate, and $2,000,000 aggregate products and completed operations. If the occurrence form is not available, claims-made coverage may be provided. Claims-made coverage shall continue through the term of this Agreement, and Engineer shall purchase at its sole expense either 1) an Extended Reporting Endorsement (also known as Tail Coverage); or 2) Prior Dates Coverage from new insurer with a retroactive date back to the date of, or prior to, the inception of this Agreement; or 3) shall demonstrate through Certificates of Insurance that Engineer has maintained continuous coverage with the same or original insurer. Coverage provided under items 1), 2), or 3) will continue for at least a period of three years after completion of the terms of this Agreement. The policy shall name the City and its representatives as an additional insured.

7.4.3 Automobile liability insurance covering all owned, nonowned, and hired automobiles, trucks, and trailers. The coverage shall be at least as broad as that found in the standard comprehensive automobile liability policy with limits of not less than $1,000,000 combined single limit each
occurrence. The required limit may include excess liability (umbrella) coverage. The policy shall name the City and its representatives as an additional insured.

7.4.4 Professional liability insurance providing coverage for claims arising from the negligent acts, errors or omissions of the Engineer or its consultants, of not less than $1,000,000 each occurrence and not less than $1,000,000 annual aggregate. Coverage shall be maintained for at least three years after final completion of the services. If this policy provides for claims-made coverage, the claims-made coverage shall continue through the term of this Agreement, and Engineer shall purchase at its sole expense either 1) an Extended Reporting Endorsement (also known as Tail Coverage); or 2) Prior Dates Coverage from new insurer with a retroactive date back to the date of, or prior to, the inception of this Agreement; or 3) shall demonstrate through Certificates of Insurance that Engineer has maintained continuous coverage with the same or original insurer. Coverage provided under items 1), 2), or 3) will continue for at least a period of three years after completion of the terms of this Agreement.

Section 8—Hold Harmless

The Engineer hereby agrees to hold the City harmless from any and all claims or liability including attorneys’ fees arising out of the professional services furnished under this Agreement, and for bodily injury or property damage arising out of services furnished under this Agreement, providing that such claims or liability are the result of a negligent act, error or omission of the Engineer and/or its employees/agents arising out of the professional services described in the Agreement.

Section 9—Independent Business

The parties agree that the Engineer operates an independent business and is contracting to do work according to his own methods, without being subject to the control of the City, except as to the product or the result of the work. The relationship between the City and the Engineer shall be that as between an independent contractor and the City and not as an employer-employee relationship. The payment to the Engineer is inclusive of any use, excise, income or any other tax arising out of this agreement.

Section 10—Indemnification

If this project involves construction and Engineer does not provide consulting services during construction including, but not limited to, onsite monitoring, site visits, site observation, shop drawing review and/or design clarifications, City agrees to indemnify and hold harmless Engineer from any liability arising from the construction activities undertaken for this project, except to the extent such liability is caused by Engineer’s negligence.
Section 11-Controlling Law and Venue

This Agreement shall be subject to, interpreted and enforced according to the laws of the State of South Dakota, without regard to any conflicts of law provisions. Parties agree to submit to the exclusive venue and jurisdiction of the State of South Dakota, 7th Judicial Circuit, Pennington County.

Section 12-Severability

Any unenforceable provision herein shall be amended to the extent necessary to make it enforceable; if not possible, it shall be deleted and all other provisions shall remain in full force and effect.

Section 13—Funds Appropriation

If funds are not budgeted or appropriated for any fiscal year for services provided by the terms of this agreement, this agreement shall impose no obligation on the City for payment. This agreement is null and void except as to annual payments herein agreed upon for which funds have been budgeted or appropriated, and no right of action or damage shall accrue to the benefit of the Engineer, its successors or assignees, for any further payments. For future phases of this or any project, project components not identified within this contract shall not constitute an obligation by the City until funding for that component has been appropriated.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

City of Rapid City: ________________________________

Steve Allender, MAYOR

DATE: ________________________________

Engineer: ________________________________

Jason Kjenstad, HDR ENGINEERING, INC.

DATE: ________________________________

ATTEST:

Pauline, Sumption, FINANCE OFFICER
Reviewed By:

STACEY TITUS, P.E., OPERATIONS MANAGEMENT ENGINEER

DATE: 07/02/2020

CITY'S DESIGNATED PROJECT REPRESENTATIVE

NAME STACEY TITUS, P.E.
PHONE 394-4165; 390-5713 CELL
EMAIL stacey.titus@rcgov.org

ENGINEERING FIRM'S DESIGNATED PROJECT REPRESENTATIVE

NAME CHRIS ROBINSON, P.E.
PHONE 791-6106; 390-9158 CELL
EMAIL Christopher.Robinson@hdrinc.com
EXHIBIT A
SCOPE OF ENGINEERING
PROFESSIONAL SERVICES FOR
MISCELLANEOUS IMPROVEMENTS PROJECTS
PROJECT NO. 19-2540 / CIP 51132

GENERAL

The City of Rapid City (City) is proceeding with Miscellaneous Improvements Projects consisting of three construction seasons of various capital improvement projects at the City's Water, Water Reclamation, and Solid Waste Divisions. The City has selected HDR Engineering (HDR) to provide professional services for design, bidding, and construction phases for multiple projects at various City facilities. HDR will complete the work with FMG Engineering as a subconsultant.

The following description of work tasks consists of preliminary and final design phase services for three separate bid packages to be bid in 2020. Miscellaneous type projects with similar components are being grouped together into bid packages in order to complete several needed improvements at different facilities in an efficient and cost-effective manner. Anticipated subsequent work for 2020 projects include bidding and construction administration phases. Professional design services contracts are anticipated for two subsequent years, 2021 and 2022, of budgeted projects. The Consultant Selection process allows for the City to negotiate professional design services for two subsequent years of projects (2021 and 2022) with HDR.

PROJECT DESCRIPTION

Project descriptions were developed with City staff and serve as a basis for the following work tasks and associated effort. Project descriptions and supplemental information are provided in the attached 2020 Project Descriptions Memo.

The following projects were identified by City staff to be included in the first year's project list:

Water Reclamation Division 2020 Projects:

WR-1. Digester Waste Gas Flare and Gas Conditioner System Improvements
WR-2. Digester Facility Gas Piping and Digester Boilers Replacement
WR-3. Pretreatment Screening Bypass Channel Improvements
WR-4. Electrical Junction Building Replacement
WR-5. Septage Hatch and Safety Rail Construction
WR-6. Grease Line Piping Replacement from Old Operations Building to Digesters
WR-7. Trickling Filter Lift Pump #2 (East) Replacement
WR-8. Main Entry Gate and Fence Realignment Project

Water Division 2020 Projects:

W-1. Skyline Reservoir Security Fencing and Signal Hill Valve Vault Security Fencing
W-2. North Rapid Reservoir Road and Drainage Repair Project
W-3. Not Applicable (Project Removed from 2020 Project List)
W-4. Well #13 Site Improvements Project
W-5. Stoney Creek Water Booster Station and Well #12 Parking Lot Stabilization Project
W-6. Robbinsdale Booster Station Electrical System Upgrades

Solid Waste Division 2020 Projects:

SW-1. Facility Entrance Signage Revisions
SW-2. Concrete Panel Replacements and Spall Repairs
SW-3. Debris Barrier for Yard Compost and Co-Compost Product Storage Areas
SW-4. MRF Tip Floor Roof-Top Heat and Air Handling Unit Replacement
SW-5. Construct Drainage Inlets for Co-Compost Product South Storage Area
SW-6. Construct Concrete Pavement at Main Scale House and Remote Scale Including Permanent Cell #18 Intersection Signage
SW-7. Fencing Improvements North of MRF
SW-8. Construct Drainage Improvements for Shop Facilities
SW-9. Reconstruct Area Drain and Perform Condensate Tank Rehabilitation at Citizen’s Campus Facility
SW-10. Stormwater Quality Project for Lake Herman

Three bid packages will be prepared from the above list of projects. Projects will be grouped based on similarities and not by Division. The three bid packages are described and further identified in the attached 2020 Project Descriptions Memo.

BACKGROUND INFORMATION

The City will provide available background data for the various project areas to the design team. Background data requested will include previous studies, as-built construction drawings, equipment information, and facility records as applicable for the planned improvements.

DESIGN CRITERIA

Design criteria for the projects shall include the current edition of the following items: City of Rapid City Draft Design Criteria manuals; City of Rapid City Standard Specifications, current edition; City of Rapid City Drafting Standards; South Dakota
Department of Environmental Resources Standards; Ten States Standards as adopted and supplemented by SDDENR; the International Building Code; and Regional Water and Water Reclamation supplemental design criteria. Conflicts between design criteria documents shall be resolved in favor of the more stringent requirement. Other documents and references may be proposed for use and requires written concurrence by the City Project Manager and may require “Exceptions” per City exception process.

**PROJECT SCHEDULE**

**Council Approval**
July 20, 2020

**Bid Package #1:**

Special Design Submittals
- SW-1 Signage Options Memo
  July 27, 2020

Preliminary Design Phase:
- Workshop Review (50%)
  July 27, 2020

Final Design Phase:
- Final Design Submittal (100%)
  August 5, 2020
- Issued for Bid Submittal
  August 13, 2020

**Bid Opening:**
September 1, 2020

**Construction Schedule:**
- Milestone Completion
  November 20, 2020
- Final Completion
  May 21, 2021

**Bid Package #2:**

Special Design Submittals
- WR-8 Entry Gate and Fencing Memo
  August 10, 2020

Preliminary Design Phase:
- Workshop Review (50%)
  August 10, 2020

Final Design Phase:
- Final Design Submittal (100%)
  September 23, 2020
- Issued for Bid Submittal
  October 7, 2020

**Bid Opening:**
October 27, 2020

**Construction Schedule:**
- Final Completion
  May 14, 2021
Bid Package #3:

Special Design Submittals: September 4, 2020
- WR-1 Digester Gas System Memo
- WR-3 Screen Bypass Memo
- SW-4 MRF Tip Floor HVAC Memo
- SW-10 Stormwater Quality Memo

Preliminary Design Phase:
- Preliminary Design Submittals September 25, 2020

Final Design Phase:
- Final Design Submittal (100%) October 30, 2020
- Issued for Bid Submittal November 18, 2020

Bid Opening: December 15, 2020

Construction Schedule:
- Final Completion August 6, 2021

DELIVERABLES

Deliverables for the project will include special design submittals, preliminary phase submittals, and final design phase submittals. A description of the intended deliverables includes:

Special Design Submittals

Special design submittals will include project approach and/or alternative evaluations. The format will be technical memorandums focused on the project components being evaluated.

Preliminary Design Submittals

Preliminary design submittals will include preliminary construction drawings, an outline of intended supplemental specifications (if any), and a preliminary construction cost estimate. The preliminary drawings will show primary work components. Notes, details, and construction phasing will be added to the drawings after preliminary design review. Where indicated in the schedule, preliminary design submittals will be a one day workshop format to expedite review and incorporation of review comments.

Final Design Submittals

Final design submittals will include two submittals per bid package. The first is a 100% review submittal containing construction plans, specifications, and a final cost estimate. City review comments will be incorporated into an issued for bid
submittal including sealed plans and specifications. The issued for bid submittal will be distributed by the City for bidding and construction purposes.

SCOPE OF SERVICES

TASK 1 - PRELIMINARY DESIGN SERVICES:
This task consists of engineering services necessary to take the project from beginning through the preliminary design submittal stage including the following itemized services.

1.1 Project Management and Administration. This task includes coordination of staff, preparation of correspondence, invoicing, schedule updates, and period meetings with City staff. Bi-monthly meetings between the City's and HDR's project manager are anticipated.

1.2 Kick-off Conference: The consultant shall meet with City staff to detail project concept and scope. The consultant shall prepare an agenda, take minutes, and distribute minutes. A total of three kick-off conferences are anticipated, one for each bid package.

1.3 Compile & Review Background Information: Compile information HDR has, request and collect additional information, as necessary. Task includes one trip for an electrical engineer to visit project locations with project manager.

1.4 Site Surveys. Gather site data as needed to prepare construction drawings. The extent of site survey required varies by project as listed in the attached project descriptions.

1.5 Special Design Submittals. Selected project components require special design submittals prior to the preliminary design submittal (50%). Special design submittals anticipated for the project are listed in the attached project descriptions and summarized in the bid package summary table.

1.6 Preliminary Drawings and Specifications. Prepare preliminary drawings and specifications to support a preliminary design submittal (50%). Drawings will be prepared for primary project components for City review prior to advancement to the 100% level. Technical specifications to supplement the City's standard specifications will be prepared for projects with components not covered by the standard specifications.

- Plans documents shall adhere to current City of Rapid City guidelines as much as possible. Plan sheets shall be prepared utilizing the latest City of Rapid City Drafting Standards. City guidelines will be supplemented with HDR CADD Standards where appropriate to reflect items not addressed in the City standards but required for this facility-type project.

- Provide complete plans and specifications for three standalone bid packages. Each bid package will be bid separately utilizing either lump sum bid items or unit price bid items as appropriate for the projects within each bid package.

- Design specifications. Provide detailed specifications supplementing the City of Rapid City Standard Specifications, as necessary. Typically, project drawing specific issues should be indicated as a General Note on the drawings.
Material types and material specific items would be included as a detailed specification.

- Construction sequence will be considered throughout the design phase. Construction will be phased as necessary to keep existing facilities operational to the extent possible for the duration of construction.
- The preliminary design review submittal will consist of demolition requirements; equipment selection, capacity, and alignment; and ancillary systems to allow the City to have a thorough understanding of the proposed improvements.

1.7 Opinions of Probable Construction Cost. Prepare preliminary cost estimates for project components, in the City project book format.

1.8 QA-QC Project Deliverables: Internal QA-QC review conducted by senior staff.

1.9 Preliminary Design Submittal (50%). Prepare a preliminary design submittal consisting of preliminary drawings, specifications, and opinion of construction costs. Submit three (3) copies for City Review. Compile and provide responses to City review comments.

1.10 Attend Submittal Review Meeting with City Staff.

- A review meeting or teleconference/video conference will be conducted for the preliminary design submittal. Meeting will be held to allow the City up to 7 calendar days to review the submittals.
- Consultant will coordinate so that Bid Package submittals are not delivered or will be under review concurrently by the City.

1.11 Prepare a project memorandums (Memos) subject title, "(Year) Project Descriptions". The purpose of the Memos is to develop a detailed description and scope of services for Miscellaneous Improvements Projects. The memos consists of detailed project descriptions, conceptual costs, and potential bid packaging information. This information provided the basis for the engineering services scope of work that has been developed. A value of $7,500 (lump sum) has been established for this task for each year 2020 and 2021.

1.12 Bid Package #1 Project Initiation. This task includes work described in Tasks 1.2 1.3, and 1.4 that will be completed as a lump sum expense for bid package #1 in order to expedite completion of the preliminary design submittal.

Task 1 Submittals shall include:
- Kickoff Meeting Minutes
- Special Design Submittals
- Preliminary Design Submittals (50%)

In addition to hardcopies noted in the scope of services all documents shall also be submitted in electronic (pdf) format and native file format.

**TASK 2 - FINAL DESIGN SERVICES:**

This task consists of engineering services necessary to take the project from the Preliminary Design Phase through the Final Design Phase services. Task 2 includes the following itemized services:
2.1 Project Management and Administration.
2.2 Address City Comments from Task 1 City Review. Compile comments and provide responses for City verification and concurrence.
2.3 Final Design Drawings and Specification Development.
2.4 Final Opinion of Construction Cost Estimate Development. Prepare final cost estimates for project components, in City project book format
2.5 QA-QC Project Deliverables
2.6 Final Design Submittal (100%)  
   • The final review submittal shall be construction bid documents that incorporate the City’s previous comments and the consultant feels are ready for bidding.
   • Meeting will be held to allow the City up to 7 days to review the submittals.
2.7 Attend Final Design Review Meeting with City Staff.
   • A review meeting or teleconference/video conference will be conducted for City comment review. Meeting will held to allow the City up to 10 days to review the submittals.
2.8 Address Final Submittal City Staff Comments. Compile comments and provide responses for City verification and concurrence.
2.9 Issued for Bid Submittal
   • Final bid documents will be developed and submitted based on the City’s final review comments.

Task 2 Submittals shall include:
   • Final Design Submittal (100%)
     • 50% review comment responses
     • 100% plans and specifications
     • Final opinion of construction costs
   • Issued for Bid Submittal
     • 100% review comment responses
     • Issued for Bid drawings and specifications

In addition to hardcopies noted in the scope of services all documents shall also be submitted in electronic (pdf) format and native file format.

Assumptions:

Project specific assumptions are included in the attached project descriptions. Other general assumptions applicable to the overall project include:
   • Projects will be prepared for unit price or lump sum bids as appropriate for the type of work. A total of four bid alternates are anticipated. Bid package #1 will contain a deduct alternate for extending the completion date. Bid package #3 will contain three additive alternatives for projects that will be awarded if and until the construction budget limit is reached.
   • The bid package will provide a list of required permits for the Contractor’s information. The Contractor is required to obtain and pay for required permits.
   • Submittals to the Department of Environment and Natural Resources and other regulatory agencies will be completed by the City. The Consultant shall
assist in preparing transmittal letters for Owner’s signature and scheduling of submittals. Copy costs will be the responsibility of the City.

The City anticipates entering into separate contracts with the Consultant for the three 2020 bid packages for the following tasks:

- **TASK 3 - BIDDING SERVICES**
- **TASK 4 – BASIC CONSTRUCTION SERVICES**
- **TASK 5 – EXPANDED CONSTRUCTION SERVICES**

**ATTACHMENTS**

1. 2020 Bid Package Summary Table
2. 2020 Project Descriptions Memo dated July 1, 2020
Attachment 1
2020 Bid Package Summary Table
<table>
<thead>
<tr>
<th>Description</th>
<th>Project ID</th>
<th>Bid Package #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fence Variance</td>
<td>SW-7</td>
<td></td>
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<tr>
<td>Bid Package #2</td>
<td>SW-3</td>
<td></td>
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<tr>
<td>Product Storage Areas</td>
<td></td>
<td></td>
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<tr>
<td>Debris Basin For Yard Compost And Co-Compost</td>
<td></td>
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<tr>
<td>VanVale Vault Security Fence</td>
<td>W-1</td>
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<td>Intersection Signage</td>
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<td>Project Descriptions</td>
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Memorandum

Date: Wednesday, July 01, 2020

Project: Operations Miscellaneous Improvements Projects

To: Stacey Titus, PE

From: Chris Robinson, PE

Subject: 2020 Project Descriptions

Project descriptions, conceptual costs, and potential bid packaging information is provided for the Miscellaneous Improvements Projects (MIPs) 2020 projects. This information provides a basis for the engineering services scope of work that was developed for the 2020 project list.

The scope of work provided is for preliminary and final design services. Bidding phase and construction phase services are anticipated to be awarded to the design team following completion of the design phases.

Cost estimates are preliminary for initial budgeting purposes and are based on concept level project understandings. Costs will be refined as project details are developed.

Water Reclamation Division:

WR-1. Digester Waste Gas Flare and Gas Conditioner System Improvements

Project Location: Water Reclamation Facility

Project Description: The waste gas flare at the WRF is currently inoperable. Repairs will allow the flare to operate as intended to destroy excess digester gas rather than releasing the greenhouse gasses into the atmosphere. Repairs to the flare include replacement of the flare gas supply piping and the flare control system. The supply line has a sag that collects condensate and blocks gas flow to the flare. Removing the sag will allow gas to flow to the flare once again. The flare control system is inoperable and requires replacement in order for the flare to function. Replacement of the control system will allow for safe, automated flaring of excess digester gas.

Digester gas is a mix of methane, carbon dioxide, other gasses, and water vapor. Removing water vapor from the gas prior to beneficial consumption in the
digester boilers increases the gas energy and reduces corrosion of pipework and system components. The WRF currently has a make-shift chiller and heat exchanger system that lowers the gas temperature to promote water vapor condensation, collection, and removal from the gas stream prior to consumption. Due to the harsh operating environment the chiller has failed and a permanent replacement is required in order to continue water vapor removal. Operations has ordered a temporary chiller for the time being until a more permanent fix can be implemented, as part of this project. An evaluation phase is proposed to determine the preferred approach to water vapor removal.

Alternatives to consider are anticipated to include continued use of the current arrangement, use of an inline heat exchanger, use of condensate traps with a cooling water supply, or a combination of alternatives. The location of the compressor will be evaluated regarding a better location for air quality.

Assumptions:

- Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
- The flare will be operational after the gas supply line sag is repaired and a new control panel is provided. There are no other known issues impacting flare operation.
- City Operations staff believes that the key to this project will be drying the gas.
- Arc flash updates are not required.
- SCADA integration will be by Dakota Pump Inc (DPI). The City will contract directly with DPI.

Special Design Submittals:

- Conceptual Design Memo evaluating options for gas system equipment.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #3
Engineering disciplines anticipated:

- Lead Consultant: Chris Robinson (HDR)
- Engineering Disciplines: Civil (HDR), Process (HDR), Mechanical (HDR), Electrical and I&C (HDR)

Construction trades anticipated:

- Prime: General Contractor
- Subs: Mechanical, Electrical, SCADA Integration

Conceptual construction budget:

- Flare piping and control panel replacement = $25,000
- Digester gas dehumidification = $200,000
- Total = $225,000

WR-2. Digester Facility Gas Piping and Digester Boilers Replacement

Project Location: Water Reclamation Facility

Project Description: Two digester boilers are utilized to burn digester gas as a heat source required to maintain operation of the anaerobic digesters. The boilers are in need of replacement due to corrosion which has reached the point where repairs are no longer feasible. Both boilers will be replaced in kind with new boilers.

Digester facility gas piping currently includes segments of carbon steel piping which is susceptible to corrosion and tuberculation. New stainless-steel piping will replace any remaining segments of carbon steel that has not previously been replaced.

Assumptions:

- Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
- An evaluation of the boiler or piping system and required heating capacity is not anticipated.
- Arc flash updates are not required.
- SCADA integration will be by Dakota Pump Inc (DPI). The City will contract directly with DPI.

Special Design Submittals:
None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #3

Engineering disciplines anticipated:

- Lead Consultant: Chris Robinson (HDR)
- Engineering Disciplines: Civil (HDR), Process (HDR), Mechanical (HDR), Electrical and I&C (HDR)

Construction trades anticipated:

- Prime: General Contractor
- Subs: Mechanical, Electrical, SCADA Integration

Conceptual Construction Budget:

- New digester facility boilers = $435,000
- New digester facility gas piping = $75,000
- Total = $510,000

WR-3. Pretreatment Screening Bypass Channel Improvements

Project location: Water Reclamation Facility

Project Description: The pretreatment facility includes automated screening of influent wastewater. There are also two manually cleaned bypass screens that can be operated when the automated screens are not available. In order to utilize the bypass channels, flow isolation gates must be manually opened to direct flow to the bypass channel. During a power outage or other disruptions to the WRF, the automated screens lose functionality and flow begins to backup in the influent channel. Eventually, if power is not restored or if the manual gates are not opened, flooding of the pretreatment facility occurs. The City's preferred
solution is to have flows automatically start diverting to the bypass channels to prevent flooding when the facility is not being manned. This approach will require new automated gates, new flow metering downstream of the screens, and an emergency power source so that these systems are operable during a power outage.

Additional improvements include replacement of the manually cleaned bar screens and replacement of floor grating. Manually cleaned bar screens are metal racks intended to limit carry through of rags and other materials detrimental to downstream processes when the automatic screens are out of service. Options to remove the manual bar screens will be evaluated. New grating with mechanical fasteners is required to prevent floatation of grating off the channel walls during a flooding event that creates a potential fall hazard for WRF staff.

Assumptions:

- Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
- Battery backup will be provided for instruments, control systems, and gate actuators. New devices will be located in the existing headworks building, no new building space is anticipated.
- Replacement of bypass screens and grating will be concurrent with bypass gate automation work.
- SCADA integration will be by Dakota Pump Inc (DPI). The City will contract directly with DPI.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #3

Engineering disciplines anticipated:
• Lead Consultant: Chris Robinson (HDR)
• Engineering Disciplines: Architectural (HDR), Process (HDR), Electrical and I&C (HDR)

Construction trades anticipated:

• Prime: General Contractor
• Subs: Mechanical, Electrical, SCADA Integration

Conceptual Construction Budget:

• Bypass channel automation = $100,000
• Bypass screen and grating replacement = $30,000
• Total = $130,000

WR-4. Electrical Junction Building Replacement

Project location: Water Reclamation Facility

Project Description: An existing electrical pull box is located near the Maintenance Building. Power and control circuits are routed through this junction location to several nearby facilities. The existing building's materials of construction consist of lumber framing and siding with an asphalt shingle roof. A new building will be provided in kind.

Assumptions:

• Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
• Building materials will be wood framing and siding with an asphalt shingle roof. The building foundation will be a concrete footing.
• No revisions to existing power distribution or control wiring is required. Electrical work is assumed to be limited to building lighting. The new building will be constructed around the existing electrical conduits without electrical revisions.
• No mechanical systems (HVAC) are anticipated to be included in the building.
• Arc flash updates and SCADA integration are not required.

Special Design Submittals:

• None anticipated.

Construction Document Deliverables:
• 50% Design Submittal
• 100% Design Submittal
• Issued for Bid Submittal

Special Bid Conditions:

• Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
• Bid Package: #3

Engineering disciplines anticipated:

• Lead Consultant: Chris Robinson (HDR)
• Engineering Disciplines: Architectural (HDR), Structural (HDR), Electrical (HDR), Civil (HDR)

Construction trades anticipated:

• Prime: General Contractor
• Subs: Roofing

Conceptual Construction Budget:

• Basic Building Replacement Cost = $40,000

**WR-5. Septage Hatch and Safety Rail Construction**

Project location: Water Reclamation Facility

Project Description: The WRF septage receiving station includes covered storage tanks that temporarily store septage before it is gradually fed into the plant influent. The tank covers and access hatches are in poor condition and require replacement.

New aluminum covers and access hatches will be provided for the septage storage tanks. Access hatches will have safety platforms. Guardrail will be provided around the septage tank perimeters. Each cover is approximately 15 feet by 26.5 feet in size for a total of 795 square feet of cover area.

Assumptions:

• Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
• Septage tank concrete is in acceptable condition and no rehabilitation is required.
- Guardrail is intended as a visual barrier for vehicles and will not be designed to withstand a vehicle impact.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #3

Engineering disciplines anticipated:

- Lead Consultant: Chris Robinson (HDR)
- Engineering Disciplines: Architectural (HDR), Structural (HDR)

Construction trades anticipated:

- Prime: General Contractor
- Subs: None anticipated

Conceptual Construction Budget:

- Aluminum Covers ($75/SF) = $60,000
- Hatches and Guardrail = $40,000
- Total Construction Cost = $100,000

WR-6. Grease Line Piping Replacement from Old Operations Building to Digesters

Project location: Water Reclamation Facility

Project Description: Grease and scum are collected in the primary clarifier scum pits and pumped from the Operations Building to the Anaerobic Digesters for treatment. The grease (scum) lines from the pump discharge to the digesters have become plugged and replacement is required. The existing system includes two, six inch glass lined pipes each approximately 400 feet in length.
The piping is in a congested area of the WRF with many other underground facilities.

Assumptions:

- Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
- Scum pumps were recently replaced, no pumping improvements are required.
- New piping will be provided from the pump discharge to the Digester Facility.
- Pipe routing will be determined during design.
- Evaluation of pipe bursting or cast in place pipe lining will occur during preliminary design.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #3

Engineering disciplines anticipated:

- Lead Consultant: Chris Robinson (HDR)
- Engineering Disciplines: Process (HDR), Civil (HDR)

Construction trades anticipated:

- Prime: General Contractor
- Subs: None anticipated

Conceptual Construction Budget:

- Replace six-inch ductile iron pipe and valves = $235,000
WR-7. Trickling Filter Lift Pump #2 (East) Replacement

Project location: Water Reclamation Facility

Project Description: The trickling filter process includes four lift pumps, two pumps for each trickling filter, one duty pump and a second backup pump. Primary clarifier effluent is pumped to the trickling filters for fixed film treatment. Currently the east trickling filter is operating with one pump out of service. A second pump is required for redundancy and reliability.

Assumptions:

- Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
- No wet well or piping modifications are required. Project will include purchase and installation of one new lift pump.
- A standard bidding process (no special conditions or evaluated bids) is anticipated.
- SCADA integration is by others.
- Arc flash updates are not required or included in the scope of work.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #3

Engineering disciplines anticipated:

- Lead Consultant: Chris Robinson (HDR)
- Engineering Disciplines: Process (HDR), Electrical and I&C (HDR)

Construction trades anticipated:

- Prime: General Contractor
• Subs: Mechanical, electrical, SCADA integration

Conceptual Construction Budget:

• Lift Pump Procurement and Installation = $175,000

WR-8. Main Entry Gate and Fence Realignment Project

Project location: Water Reclamation Facility

Project Description: There are currently three entrances with gates at the Water Reclamation Facility off South Side Drive. The project will adjust the entrance road known as Plant Road to create two gated access locations. Plant Road is a private road, but lies within the section line Right-of-Way (ROW) in Pennington County. The project shall complete the appropriate County applications to vacate the ROW as there is no likely extension of a public road due to the proximity to Rapid Creek. The Consultant shall investigate the possibility of repurposing one or more of the exiting gates and maintain adequate vehicle turning motions for all anticipated vehicles through the new access point. Motorized gates, key pads/card readers, and SCADA outputs for alarms shall be coordinated with City staff.

Assumptions:

• Topographic survey for design will be generated from aerial drone photography, city contour data, and minimal field survey to identify utilities.
• Fence and gate layout will be determined during preliminary design.
• SCADA integration is optional and would be by others.

Special Design Submittals:

• ROW vacation documents for City execution.

Construction Document Deliverables:

• 50% Design Submittal
• 100% Design Submittal
• Issued for Bid Submittal

Special Bid Conditions:

• Project construction document submittals will be in bid packages.
  Individual project submittals are not anticipated.
• Bid Package: #2
Engineering disciplines anticipated:

- Lead Consultant: Jason Pettyjohn (FMG)
- Engineering Disciplines: Civil (FMG), Electrical and I&C (HDR)

Construction trades anticipated:

- Prime: General Contractor
- Subs: Fencing, electrical, SCADA integration

Conceptual Construction Budget:

- Gate and Fence Replacement = $100,000

Water Division:

W-1. Skyline Reservoir Security Fencing and Signal Hill Valve Vault Security Fencing

Project Location 1 of 2: Skyline Reservoir

Project Description (1 of 2): Access to Skyline Reservoir traverses private property before entering the leased property at the reservoir site. Current fencing and gates are simple barb wire and cattle gates with chains and padlocks. Vehicles must currently pass through the locked gate, but foot traffic can pass through an adjacent man gate to access the private walking trails established by the surrounding property owner. The project will construct new chain link fencing with an improved gate on or near the lease boundary at the reservoir site. Minor access trail improvements may be necessary near the reservoir to accommodate a turnaround at the new gate location. The consultant, with oversight from City staff, shall coordinate with the surrounding landowner regarding the improvements.

Project Location 2 of 2: Signal Hill Reservoirs

Project Description (2 of 2): There are two below grade water storage reservoirs at Signal Hill. Each reservoir has a buried valve vault outside of the perimeter security fence. The vaults are secure from unauthorized entry, but the exposed part of the vault attracts unwanted attention from the public. The project will construct new security fencing with anti-climb extensions and man gates around each valve vault. SCADA outputs for alarms shall be coordinated with City staff. Consultant shall prepare and coordinate a Fence Height Variance through the Planning Commission.
Assumptions:

- Topographic survey for design will be generated from aerial drone photography, city contour data, and minimal field survey to identify utilities.
- Boundary survey will be completed at the Skyline location to delineate the reservoir easement.
- A temporary easement may be required at the Skyline site. FMG will prepare exhibits for use by the City’s agent to secure the easement.

Special Design Submittals:

- Consultant shall prepare, submit application, and coordinate a Fence Height Variance through the Planning Commission.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- A reduction in the amount of work completed by the general contractor, as specified by the City’s General Conditions, may be necessary.
- Bid Package: #2

Engineering disciplines anticipated:

- Lead Consultant: Jason Pettyjohn (FMG)
- Engineering Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Subs: Fencing, Electrical, SCADA Integration (optional for gate alarms)

Conceptual Construction Budget:

- Skyline Reservoir Security Fencing = $50,000
- Signal Hill Valve Vault Security Fencing = $25,000
- Total = $75,000
W-2. North Rapid Reservoir Road and Drainage Repair Project

Project Location: North Rapid Reservoir

Project Description: Access to the North Rapid Reservoir includes a steep gravel access road that passes through private property before approaching a security fence and gate around the reservoir site. The interior of the site includes gravel parking and turnaround with minor drainage ditches to direct surface water runoff. A recent project made temporary repairs to the gravel surfacing, but recent record precipitation has caused minor washouts of the road with nuisance transport of gravel surfacing into the adjacent private property. The project will reestablish the gravel access road and improve the drainage conveyance elements to prevent future washouts. The Consultant will review possible surface treatments to stabilize the gravel or alternate road paving types. Design concepts will review possible hardened PCC or asphalt pans at strategic locations prone to washing. Potential asphalt surfacing of the access road and the steep area near the gate will also be reviewed.

Assumptions:

- Topographic survey for design will be generated from aerial drone photography, city contour data, and minimal field survey to identify utilities.
- Boundary survey will be completed to delineate the reservoir access easement.
- A temporary easement may be required to complete drainage repairs. FMG will prepare exhibits for use by the City’s agent to secure the easement.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
Bid Package: #1

Engineering disciplines anticipated:

- Lead Consultant: Jason Pettyjohn (FMG)
- Engineering Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Subs: None anticipated

Conceptual Construction Budget:

- North Rapid Reservoir Road and Drainage Repairs = $150,000

W-3. **Not Applicable – Removed from 2020 Projects**

W-4. **Well #13 Site Improvements Project**

Project Location: Well #13

Project Description: The site is located in the Red Rock residential subdivision. The only surface improvements are the well head and associated electrical panel. The project will provide a driveway to the wellhead and electrical panel, provide off street parking near the well head and other landscape improvements to better fit with the aesthetics of the neighborhood. Minimal fencing or split rail corner monuments are proposed to delineate the property, security fencing is not required at this time. No new structures, improvements to the well, well head, or electrical gear is included with the project, other than to consider future location of where a well house likely would be located when laying out the off-street parking pad. Landscape improvements are anticipated to be low maintenance (grass seed and possibly some low maintenance shrubs). No irrigation systems, no SCADA, or alarms

Note: Sidewalks appear to have recently been installed so sidewalk improvements do not appear to be necessary.

Assumptions:

- Topographic survey for design will be generated from aerial drone photography, city contour data, and minimal field survey to identify utilities.
- Boundary survey required for use in delineating property boundary.
Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #1

Engineering disciplines anticipated:

- Lead Consultant: Jason Pettyjohn (FMG)
- Engineering Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): Landscaping

Conceptual Construction Budget:

- Well #13 Site Improvements = $100,000

W-5. Stoney Creek Water Booster Station and Well #12 Parking Lot Stabilization Project

Project Location: Well #12/Stoney Creek Booster

Project Description: Joints in the PCC paved parking lot have separated and certain panels have settled in relation to adjacent panels. A modular block landscape retaining wall has also begun to fail/rotate and is in need of repair or replacement. The project shall repair paving joint and replace panels, as necessary. All joints existing and new shall be sealed. The Consultant shall review the construction of the retaining wall and determine the likely cause of failure to make recommendations on repair or replacement of the wall, possibly with differing materials. Operations believes Mud jacking of existing slabs may
be needed. They have found some of the slabs have hollow spots/voids under them. Consultant should plan to chain slabs to identify voids.

Assumptions:

- Topographic survey for design will be generated from aerial drone photography, city contour data, and minimal field survey to identify utilities.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- The City will be contracting for improvements inside the facility this year. This work either needs to be completed before the project or after but should not be concurrent.
- Bid Package: #1

Engineering disciplines anticipated:

- Lead Consultant: Jason Pettyjohn (FMG)
- Engineering Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): Landscaping

Conceptual Construction Budget:

- Stoney Creek Site Improvements = $75,000

**W-6. Robbinsdale Booster Station Electrical System Upgrades**

Project Location: Robbinsdale Booster Station
Project Description: Electrical distribution gear and motor starters at the Robbinsdale Booster Station have reached the end of their useful life and replacement is required. Existing power distribution and motor starters will be replaced.

The consultant will complete an arc flash analysis for the Robbinsdale Booster Station. The consultant will also coordinate with the City’s SCADA integration contractor in order to develop contract documents required to complete integration work.

Assumptions:

- Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
- SCADA integration will be by others, the consultant will coordinate with the integrator to assist in development of integration contract documents.
- Hydraulic analysis of the booster station is ongoing by others and is anticipated to be available for this project. If additional capacity is required, the project requirements may need to be revised.
- Suitability of variable frequency drives requires an analysis of pump capacity and anticipated demands. City will provide hydraulic recommendations as a result of the master planning efforts.

Special Design Submittals:

- Arc flash analysis report including City standardized labeling requirements

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Construction schedule will be set for winter construction to avoid facility downtime during peak water demand season.
- Bid Package: #3

Engineering disciplines anticipated:

- Lead Consultant: Chris Robinson (HDR)
Engineering Disciplines: Process (HDR), Electrical (HDR), I&C (HDR)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): Electrical, SCADA integration (optional direct contract with City)

Conceptual Construction Budget:

- Robbinsdale Booster Station Improvements = $150,000

Solid Waste Division:

**SW-1. Facility Entrance Signage Revisions**

Project Location: Rapid City Landfill. The existing entrance sign is located on the north side of the main entrance to the Rapid City Landfill off Highway 79.

Project Description: The existing sign is located approximately 7 feet off City property and is entirely within South Dakota Department of Transportation (DOT) Right-of-Way (ROW). This sign will need to be relocated to an acceptable location within City property. The sign is constructed as stone facing on an unreinforced core. The foundation for the sign consists of unreinforced concrete slab over concrete columns founded approximately 4 feet below existing grades. At this point it is unclear whether the sign can be moved without damaging or demolishing the sign.

This task assumes minimal exploratory work to assess the structural condition of the sign and feasibility of moving the existing sign as is. It is understood that the City wishes to explore the possibility of relocating the existing sign or constructing a new sign. This task does not include design work that would be required for a new sign but does include time for preliminary design for the location of the new or relocated sign. The scope will be developed assuming the sign will be relocated and that a new sign will not need to be designed. If a new sign needs to be designed the existing sign will be demolished under this contract as it needs to be removed from DOT ROW. The relocation is likely the area just east of the education center, but the consultant should evaluate other locations and submit documents for review along with a recommendation.

Field investigative services and preliminary design will be needed to determine the most efficient method of relocating the sign and identify new locations. The
sign is lighted, and it is assumed the relocated location will include a lighted sign too. Electrical extension of lighting may be required.

Assumptions:

- Topographic survey for design will be generated from field survey and supplemented with aerial drone photography, and city contour data.
- Minimal boundary survey work will be required to confirm property line locations.

Special Design Submittals:

- Project deliverables will include a conceptual design report/memo discussing options for relocation and/or reconstruction.
- This task shall also include coordination with DOT. DOT review submittals shall include one (1) copy and PDF of Final Drawings.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- This task shall also include obtaining permits for the City’s Contractor to install or for DOT to install informational signage for DOT corridors to identify Landfill entrance on Hwy 79 for both north bound and south bound vehicles.
- Bid Package: #1

Engineering disciplines anticipated:

- Lead Consultant: Jason Hinds (FMG)
- Consultant Disciplines: Civil (FMG), Electrical (HDR)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): Electrical, Landscaping

Conceptual Construction Budget:
• Cost Range = $40,000 - $65,000

**SW-2. Concrete Panel Replacements and Spall Repairs**

Project Location: Rapid City Landfill Material Recovery Facility.

Project Description: This City has determined the need to repair and/or replace various portions of concrete pavement throughout the facility.

This task will require an initial field investigation and survey to inventory the areas needing repair. The field investigation may also include subsurface soil explorations to assess pavement bearing conditions. Following the field investigation and survey, evaluation of the areas will be completed to determine the most efficient repair or replacement design. A drainage analysis will also be conducted to evaluate surface drainage patterns. A drainage evaluation including how downspouts discharge from the roofs and whether the existing system is functioning properly or needs improvements. Preliminary and final design will then be completed, and construction drawings produced. This task will include recommendations to improve drainage if required. Various surfacing options and/or structural improvements will be evaluated. Project design will also include construction phasing and staging components to ensure Landfill operations are uninterrupted.

Assumptions:

• Topographic survey for design will be generated from field survey and supplemented with aerial drone photography, and city contour data.

Special Design Submittals:

• None anticipated.

Construction Document Deliverables:

• 50% Design Submittal
• 100% Design Submittal
• Issued for Bid Submittal

Special Bid Conditions:

• Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
• Some afterhours work or early strength gain concrete may be required to ensure limited interruptions to landfill operations.
• Bid Package: #1

Engineering disciplines anticipated:

• Lead Consultant: Jason Hinds (FMG)
• Consultant Disciplines: Civil (FMG), Geotechnical (FMG), Structural (HDR)

Construction trades anticipated:

• Prime: General Contractor
• Sub(s): None

Conceptual Construction Budget:

• Cost Range = $100,000 - $150,000

**SW-3. Debris Barrier for Yard Compost and Co-Compost Product Storage Areas**

Project Location: Rapid City Landfill, yard waste compost storage and co-compost storage area.

Project Description: The City has determined the need to construct debris fencing around the yard waste compost and co-compost product storage areas. This task will require an initial field investigation and survey to inventory the areas needing fencing. Preliminary and final design will then be completed, and construction drawings produced. The actual configuration, fence height and materials will be selected during preliminary and final design. If required, fence height variances will be coordinated. Various materials including portable litter control devices will be evaluated as part of the preliminary design work. Minimal investigative services are anticipated, and drone aerials will be utilized to help minimize field survey costs. Consultant will coordinate DENR review of construction drawings. Drainage and erosion control will be evaluated as part of the design.

Assumptions:

• Topographic survey for design will be generated from aerial drone photography and city contour data.

Special Design Submittals:

• This task may include obtaining a Fence Height Variance from the City of Rapid City Planning Department.
Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #2

Engineering disciplines anticipated:

- Lead Consultant: Jason Hinds (FMG)
- Consultant Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): Fencing

Conceptual Construction Budget:

- Cost Range = $40,000 - $65,000

**SW-4. MRF Tip Floor Roof-Top Heat and Air Handling Unit Replacement**

Project Location: Rapid City Landfill MRF

Project Description: The City has determined the need to replace the heating and air handling unit on the MRF roof. Particulate debris regularly plugs the filters, a sheltered location would prolong filter life and improve maintenance access. This task will require an initial field investigation to gather data and review the existing installation. Following field investigation, preliminary design, final design and construction document preparation will be completed.

Assumptions:

- Topographic survey is not required. City provided aerial images, contours, and as-built CAD files will be utilized.
- An evaluation phase is recommended to review design requirements and evaluate the potential for moving the unit for improved access by
maintenance staff. Operations prefers to move the unit off the roof, one potential location is east of the tip floor building.

- Separate air handling and heating with unit heaters may be preferred by the City.

Special Design Submittals:

- Conceptual Design Memo discussion options for relocation and/or reconstruction.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #3

Engineering disciplines anticipated:

- Lead Consultant: Chris Robinson (HDR)
- Consultant Disciplines: Architect (HDR), Mechanical (HDR), Electrical (HDR)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): HVAC, Electrical

Conceptual Construction Budget:

- Cost Range = $200,000 - $250,000

**SW-5. Construct Drainage Inlets for Co-Compost Product South Storage Area**

Project Location: Rapid City Landfill co-compost storage area immediate northeast of the MRF.
Project Description: Additional drainage is required for the co-compost product storage area on the northern end of the MRF east of the facility. These new inlets will likely drain to the existing stormwater detention pond north of Lake Herman (Ben's Bayou). This task will require an initial field investigation and survey. Preliminary and final design will then be completed, and construction drawings produced. This task will be conducted concurrently with the Landfill Stormwater Design Plan currently being completed by FMG Engineering.

Assumptions:

- Topographic survey for design will be generated from limited field survey, and supplemented with previous FMG collected survey data, aerial drone photography and city contour data.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #1

Engineering disciplines anticipated:

- Lead Consultant: Jason Hinds (FMG)
- Consultant Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): None anticipated

Conceptual Construction Budget:

- Cost Range = $50,000 - $70,000
SW-6. Construct Concrete Pavement at Main Scale House and Remote Scale Including Permanent Cell #18 Intersection Signage

Project Location: Rapid City Landfill.

Project Description: The City has determined the need to repair existing asphalt pavement near the main entrance and scale house or replace problem areas with concrete paving. This task will require an initial field investigation and survey to inventory the areas needing repair or new pavement. The field investigation may also include subsurface soil explorations to assess pavement bearing conditions. Following the field investigation and survey, evaluation of the areas will be completed to determine the most efficient design. Preliminary and final design will then be completed, and construction drawings produced. Specific attention will be paid to the close tolerance for drainage of the PCC work by the unmanned scale to direct drainage out from under the scale and into Lake Herman. Drainage analysis will also be conducted to evaluate drainage issues near the unmanned scale and the Education Center inlets. Project design will include sequencing and phasing to ensure limited interruptions to landfill operations and public access.

This task will be coordinated with Solid Waste tasks #8, #9, and #10.

Assumptions:

- Topographic survey for design will be generated from field survey and supplemented with aerial drone photography and city contour data.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- May require afterhours work or high early strength concrete to ensure limited interruptions to operations.
• Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
• Bid Package: #1

Engineering disciplines anticipated:

• Lead Consultant: Jason Hinds (FMG)
• Consultant Disciplines: Civil (FMG), Geotechnical (FMG)

Construction trades anticipated:

Construction trades anticipated:

• Prime: General Contractor
• Sub(s): None anticipated

Conceptual Construction Budget:

• Cost Range = $100,000 - $150,000

**SW-7. Fencing Improvements North of MRF**

Project Location: Rapid City Landfill.

Project Description: The city has determined the need to construct additional fencing using owner furnished materials around near the northern side of the MRF. This task will require an initial field investigation and survey to inventory the areas needing fencing. An analysis and catalogue of the existing City owned materials will be conducted, and evaluations included in the bidding documents to ensure accurate bid pricing. Preliminary and final design will then be completed, and construction drawings produced. Fence Height Exception will be coordinated if required.

Assumptions:

• Topographic survey for design will be generated from aerial drone photography and city contour data. May require limited boundary survey work to identify property line locations.

Special Design Submittals:

• None anticipated.

Construction Document Deliverables:
- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- This task may include obtaining a Fence Height Variance from the City of Rapid City Planning Department.
- Provisions for owner furnished materials are required.
- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #2

Engineering disciplines anticipated:

- Lead Consultant: Jason Hinds (FMG)
- Consultant Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): Fencing

Conceptual Construction Budget:

- Cost Range = $25,000 - $50,000

**SW-8. Construct Drainage Improvements for Shop Facilities**

Project Location: Rapid City Landfill Maintenance Shops immediately south of the main entrance.

Project Description: The City has determined the need to complete drainage improvements around the existing shop facilities south of the main entrance. This task will require an initial field investigation and survey to inventory the areas needing protection from flooding. Preliminary and final design will then be completed, and construction drawings produced. This task will be conducted concurrently with the Landfill Stormwater Design Plan currently being completed by FMG Engineering. Drainage between the scale access road and the shop parking will be evaluated. Existing utilities including drainage pipe locations and function will also be evaluated. Site improvements including concrete paving and aprons will be assessed. Project design will include sequencing and phasing to ensure limited interruptions to landfill operations and public access.
This task will be coordinated with work for tasks #6, #9, and #10.

Assumptions:

- Topographic survey for design will be generated from field survey and supplemented with aerial drone photography and city contour data.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #1

Engineering disciplines anticipated:

- Lead Consultant: Jason Hinds (FMG)
- Consultant Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): None anticipated

Conceptual Construction Budget:

- Cost Range = $75,000 - $125,000

**SW-9. Reconstruct Area Drain and Perform Condensate Tank Rehabilitation at Citizen’s Campus Facility**

Project Location: Rapid City Landfill Citizen Campus.

Project Description: The City has determined the need to address drainage issues and evaluate the structural integrity of the historic condensate tank at the citizen campus facility. This task will require an initial, in-depth field investigation
and survey to inventory the existing conditions. The structural analysis of the existing vault will include a geotechnical investigation to assess the bearing soils beneath the failing areas. Background information review will include meetings with operations and review of historic plans and more recent construction to ensure required components are functioning properly and items no longer in use are properly abandoned. Preliminary and final design will then be completed, and construction drawings produced. This task will be conducted concurrently with the Landfill Stormwater Design Plan currently being completed by FMG Engineering.

This task will be coordinated with SW-10.

Assumptions:

- Topographic survey for design will be generated from field survey and supplemented with aerial drone photography and city contour data.

Special Design Submittals:

- None anticipated.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
- Bid Package: #1

Engineering disciplines anticipated:

- Lead Consultant: Jason Hinds (FMG)
- Consultant Disciplines: Civil (FMG), Geotechnical (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): None anticipated

Conceptual Construction Budget:
- Cost Range = $60,000 - $90,000

**SW-10. Stormwater Quality Project for Lake Herman**

Project Location: Rapid City Landfill, stormwater system immediately upstream of Lake Herman detention pond.

Project Description: The City has determined the need to construct improvements to existing stormwater infrastructure. This task will require an initial field investigation and survey to inventory the areas needing improvements. Investigative services will include geotechnical and environmental sampling to assess possible sources of ammonia infiltration into the stormwater system. A private utility locator will be required for this task. Testing at a subcontracted laboratory will also be required of soil and water samples obtained during drilling.

Preliminary and final design will then be completed, and construction drawings produced. This task will be conducted concurrently with the Landfill Stormwater Design Plan currently being completed by FMG Engineering. Preliminary design work will include an evaluation of various improvement options.

This task will be coordinated with Projects SW-6, SW-8, and SW-9.

Assumptions:

- Topographic survey for design will be generated from field survey and supplemented with aerial drone photography and city contour data.
- Private utility locates and water sample analysis are by others.
- The project is anticipated to be a civil in nature; structural, mechanical, and electrical disciplines are not included.

Special Design Submittals:

- Conceptual Design Memo with results of ammonia sampling.

Construction Document Deliverables:

- 50% Design Submittal
- 100% Design Submittal
- Issued for Bid Submittal

Special Bid Conditions:

- Project construction document submittals will be in bid packages. Individual project submittals are not anticipated.
Bid Package: #3

Engineering disciplines anticipated:

- Lead Consultant: Jason Hinds (FMG)
- Consultant Disciplines: Civil (FMG)

Construction trades anticipated:

- Prime: General Contractor
- Sub(s): None anticipated

Conceptual Construction Budget:

- Cost Range = $40,000 - $65,000

Approach to Project Bundling and Bidding

The City's intention is to group projects from different Divisions with similar project requirements. The following project bundles are proposed for the work. An estimated drawing sheet count is provided as a basis for engineering effort involved with each bid package project. Conceptual construction costs include construction costs only and exclude professional services.
Bid Package One, Site Civil Projects:

<table>
<thead>
<tr>
<th>No.*</th>
<th>Project Description</th>
<th>Conceptual Construction Cost</th>
<th>Est. Sheet Count</th>
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<tbody>
<tr>
<td>W-2</td>
<td>North Rapid Reservoir Road and Drainage Repair Project</td>
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<td>W-4</td>
<td>Well #13 Site Improvements Project</td>
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<td>W-5</td>
<td>Stoney Creek Water Booster Station and Well #12 Parking Lot Stabilization Project</td>
<td>$75,000</td>
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<td>SW-1</td>
<td>Facility Entrance Signage Revisions</td>
<td>$40,000-$65,000</td>
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<td>SW-2</td>
<td>Concrete Panel Replacements and Spall Repairs</td>
<td>$100,000-$150,000</td>
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<td>SW-5</td>
<td>Construct Drainage Inlets for Co-Compost Product South Storage Area</td>
<td>$50,000-$70,000</td>
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<tr>
<td>SW-6</td>
<td>Construct Concrete Pavement at Main Scale House and Remote Scale Including Permanent Cell #18 Intersection Signage</td>
<td>$100,000-$150,000</td>
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<td>SW-8</td>
<td>Construct Drainage Improvements for Shop Facilities</td>
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General Sheets for Bid Package  
Totals $885,000 54

* Divisions: Water (W), Solid Waste (SW), and Water Reclamation (WR)

Bid package one schedule: design and construction to be completed in summer and fall 2020

Bid Package Two, Fencing Projects

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<td>W-1</td>
<td>Skyline Reservoir Security Fencing and Signal Hill Valve Vault Security Fencing</td>
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<td>Debris Barrier For Yard Compost And Co-Compost Product Storage Areas</td>
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<td>SW-7</td>
<td>Fencing Improvements North of MRF</td>
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<td>WR-8</td>
<td>Main Entry Gate and Fence Realignment Project</td>
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<td>General Sheets for Bid Package</td>
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</table>

Totals $290,000 22

* Divisions: Water (W), Solid Waste (SW), and Water Reclamation (WR)

Bid package two schedule: Bid late summer 2020 with construction complete May 2021
## Bid Package Three; Process, Mechanical, and Electrical Projects

<table>
<thead>
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<th>Project Description</th>
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<tr>
<td>WR-1</td>
<td>Digester Waste Gas Flare and Gas Conditioner System Improvements</td>
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<td>Digester Facility Gas Piping and Digester Boilers Replacement</td>
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<td>WR-5</td>
<td>Septage Hatch and Safety Rail Construction</td>
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<td>Robbinsdale Booster Station Electrical System Upgrades</td>
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<td>SW-4</td>
<td>MRF Tip Floor Roof-Top Heat And Air Handling Unit Replacement</td>
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<td>SW-9</td>
<td>Reconstruct Area Drain and Perform Condensate Tank Rehabilitation at Citizen’s Campus Facility</td>
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<td>SW-10</td>
<td>Stormwater Quality Project for Lake Herman</td>
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* Divisions: Water (W), Solid Waste (SW), and Water Reclamation (WR)

Bid package three schedule: Bid winter 2020, construction complete summer 2021
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<th>Description</th>
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<td>Memo (Tech, Special)</td>
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## Bid Package #1 (Site Civil Projects)

### Task 1: Preliminary Design Services
- **Bill of Materials**: 60
- **Number of Person Days**: 5,947
- **Total Labor**: 747
- **Total Hours**: 9,990
- **Total Expenses**: $3,260
- **Total Labor**: $2,960
- **Total Consultant**: $1,000
- **Total (a) with Sub**: $6,220

### Task 2: Total Design Services
- **Bill of Materials**: 10
- **Number of Person Days**: 2,241
- **Total Labor**: 668
- **Total Hours**: 6,208
- **Total Expenses**: $2,510
- **Total Labor**: $1,800
- **Total Consultant**: $710
- **Total (a) with Sub**: $5,690

### Task 3: Site Preparation Studies
- **Bill of Materials**: 4
- **Number of Person Days**: 999
- **Total Labor**: 50
- **Total Hours**: 50
- **Total Expenses**: $100
- **Total Labor**: $100
- **Total Consultant**: $100
- **Total (a) with Sub**: $200

### Task 4: Total Cost
- **Number of Person Days**: 18
- **Total Labor**: 18
- **Total Hours**: 18
- **Total Expenses**: $180
- **Total Labor**: $180
- **Total Consultant**: $180
- **Total (a) with Sub**: $450

## Bid Package #2 (Site Facility Projects)

### Task 1: Preliminary Design Services
- **Bill of Materials**: 50
- **Number of Person Days**: 1,065
- **Total Labor**: 50
- **Total Hours**: 50
- **Total Expenses**: $2,510
- **Total Labor**: $2,510
- **Total Consultant**: $2,000
- **Total (a) with Sub**: $7,020

### Task 2: Final Design Services
- **Bill of Materials**: 4
- **Number of Person Days**: 330
- **Total Labor**: 330
- **Total Hours**: 330
- **Total Expenses**: $2,510
- **Total Labor**: $2,510
- **Total Consultant**: $2,000
- **Total (a) with Sub**: $7,020

### Task 3: Site Preparation Studies
- **Bill of Materials**: 4
- **Number of Person Days**: 80
- **Total Labor**: 80
- **Total Hours**: 80
- **Total Expenses**: $2,000
- **Total Labor**: $2,000
- **Total Consultant**: $2,000
- **Total (a) with Sub**: $6,000

### Task 4: Total Cost
- **Number of Person Days**: 12
- **Total Labor**: 12
- **Total Hours**: 12
- **Total Expenses**: $12
- **Total Labor**: $12
- **Total Consultant**: $12
- **Total (a) with Sub**: $36

## Bid Package #3 (Process, Mechanical, and Electrical Projects)

### Task 1: Preliminary Design Services
- **Bill of Materials**: 10
- **Number of Person Days**: 100
- **Total Labor**: 100
- **Total Hours**: 100
- **Total Expenses**: $2,510
- **Total Labor**: $2,510
- **Total Consultant**: $2,000
- **Total (a) with Sub**: $7,020

### Task 2: Final Design Services
- **Bill of Materials**: 10
- **Number of Person Days**: 100
- **Total Labor**: 100
- **Total Hours**: 100
- **Total Expenses**: $2,510
- **Total Labor**: $2,510
- **Total Consultant**: $2,000
- **Total (a) with Sub**: $7,020

### Task 3: Site Preparation Studies
- **Bill of Materials**: 4
- **Number of Person Days**: 40
- **Total Labor**: 40
- **Total Hours**: 40
- **Total Expenses**: $2,000
- **Total Labor**: $2,000
- **Total Consultant**: $2,000
- **Total (a) with Sub**: $6,000

### Task 4: Total Cost
- **Number of Person Days**: 10
- **Total Labor**: 10
- **Total Hours**: 10
- **Total Expenses**: $10
- **Total Labor**: $10
- **Total Consultant**: $10
- **Total (a) with Sub**: $30

## Final Report

### Task 1: Project Administration
- **Bill of Materials**: 50
- **Number of Person Days**: 50
- **Total Labor**: 50
- **Total Hours**: 50
- **Total Expenses**: $50
- **Total Labor**: $50
- **Total Consultant**: $50
- **Total (a) with Sub**: $150

### Task 2: Total Cost
- **Number of Person Days**: 1
- **Total Labor**: 1
- **Total Hours**: 1
- **Total Expenses**: $1
- **Total Labor**: $1
- **Total Consultant**: $1
- **Total (a) with Sub**: $3
Enclosed are the Hourly Billing Rates for HDR Engineering. The rates listed below do not include reimbursable expenses or hourly rates for equipment as defined below.

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<th>Billing Rate/Hour</th>
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<tr>
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**Direct Expenses**

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<td>Traffic Counting Equipment</td>
<td>$120.00 per hour</td>
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<tr>
<td>Survey/GPS Equipment</td>
<td>$50.00 per hour</td>
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<tr>
<td>Robotic Total Station</td>
<td>$50.00 per hour</td>
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<tr>
<td>Side-by-Side Utility Vehicle</td>
<td>$25.00 per hour</td>
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<tr>
<td>Handheld GPS</td>
<td>$20.00 per hour</td>
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<td>Mileage</td>
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**Printing:**

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<td>B&amp;W 8.5x11</td>
<td>$0.041 each</td>
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<td>Color 8.5x11</td>
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<td>B&amp;W 11x17</td>
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<td>Color 11x17</td>
<td>$0.273 each</td>
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<td>Plots Bond</td>
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**OTHER REIMBURSABLE EXPENSES**

Reimbursable Expense shall mean the actual expenses incurred directly or indirectly in connection with the Project for transportation travel, subconsultants, subcontractors, computer usage, telephone, telex, shipping and express, and other incurred expense. Hourly equipment charges apply to specific equipment used on the project.
## PERSONNEL

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<td>Geologist - PG</td>
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## VEHICLES & EXPENSES

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<td>Travel Costs - air, lodging, transport, meals, etc.</td>
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