AMENDMENT NO. 2 TO AGREEMENT

Project:  Miscellaneous Improvements Project, Project No. 19-2540/CIP No. 51132

Background Data:  Effective Date of Agreement:  July 20, 2020
Owner:  City of Rapid City
Engineer:  HDR Engineering, Inc.

Nature of Amendment:  The City of Rapid City (City) had previously determined the need to procure professional engineering services for the design of various capital improvements projects at various locations throughout the City for the Water, Water Reclamation, and Solid Waste Divisions.

As the design progressed the City determined the need to add replacement of the Motor Control Center and Starters in the RBC Blower Building and replacement of the 500 KW Kohler Generator at the Water Reclamation Facility to the work, because these components have begun to fail and are critical to the operation of the Water Reclamation Facility.  The City also determined the need to include additional work that needs to be completed and fits appropriately with the type of work included in MIPS Fencing Project.  Refer to Amendment #2 – Exhibit A for a detailed explanation of the additional work and additional task components.

Current Contract Amount:  $645,258.00
Change Requested:  $52,084.00
New Contract Amount:  $697,342.00

Owner and Engineer hereby agree to modify the above referenced Agreement as set forth in this Amendment including Exhibits A and B.  All provisions of the Agreement and modified by this or previous Amendments remain in effect.  The overall project completion date will be March 1, 2022.  The effective date of this Amendment is:  October 4, 2021.

CITY OF RAPID CITY

By:  ________________________________
    Mayor, Steve Allender

Date Signed:  ________________

ATTEST:

By:  ________________________________
    Finance Director, Pauline Sumption

Date Signed:  ________________

REVIEWED BY:

By:  ________________________________
    Stacey Titus, Operations Project Manager

Date Signed:  ________________
AMENDMENT #2 – EXHIBIT A

SCOPE OF SERVICES
PROFESSIONAL SERVICES FOR

Miscellaneous Improvements Projects
Project No. 19-2540 / CIP 51132

GENERAL
HDR was selected by the City of Rapid City to provide engineering services for the Miscellaneous Improvements Projects. The work consists of various capital improvements at the City’s Water, Water Reclamation, and Solid Waste Divisions. HDR is completing the work with FMG Engineering as a subconsultant.

During final design, components critical to the operation of the Water Reclamation Facility began to fail and the need to include the replacement and/or upgrade of these components as part of the current scope of work was necessary. There was also additional work identified by the City as needing to be completed as part of the fencing work being completed as part of the current Fencing MIPS project.

SCOPE OF SERVICES

Additional engineering services to be provided are listed under each of the following project components.

I. Water Reclamation Division Projects:

A. AD2-Task 1, WR-9, RBC Blower Building MCC-1 and Starters Replacement to be added as an additional component for the improvements at the Water Reclamation Facility.

1. Project Location: Water Reclamation Facility.

2. Project Description: MCC-1 and the four blower starters located in the RBC Blower Building were installed as part of the 1985 Wastewater Treatment Facility Improvements. The Blowers are used to drive the RBC units, which provide secondary treatment of over 75% of the wastewater load to the Water Reclamation Facility. The MCC and Starters for the RBC Blowers are outdated and in need of replacement. Replacement of the MCC with a distribution panelboard and separate step-down transformer and branch panelboard is planned along with replacement of all four blower starters.

3. The following Engineering Design Services for AD2-Task 1, WR-9 is to include the following:
   a) Preliminary Design Services.
      1) Meet with WRF Operations Staff to discuss the recent failure with the RBC Blower MCC and develop proposed improvements.
      2) Review of drawings and information available for the existing MCC and Starters for the RBC Blowers.
      3) Collect Data associated with the existing RBC Blowers MCC and Starters including wiring diagrams.
b) Final Design Services.
   1) Develop sequencing plan, including temporary electrical plan, to keep at least two blowers in service, while the MCC and Starters are being replaced.
   2) Develop final design drawings and specifications for replacement of the MCC and Starters.
   3) Cost Estimate of Proposed Improvements.

4. Basis for Amendment: Upgrades and maintenance have been made to the MCC and starters over the past several years to extend the life of the electrical equipment, with complete replacement planned with the next phase of MIPS Projects. However, the electrical equipment has begun to fail with the “fingers” in the disconnect bucket for Blower No. 4 completely damaged making Blower No. 4 inoperable. As a result of these recent failures replacement of the MCC and Starters has become more urgent.

5. Basis of Payment: The work under AD2-Task 1, WR-9 will be completed for a lump sum fee of $18,170.00. Invoicing will be monthly based on a percent of work completed.

B. AD2-Task 2, WR-10, Secondary Building, 500 KW Kohler Standby Generator Replacement to be added as an additional component as part of the improvements at the Water Reclamation Facility.

1. Project Location: Water Reclamation Facility.

2. Project Description: The 500 KW Kohler standby generator at the Secondary Building was installed in 1992 and is the second oldest generator at the WRF. It has become less reliable, not started during power outages, resulting in flooding conditions in the Pretreatment Building. Replacement of the generator with either a new 500 KW diesel generator or multiple natural gas generators was evaluated. Investigation, cost estimating and discussions with MDU were completed to evaluate the use of natural gas generators. Based on the evaluation, multiple natural gas generators, sized small enough to meet MDUs limits for uninterruptible service is the preferred direction. Replacement of the Automatic Transfer Switch (ATS) associated with the 500 KW Kohler Generator with an automated generator switch board is recommended to bring the multiple generators on and offline in a sequence that reduces surges.

3. The following Engineering Design Services for AD2-Task 2, WR-10 are to include:
   a) Preliminary Design Services.
      1) Discuss with WRF Operations Staff, recent failures of the Kohler standby generator.
      2) Review of drawings and information available for the existing Kohler standby generator.
      3) Preliminary evaluation of fuel type options for replacement of the Kohler generator, including diesel, natural gas, or dual fuel (diesel and natural gas). Evaluation does not include fuel storage volume options. Work with City staff for recommendation on replacement of the Kohler standby generator.
      4) Collect electrical and SCADA data associated with the existing Kohler standby generator including wiring diagrams and SCADA I/O points.
   b) Final Design Services.
1) Develop sequencing plan, including temporary generator to provide standby power, while the Kohler standby generator is being replaced.
2) Develop final design drawings and specifications for replacement of the Kohler standby generator.
3) Cost Estimate of Proposed Improvements.

4. Basis for Amendment: Replacement of the 500 KW Kohler standby generator was not included in the original list of 2020 MIPS projects. During preliminary design of the Pretreatment Screenings Bypass Channel Improvements, evaluation of options for providing backup power for the critical loads of the pretreatment building concluded that replacement of the Kohler generator with multiple small natural gas generators would be a more cost-effective means of providing reliable backup power for the entire North Plant instead of a standby power system for only the Pretreatment Facility.

5. Basis of Payment: The work under AD2-Task 2, WR-10 will be completed for a lump sum fee of $24,500.00. Invoicing will be monthly based on a percent of work completed.

C. AD2-Task 3, WR-6, Survey of Existing Utilities for Grease Pipeline Replacement from Old Operations Building to Digesters.

1. Project Location: Water Reclamation Facility.

2. 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) pipelines, which consist of two 6-inch glass line pipes have become plugged and replacement is required. Through the planning and design of the grease pipelines, the decision was made to route the two new pipelines south around the shop building and then back north to the Anaerobic Digesters, to avoid the congested area of the WRF where many other underground utilities, including the existing grease pipelines. With the new proposed route, the grease pipelines will cross over the existing 48-inch RCP that carries flow from the Headworks Facility to the Aeration Basins, an 8-inch watermain, and a couple other existing utilities. Due to the criticality in making sure any conflicts are known prior to construction, a decision was made to complete subsurface investigation to verify the depths of these existing utilities. Although City Operations Staff are completing the subsurface investigation, staking of the approximate locations of the existing utilities for determination of where to start the subsurface investigation is needed and will be completed by FMG.

3. Preliminary Design Services to include the following Engineering Services:
   a) Based on utility mapping available prepare a drawing with coordinates for approximate locations of existing utilities where there may be potential conflicts with the new grease pipelines.
   b) Load coordinates into survey equipment and stake the approximate locations in the field of the existing utilities for the City’s use in completing subservice exploration to verify location of utilities.

4. Basis for Amendment: The original scope assumed that the new grease pipelines would be replaced in the same approximate location as the existing pipelines.
Therefore, no topographic survey or subsurface investigation was included in the original scope of services.

5. Basis of Payment: The work under AD2-Task 3, WR-6 will be completed for a lump sum fee of $1,295.00. Invoicing will be monthly based on a percent of work completed.

II. Water Division Projects

A. AD2-Task 4, W-1, Skyline Reservoir Security Fencing and Signal Hill Valve Vault Security Fencing.

1. Project Location: Signal Hill Reservoirs.

2. Description: The original scope for this task included the design of new security fencing with anti-climb extensions and man gates around each of two existing below grade valve vaults. During preliminary design, it was determined that vehicular access was also required to the valve vaults to allow access to the vaults by truck mounted lift cranes. Grading work, including extension of existing stormwater piping and drainage is required for the construction of the vehicular access. Additional grading and drainage design, plans, and specifications are required. To properly design the new vehicular access and drainage improvements, additional topographic site survey work is also required.

3. The following Engineering’s Services are to include:
   a) Preliminary Design Services:
      1) Site Survey to obtain topographic information for design of grading improvements, vehicular access, and extension of storm sewer piping if necessary.
      2) Design and development of preliminary plans and specifications showing the site grading improvements, vehicular access improvements and extension of storm sewer piping as necessary.
   b) Final Design Services:
      1) Develop of final design drawings and specifications for the site grading improvements, vehicular access improvements and extension of storm sewer piping.
      2) Submittal of final drawings and specifications

4. Basis for Amendment: Site grading design, storm sewer extension, and design of vehicular access improvements at the Signal Hill valve vault was not included in the original scope but determined to be necessary during preliminary design of the security fencing improvements. Topographic survey of the Signal Hill Valve Vault site was not included in the original scope but determined to be required for design of the site grading, storm sewer improvements, and vehicular access improvements.

5. Basis of Payment: The work under AD2-Task 4, W-1 will be completed for a lump sum fee of $4,558.00. Invoicing will be monthly based on a percent of work completed.
B. AD2-Task 5, W-7, Fence and Gates Removal around Water Main easement north of the WRF to be added as part of the Fencing MIPS Project.

1. Project Location: Water Reclamation Facility.

2. Project Description: New 12" Water Main was constructed from the WRF to Morris Lane in 2017 in the East Rapid City Water Expansion, Water Reclamation Facility Water Main Extension Project. Fence and gates were placed around the water main easement from the WRF to Rapid Creek, to protect the easement from livestock, while new grass was being established. The easement has been fully restored. Therefore, the fence, posts, and gates can be removed.

3. The following Engineering Design Services are to include:
   a) Preliminary Design Services.
      1) Walk the site with WRF Operations Staff and take photos to determine type and length of fence to be removed.
      2) No topographic site survey is included in the Scope of Work.
   b) Final Design Services.
      1) Develop fence removal and restoration notes and a removal bid quantity. Fence removal per lineal feet will be the only itemized quantity. There will be no other items quantified for fence removal.
      2) Develop final drawings for fence removal, which will include aerial photo's outlining the limits for fence removal and sheet for fence removal site restoration notes photographs to illustrate fence removal features.

4. Basis for Amendment: Removal of the fence around the water main easement was not included in the original list of 2020 MIPS projects and was recently requested for inclusion in the Fencing MIPS Project.

5. Basis of Payment: The work under AD2-Task 5, W-7. will be completed for a lump sum fee of $3,561.00. Invoicing will be monthly based on a percent of work completed.

This amendment would supplement the original contract by adding $52,084 as shown on the attached Exhibit B to the current contract amount.
<table>
<thead>
<tr>
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