PROFESSIONAL SERVICES AGREEMENT
Digital GIS Base Map Development Services

THIS AGREEMENT made on this ______ day of January, 2018 between the City of Rapid City, 300 Sixth Street, Rapid City, South Dakota 57701, hereinafter referred to as OWNER, and Fugro Geospatial, Inc., 4350 Airport Road, Rapid City, SD 57701, hereinafter referred to as CONSULTANT. This project will encompass the Digital GIS Base Map Development Services.

OWNER and CONSULTANT in consideration of their mutual covenants herein agree in respect of the performance of digital GIS base map development and acquisition services by CONSULTANT and the payment for those services by OWNER as set forth below.

SECTION 1 - BASIC SERVICES TO CONSULTANT

1.1 General

CONSULTANT shall provide to OWNER services in all phases of the Project to which this Agreement applies as hereinafter provided. These services include determining the update and processing of the leaf-off aerial digital orthorectified photography, including planimetric building features.

1.2 Scope of Work

The Scope of Work is described in detail in Exhibit A and shall include the Base Project Components 1 through 5 plus two optional components to include aerial photography acquisition, digital orthophoto production, digital orthophoto aerial imagery, digital planimetric feature compilation (building footprints) and 15 additional control points.

SECTION 2 – OWNER’S RESPONSIBILITIES

2.1 The Community Development Director or their designee shall act as OWNER’S representative with respect to the services to be rendered under this Agreement. The Community Development Director shall have complete authority to transmit instructions, receive information, interpret and define OWNER’S policies and decisions with respect to CONSULTANT’S services for the Project.

2.2 Assist CONSULTANT by placing at CONSULTANT’S disposal all available information pertinent to the Project including previous reports and any other data relative to the Project.

2.3 Examine all studies, reports, sketches, drawings, proposals and other documents presented by CONSULTANT, obtain advice of an attorney, insurance counselor and other consultants as OWNER deems appropriate for such examination and
render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of CONSULTANT.

2.4 Give prompt written notice to CONSULTANT whenever OWNER observes or otherwise becomes aware of any development that affects the scope or timing of CONSULTANT'S services.

2.5 Furnish or direct CONSULTANT to provide Optional Deliverable Services.

SECTION 3 - PERIOD OF SERVICE

The CONSULTANT shall complete the scope of work stated in Exhibit A by December 31, 2018, provided a written “Notice to Proceed” is issued by January 17, 2018. The CONSULTANT’S services shall be provided in general accordance with the schedule as defined in Exhibit B. The OWNER may consider a failure by CONSULTANT to meet the schedule in Exhibit B with regard to any phase of the work as a breach of this Agreement.

SECTION 4 - PAYMENTS TO CONSULTANT

4.1 Methods of Payment for Services and Expenses of CONSULTANT

The OWNER shall pay the CONSULTANT in a lump sum amount of $119,383.23 as detailed in the attached Exhibit C “Cost Estimate” for services rendered under Section 1 as detailed in Exhibit A.

Payment shall be made pursuant to invoices submitted by the CONSULTANT with a signed voucher. Progress payments may be made upon completion of each Component as detailed in Exhibit A or at the OWNER’s discretion based on work completed and documented on progress reports.

4.2 Times of Payments

CONSULTANT may submit vouchers for each Component as that Component is completed or for all completed Components. OWNER shall make prompt payments in response to CONSULTANT’S signed vouchers.

For these services, the OWNER shall make prompt payments to the CONSULTANT based on Component billings submitted by the CONSULTANT up to 90% of the maximum fee for each Component as shown on Exhibit C, “Cost Estimate”. The remaining 10% shall be due upon approval of the deliverables for the Project as accepted by OWNER.

4.3 Other Provisions Concerning Payments and Record Keeping

4.3.1 If OWNER fails to make any payment due CONSULTANT for services and expenses within forty-five (45) days after receipt of CONSULTANT’S statement, the CONSULTANT may, after giving seven (7) days written
notice to OWNER, suspend services under this Agreement until CONSULTANT has been paid in full all amounts due for services, expenses and charges.

4.3.2 The employees of CONSULTANT, professional associates and consultants, whose time is directly assignable to the program shall keep and sign a time record showing the element of the Project, date and hours worked, title of position and compensation rate.

4.3.3 Records. The CONSULTANT shall maintain an accurate cost keeping system as to all costs incurred in connection with the subject to this Agreement and shall produce for examination books of accounts, bills, invoices and other vouchers or certified copies thereof if originals be lost at such reasonable time and place as may be designated by the OWNER and shall permit extracts and copies thereof to be made during the contract period and for three years after the date of final payment to CONSULTANT.

All personnel employed by CONSULTANT shall maintain time records for time spent performing work on study described in this Agreement for a period of three years from the conclusion of the requested services. Time records and payroll records for said personnel shall be similarly retained by CONSULTANT for a period of three years from the conclusion of the requested services.

Upon reasonable notice, the CONSULTANT shall allow OWNER auditors to audit all records of the CONSULTANT related to this Agreement. These records shall be clearly identified and readily accessible. All records shall be kept for a period of three (3) years after final payment under Agreement is made and all other pending matters are closed.

4.3.4 Audits. If the CONSULTANT expends $750,000.00 or more in federal awards during the CONSULTANT’s fiscal year, the CONSULTANT must have an audit conducted in accordance with 2 CFR Part 200, Subpart F - Audit Requirements, by an auditor approved by the Auditor General to perform the audit. On continuing audit engagements, the Auditor General’s approval should be obtained annually. Approval of an auditor must be obtained by forwarding a copy of the audit engagement letter to:

Department of Legislative Audit A-133
Coordinator
427 South Chapelle Street
% 500 East Capitol Avenue
Pierre, SD 57501-5070

If the CONSULTANT expends less than $750,000.00 during any Sub-
Recipient fiscal year, the State may perform a more limited program or performance audit related to the completion of the Agreement objects, the eligibility of services or costs, and adherence to Agreement provisions.

Audits will be filed with and approved by the State Auditor General by the end of the ninth month following the end of the fiscal year of the entity being audited or thirty (30) days after receipt of the auditor’s report, whichever is earlier.

For either an entity-wide, independent financial audit, or an audit under 2 CFR Part 200, Subpart F, the Sub-Recipient will resolve all interim audit findings to the satisfaction of the auditor. The Sub-Recipient will facilitate and aid any such reviews, examinations, and agreed upon procedures, the State or its contractor(s) may perform.

Failure to complete audit(s) as required, including resolving interim audit findings, will result in the disallowance of audit costs as direct or indirect charges to programs. Additionally, a percentage of awards may be withheld, overhead costs may be disallowed, and awards may be suspended, until the audit is completely resolved.

The CONSULTANT will be responsible for payment of any and all audit exceptions which are identified by the State. The State may conduct an agreed upon procedures engagement as an audit strategy. The CONSULTANT may be responsible for payment of any and all questioned costs, as defined in 2 CFR 200.84, at the discretion of the State.

Notwithstanding any other condition of the Agreement, the cooperative audit resolution process applies, as appropriate. The books and records of the CONSULTANT must be made available if needed and upon request at the CONSULTANT’s regular place of business for audit by personnel authorized by the State. The State and federal agency each has the right to return to audit the program during performance under the grant or after close-out, and at any time during the record retention period, and to conduct recovery audits including the recovery of funds, as appropriate. If applicable, the CONSULTANT will comply in full with the administrative requirements and cost principles as outlined in U.S. Office of Management & Budget (OMB) uniform administrative requirements, cost principles, and audit requirements for federal awards – 2 CFR Part 200 (Uniform Administrative Requirements).

4.3.5 Payments to Subcontractors or Suppliers. Payment shall be made subject to audit by duly authorized representatives of the OWNER. Payment as required in Super Circular 200:

The CONSULTANT shall pay subcontractors or suppliers within 15 days
of receiving payment for work that is submitted for progress payment by the OWNER. If the CONSULTANT withholds payment beyond this time period, written justification by the CONSULTANT shall be submitted to the OWNER upon request. If it is determined that a subcontractor or supplier has not received payment due without just cause, the OWNER may withhold future estimated payments and/or may direct the CONSULTANT to make such payment to the subcontractor or supplier. Prompt payment deviations will be subject to price adjustments.

4.3.6 Funding Provision. The payment of federal funds under this Agreement is subject to the availability of Metropolitan Planning Organization’s Federal Highway Administration and Federal Transit Administration funds appropriated by Congress.

4.4 Definitions

Reimbursable Expenses means the actual expenses incurred by CONSULTANT or CONSULTANT’S independent professional associates or consultants directly in connection with the Project, including expenses for: transportation and subsistence incidental thereto; reproduction of reports, graphics, and similar Project related items; and if authorized in advance by OWNER, overtime work requiring higher than regular rates. In addition, if authorized in advance by OWNER, Reimbursable Expenses will also include expenses incurred for computer time and other highly specialized equipment, including an appropriate charge for previously established programs and expenses of photographic production techniques times a factor of 1.0 as determined in accordance with CONSULTANT’S normal accounting practices. All costs must be accumulated and segregated in accordance with Consultant’s normal business practice and FAR Part 31.

SECTION 5 – TERMINATION

5.1 Notice. If the CONSULTANT breaches any of the terms or conditions of this Agreement, the OWNER may terminate this Agreement or any portion of the Agreement at any time with or without notice. In any other case, the OWNER may terminate the entire Agreement or any portion of the Agreement upon ten (10) days’ written notice to CONSULTANT.

5.2 Take over Work. Upon termination, the OWNER may take over the work and/or may award another party an agreement to complete the work under this Agreement.

5.3 Delivery of Work. Upon termination, the CONSULTANT shall deliver to the OWNER all work product completed to the date of termination. The CONSULTANT’S work product shall become the OWNER’S property.
5.4  

Payment Upon Termination.

5.4.1 Termination for Default. If the OWNER terminates the Agreement due to CONSULTANT’S default, the OWNER may pay the CONSULTANT for work satisfactorily performed and delivered to the OWNER up to the date of termination. After audit of the CONSULTANT’S billed costs to the date of termination and after determination by the OWNER of the amount of work satisfactorily performed, the OWNER will determine the amount to be paid to the CONSULTANT. The OWNER may adjust any payment to cover any additional costs to the OWNER due to the CONSULTANT’S default. The OWNER shall be entitled to recover payments made to the CONSULTANT for the work which is the cause of the termination.

5.4.2 Termination not for Default. If the Owner terminates the Agreement for a reason other than default, the CONSULTANT shall be paid for the value of work performed and services rendered up to the date of termination, in an amount decided by OWNER. Any such payment shall constitute total payment for such work and services.

5.4.3 Termination at Completion of Phase. If the Agreement is terminated at the completion of any component phase, any progress payments paid to CONSULTANT for services rendered through such phase shall constitute total payment for such services.

5.4.4 Termination During Phase. If the Agreement is terminated during any component phase, CONSULTANT may be reimbursed for the charges of independent professional associates and consultants employed by CONSULTANT to render component services incurred through such phase. CONSULTANT may also be paid for unpaid Reimbursable Expenses incurred during such phase.

SECTION 6 – WORK PRODUCT

6.1 Inspection of Work

The CONSULTANT shall, with reasonable notice, afford OWNER or representative of OWNER reasonable facilities for review and inspection of the work in this Agreement. OWNER shall have access to CONSULTANT’S premises and to all books, records, correspondence, instructions, receipts, vouchers and memoranda of every description pertaining to this Agreement.

6.2 Ownership of Data

Documents and all products of this Agreement are to be the property of the OWNER. Any reuse of documents for extensions of the Project or other projects shall be at the OWNER’s sole risk and liability.

6.3 Publication and Release of Information
The CONSULTANT shall not copyright material developed under this Agreement without written authorization from the OWNER. The OWNER reserves a royalty- free non-exclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, the work for government purposes.

6.4 Acquisition of Property or Equipment

The acquisition of property or equipment shall be in accordance with Super Circular 200.

SECTION 7 – RELATIONSHIP OF PARTIES

7.1 Independent Consulting and Subcontracting

While performing services hereunder, CONSULTANT is an independent contractor and not an officer, agent, or employee of the City of Rapid City.

Any employee of the CONSULTANT engaged in the performance of services required under the agreement shall not be considered an employee of the OWNER, and any and all claims that may or might arise under the Worker's Compensation Act of the State of South Dakota on behalf of said employees or other persons while so engaged and any and all claims made by any third party as a consequence of any act or omission of the part of the work or service provided or to be rendered herein by the CONSULTANT shall in no way be the obligation or responsibility of the OWNER.

CONSULTANT shall perform all work except specialized services. Specialized services are considered to be those items not ordinarily furnished by CONSULTANT which must be obtained for proper execution of this Agreement.

Neither this Agreement nor any interest therein shall be assigned, sublet or transferred unless written permission to do so is granted by the OWNER. Subcontracts are to contain all the required provisions of the prime contract as required by 49 CFR Part 18, definitions.

7.2 Personnel Employment

The CONSULTANT warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT, to solicit or secure this agreement, and that he has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, brokerage fee, gifts, or any other considerations, contingent upon or resulting from the award of making of this Agreement. For breach or violation of this warranty, the OWNER shall have the right to annul this Agreement without liability or, in its discretion to deduct from the agreement price or consideration, or otherwise recover, the full amount of such fees, commission, percentage, brokerage fee, gift or contingent fee.
SECTION 8 – CLAIMS AND INSURANCE

8.1 Indemnification

To the extent authorized by law, the CONSULTANT shall indemnify and hold harmless the OWNER, its employees and agents, against any and all claims, damages, liability and court awards including costs, expenses and reasonable attorney fees to the extent such claims are caused by any negligent performance of professional services by, the CONSULTANT, its employees, agents, subcontractors or assignees.

8.2 Reporting

CONSULTANT agrees to report to the OWNER any event encountered in the course of performance of this Agreement which results in injury to any person or property, or which may otherwise subject CONSULTANT, or the OWNER or its officers, agents or employees to liability. CONSULTANT shall report any such event to the OWNER immediately upon discovery.

CONSULTANT’S obligation under this section shall only be to report the occurrence of any event to the OWNER and to make any other report provided for by their duties or applicable law. CONSULTANT’S obligation to report shall not require disclosure of any information subject to privilege or confidentiality under law (e.g., attorney-client communications). Reporting to the OWNER under this section shall not excuse or satisfy any obligation of CONSULTANT to report any event to law enforcement or other entities under the requirements of any applicable law.

8.3 Insurance

Before the CONSULTANT begins providing service under this Agreement, the CONSULTANT shall furnish the OWNER with the following certificates of insurance, with the City listed as an additional insured on all policies other than Professional Liability and Worker’s Compensation, which provide that such insurance may not be canceled, except on 30 days’ prior written notice to the OWNER, and which assure that the insurance is in effect for the life of the contract:

A. Commercial General Liability Insurance: CONSULTANT shall maintain occurrence based commercial general liability insurance or equivalent form with a limit of not less than $1,000,000.00 for each occurrence. If such insurance contains a general aggregate limit it shall apply separately to this Agreement or be no less than two times the occurrence limit.

B. Professional Liability Insurance or Miscellaneous Professional Liability Insurance: CONSULTANT agrees to procure and maintain professional liability insurance or miscellaneous professional liability insurance with a limit not less than $1,000,000.00.
The insurance provided for general liability and errors and omissions shall be adequate for the liability presented.

C. Business Automobile Liability Insurance: CONSULTANT shall maintain business automobile liability insurance or equivalent form with a limit of not less than $500,000.00 for each accident. Such insurance shall include coverage for owned, hired and non-owned vehicles.

D. Worker's Compensation Insurance: CONSULTANT shall procure and maintain workers' compensation and employers' liability insurance as required by South Dakota law.

SECTION 9 – COMPLIANCE WITH FEDERAL LAWS

9.1 Compliance Provision

The CONSULTANT shall comply with all federal, state and local laws, together with all ordinances and regulations applicable to the work and shall be solely responsible for obtaining current information on such requirements. The CONSULTANT shall procure all licenses, permits or other rights necessary for the fulfillment of its obligation under the Agreement.

9.2 Clean Air Act

CONSULTANT stipulates that any facility to be utilized in the performance of this contract, under the Clean Air Act, as amended, Executive Order 11738, and regulations in implementation thereof is not listed on the U.S. Environmental Protection Agency List of Violating Facilities pursuant to 40 CFR 15.20 and that the OWNER and the State Department of Transportation shall be promptly notified of the receipt by the CONSULTANT of any communication from the Director, Office of Federal Activities, EPA, indication that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

9.3 Equal Employment and Nondiscrimination

The CONSULTANT shall be bound by EXHIBIT E, attached to and made a part of this Agreement, said assurance being entitled, “STANDARD TITLE VI/ NONDISCRIMINATION ASSURANCES APPENDIX A & E."

In connection with the execution of this Agreement, the CONSULTANT shall not discriminate against any employee, or applicant for employment, because of race, religions, color, sex, disability, or national origin. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer, recruitment, or advertising, layoff or termination, rates of pay, or other forms of compensation, and selection for training, including apprenticeship.
9.4 Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion

CONSULTANT certifies, by signing this agreement that neither it nor its Principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency, attached as EXHIBIT D.

9.5 Disclosure to Report Lobbying

CONSULTANT certifies, to the best of CONSULTANT'S knowledge and belief, that: no Federal appropriated funds have been paid or will be paid, by or on CONSULTANT'S behalf, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of a Federal contract, grant, loan, or cooperative agreement. If any funds other than Federal appropriated funds have been paid or will be paid to any of the above mentioned parties, the undersigned shall complete and submit Standard Form LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65. Any Sub-Recipient who applies or bids for an award of $100,000.00 or more will file the certification required by 49 CFR Part 20, “New Restrictions on Lobbying,” attached to this Agreement as Exhibit G. Each tier certifies to the tier above that it will not and has not used federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any federal contract, grant, or any other award covered by 31 U.S.C. 1352. Each tier will also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-federal funds with respect to that federal contract, grant, or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

SECTION 10 – ADDITIONAL TERMS

10.1 Acceptance and Modification

This written agreement which includes the Request for Proposals and associated exhibits, to include Exhibit A – Scope of Work, Exhibit B – Project Schedule, Exhibit C – Cost Estimate, Exhibit D – Debarment, Exhibit E – Standard Title VI / Nondiscrimination Assurances, Exhibit F – Request for Proposals, Exhibit G – Certification Regarding Lobbying, and Exhibit H – Conflict of Interest, constitute the entire agreement of the parties. No other promises or consideration are a part of this agreement. This Agreement and said Exhibits and schedules may only be amended, supplemented, modified or
canceled after consultation with, and approval in writing by, the parties to this Agreement.

All other prior discussions, communications, and representations concerning the subject matter of this Agreement are superseded by the terms of this Agreement, and, except as specifically provided in this Agreement, this Agreement constitutes the entire agreement with respect to the subject matter

10.2 Governing Law

This agreement and any dispute arising out of this agreement shall be governed by the laws of the State of South Dakota.

10.3 Forum Selection

Any dispute arising out of this contract shall be litigated in the Circuit Court for the Seventh Judicial Circuit, Rapid City, South Dakota.

10.4 Severability Provision

In the event that any court of competent jurisdiction shall hold any provision of this Agreement unenforceable or invalid, such holding shall not invalidate or render unenforceable any other provision hereof.

10.5 Conflict of Interest

The CONSULTANT agrees to establish safeguards to prohibit any employee or other person from using their position for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain as contemplated by SDCL §§ 5-18A-17 through 5-18A-17.6. Any potential conflict of interest must be disclosed in writing and approved, in writing, by the OWNER. In the event of a conflict of interest, the CONSULTANT expressly agrees to be bound by the conflict of interest resolution process set forth in SDCL §§ 5-18A-17 through 5-18A-17.6.

10.6 Assignment of Agreement

The CONSULTANT shall not assign any portion of the work to be performed under this Agreement, or execute any contract, amendment, or change order, or obligate the CONSULTANT in any manner with any third party with respect to the CONSULTANT’S rights and responsibilities under this Agreement without the STATE’S prior written consent.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement by their duly authorized officers on the day, month and year first written above.
STATE OF SOUTH DAKOTA
COUNTY OF PENNINGTON

On this _____ day of January, 2018, before me, a Notary Public, personally appeared
Steve Allender, Mayor of the City of Rapid City, and acknowledged to me that he did sign
the foregoing document as such officer and for the purposes therein stated.

________________________________________
Notary Public

CONSORTIUM:

By: ________________________________
   Title

STATE OF_________________________
COUNTY OF_____________________

On this _____ day of January, 2018, before me, a Notary Public, personally appeared
_________________________, a Principal of Fugro Geospatial, Inc., and acknowledged to me
that s/he did sign the foregoing document as such officer and for the purposes therein
stated.

________________________________________
Notary Public

My Commission Expires:________________________

________________________________________
(SEAL)
Address for Giving Notices:

City of Rapid City  
Community Development Department  
300 Sixth Street  
Rapid City, South Dakota 57701

Fugro Geospatial, Inc.  
Attn: Les Biven  
4350 Airport Road  
Rapid City, South Dakota 57703
4 PRODUCT PROCEDURES

Fugro’s planning department is staffed with ASPRS certified photogrammetrists (CP) who possess the experience and expertise required to design a detailed project plan that is attainable and efficient.

4.1. Project Kick-off Meeting

Fugro recommends holding a project kick-off meeting to ensure all parties have a solid understanding of all aspects of the project, including schedule, deliverables and quality expectations. The results of the kick-off meeting provide confirmation that Fugro can proceed with the project by finalizing our planned approach, ramping up the required resources, and preparing our resources for data collection.

4.2. Flight Planning and Mobilization

After the project kick-off meeting Fugro’s project manager will meet with Fugro’s flight operations department to review and discuss the flight plan details. The finalized technical specifications and flight plan layouts for the AOI will be conveyed to the flight operations department for flight operations to commence. Additionally, all technical aspects of final deliverables will be reviewed and finalized to ensure conformity regarding overall project expectations.

Acquisition considerations such as airspace restrictions, airport accessibility, terrain, weather patterns, and other customer or special project needs will be addressed.
4.2.1 Flight Planning Software: J-Flight

Flight planning is performed using Fugro’s proprietary planning software J-Flight. The planning process pays particular attention to the specified area of interest in terms of topography and terrain relief. The required flight lines are designed in 2D mode and adheres to ICAS2000 (International Congress of Aeronautical Sciences) specifications for line following above ground altitude.

J-Flight uses an existing height model of the AOI to generate 3D flight lines ensuring that data resolution and lateral overlaps remain within the required tolerances. The software pays particular attention to areas of large terrain changes and indicates where adjustments of flight parameters or breaks in flight lines are necessary. This step is seen as a key quality assurance check before finalizing any flight plans. Should any issues be uncovered during this QC phase, action is taken and the process is repeated until the plan meets all requirements and specifications.

The digital files created by the J-Flight application are readable by the on-board Flight Control Management System (FCMS) that is used for operation of the acquisition system. The configuration of acquisition blocks may require modification due to weather or air traffic considerations, and these changes can be easily incorporated into the overall acquisition design using J-Flight and FCMS. In accordance with Fugro’s ISO9001:2008 certified quality management system, copies of the acquisition plans will be reviewed by our Project Manager immediately prior to the airborne mission.

A distinct flight plan will be designed for the project. The specific length of the flight lines within each block will be established to mitigate IMU drift that results from gravitational force. The final flight plan and shapefile will be submitted for approval prior to initiation of the acquisition. The accompanying shapefile for the plan will include:

- The acquisition block reference
- Mission number
- Design altitude
- Direction of flight per line
- Sensor ID and description
- Proposed date of flight

On approval, the flight plan will be published for use by the aircrews.

4.3. Ground Control Planning

Fugro has selected twelve (12) existing survey ground control points within and around the RCMPO Area 1 to control the acquisition. The location of these points is shown on the flight and control plan on page 34.

Area 2 does not have existing survey ground control points. We have identified fifteen (15) additional ground control points that may be surveyed into the control network on the flight and ground control plan on page 34. Fugro would prefer to have this additional control for a more rigid aero-triangulation solution, although we would be able to alternatively provide ortho rectified imagery using an airborne GPS solution.

We typically are able to see 10-20cm horizontal shifts, and from 10-50cm vertical shifts in the datum adjustments when we compare a GPS solution to surveyed ground control. That is why we use control to take this shift out. Although
it is not possible to determine absolute accuracy without ground control, ortho rectified imagery may be estimated to average within 30 to 50cm (1 ft. - 1.45 ft) horizontal accuracy but may fall outside of this range. We have included an optional cost for installation of this additional control in the pricing section of this proposal.

The RCMPO will be responsible for paneling all needed ground control. All panels should be in place prior to the final flight date. Approximately 40 additional quality control points, distributed randomly throughout the project area, will be used to determine the positional accuracy of the digital orthophotos using the NSSDA standards. The NSSDA positional accuracy testing will be performed by the RCMPO.

4.4. Orthoimagery Acquisition, Components 1 and 3

Photography will be collected in snow-free, leaf-off conditions when the ground is not obscured by haze, snow, smoke, dust, flood waters, or environmental factors that may obscure ground detail.

The finalized technical specifications and flight plan layouts for the project are conveyed to Fugro’s flight operations department in preparation of the acquisition mission. All technical aspects of final deliverables are reviewed and finalized to ensure goals are met regarding overall project expectations. Acquisition considerations such as airspace restrictions, airport accessibility, terrain, weather patterns, and other customer or special project needs are addressed. Final ground and aircrew safety protocols are reviewed and confirmed and the flight crew(s) mobilize to the project area.

Flight And Imagery Acquisition Characteristics

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital Airborne Sensor System</td>
<td>Leica ADS80-SH82</td>
</tr>
<tr>
<td>Pixel Resolution</td>
<td>0.5 ft (6 inch)</td>
</tr>
<tr>
<td>Flight Height (Above Mean Terrain)</td>
<td>4,823 ft</td>
</tr>
<tr>
<td>Acquisition Speed</td>
<td>180 KTS</td>
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<tr>
<td>Flight Lines</td>
<td>AREA 1 = 43 AREA 2 = 45</td>
</tr>
<tr>
<td>Sun Angle</td>
<td>30 degrees</td>
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<tr>
<td>Flight Date/Time</td>
<td>TBD in Spring 2018</td>
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<tr>
<td>Band Capture</td>
<td>Pan, R.G.B: IR</td>
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<td>Capture Width across track</td>
<td>12,000 pixels ADS80</td>
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<tr>
<td>Captured Radiometric Resolution</td>
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<tr>
<td>Processed Image Type</td>
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<td>Sensor Spectral Bands</td>
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<td>BAND</td>
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<td>Pan</td>
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<td>Red</td>
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<tr>
<td>Green</td>
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<tr>
<td>Blue</td>
<td>420-492nm</td>
</tr>
<tr>
<td>Near-infrared (rectangular)</td>
<td>833-920nm</td>
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4.4.1 Communication During Acquisition

Communication is vital when organizing and executing flight operations between the production offices, flight department and local airspace owners. This includes up-front details on project specifications, flight statistics, schedule and deliverables.

The flight operations department organizes detailed flight maps overlaid on airspace charts to be used for daily communication with air traffic control, Military Operations Areas (MOA), restricted airspaces and local airports. Prior to the data acquisition, the pilot in command (PIC) sends each airspace owner a flight chart with flight lines (and line numbers) displayed to communicate the crews objectives for the day.

The impacted airspace owner is contacted by the Pilot in Command (by phone or in person) to discuss the day’s events and to prepare for potential hazards or traffic that could interrupt the efforts for acquiring data.

4.4.2 Flight Operations

Daily flight operation components include accurate weather predictions, proper communication, data collection efforts, project tracking, and quality control measures. Weather predictions and monitoring are conducted hourly by Fugro’s aviation staff (pilots, sensor operators, managers, etc.) utilizing FAA weather sources (WSI PilotBrief Optima) for detailed analysis of weather patterns and the impact on each project. The analysis of the weather includes a review of the local monitoring stations, radar, visible satellite (for cloud cover), temperature, barometric pressure, winds aloft (wind speed and direction at flight altitude), and forecasts. Additional checks on multiple weather monitoring programs (NOAA, Weather Underground, Weather.com etc.) provide the redundancy on predictions and forecasts which help guide crews and equipment to the project location that will yield the highest level of successful data capture.

4.4.3 Imagery Acquisition Sensor: ADS80-SH82

The ADS80-SH82 is capable of data collection at a wide range of ground sample distances (GSD), depending on the altitude and air speed of the mission. The typical GSD range for digital orthoimagery or rectified imagery produced from ADS80-SH82 data is 5 cm – 2 m.

This version of the ADS80 sensor collects a total of 12 bands of imagery simultaneously, with 12,000 pixels per band and pixel size of 6.5 microns. Two tetrachroid beam splitters (Nadir and -16° backward viewing angles) allow acquisition of red, green, blue, and near-infrared bands at the same viewing angle for perfect co-registration. Radiometric resolution of compressed data (10-bit and 12-bit) dramatically improves image quality in shadow and highlight areas.
4.4.3.1 Daily Collection Activities

Data collection activities consist of safety inspections of the aircraft, operational inspections of the sensors and the ability for the crew to successfully capture the data to the project specifications when weather and airspace present the opportunity. Below is an itemized acquisition scenario for airborne data collection:

- Inspect storage/system components to ensure all units are operational and there is sufficient space
- Select and confirm the lever arm coordinates
- Load navigation system and perform system check
- Perform 5 minute static alignment and record PDOP, GPS, and UTC start time
- Ensure IMU is operational
- Ensure all channels are operational, as applicable.
- The crew begins flight line data recording: observe video display, POS status and mass memory screens; record UTC start/stop times, GPS data, ground speed, altitude, concerns, lines, waypoints and times on flight log
- After the flight mission is complete, a 5 minute static alignment will be performed followed by a systematic shutdown of the system
- Collected data is downloaded for in-field QC
- Arrange delivery of data and email flight log to team; perform data backup.

At the end of each day’s data collection effort, the sensor operator forwards the completed flight logs to the Aviation and Project Manager. The Project Manager will be in daily communication with the Rapid City GIS Division o-date project information, including flight line status and acceptance.

Digital imagery data from each sortie will be downloaded at our on-site base of operations and reviewed to verify image quality and that complete project area coverage has been acquired. Airborne GPS and IMU data will be field processed within 48 hours of acquisition to ensure that the GPS satellite geometry and that IMU data will support the mapping accuracy requirements.

4.4.4 Re-Flights

Quality control measures are performed before the flight/acquisition crew(s) leaves the project area. Airborne GPS and IMU data are field processed to ensure that GPS satellite geometry and IMU data will support the accuracy requirements. If any issues in terms of coverage or quality are identified, re-flights are called for immediately.

On confirmation that full coverage of the project area has been acquired and QC’d, the data is transferred to one or more of Fugro’s production facilities for ortho processing.

4.4.5 Preliminary Flight/Ground Control Plans

We have included our preliminary flight plans and control network layout on the map on the following page.
2018 Rapid City Ortho Project
Extended AOI
4.5. Orthoimagery Processing And Delivery: Components 2 and 4

The following digital image production process is unique to Fugro and is used for push-broom sensors such as the ADS80/100. The core application for ADS digital image sensor processing is the XPro software package from Leica. XPro was developed in parallel with the sensor and designed to take the data from the raw state to an intermediate product that can be exploited by more traditional photogrammetry software. Typical intermediate products are stereo models and strip orthos.

In XPro terminology, the raw images from the camera are called L0 images, stereo viewable images are called L1 images and strip ortho images are called L2 images. Fugro will establish a QC plan for acceptance of all products delivered and will prepare documentation that is consistent with the acceptance review.

Following the raw image generation and inspection, Fugro will begin the ortho production process. These steps include aerotriangulation, radiometric adjustments, DEM extraction, ortho-rectification, generation/QC mosaics, and reworking any problems found during the final QC steps.

4.6. Aerotriangulation

Aerotriangulation (AT) is the process of assigning ground control values to points on a block of photographs by determining the relationship between the photographs and known ground control points.

The Leica GeoSystems XPro software is used to process the imagery and ORIMA is used to derive the AT solution. XPro is a customized software suite used to download and prepare the imagery collected with the Leica ADS80/100 for softcopy photogrammetric use. XPro works in conjunction with several independent software packages to accomplish this task. IPAS and ORIMA (both from Leica GeoSystems) are used during this processing phase.

Following is a step-by-step description of the AT process:

**Step 1: Raw Image Download and GNSS/IMU Data**

The unprocessed airborne imagery, GPS and, IMU data is downloaded from the portable hard disks and checked to verify that no files are corrupted and that all data is usable. This typically happens in the field before the flight crews de-mobilize from the project site. The AT technician/analyst will set up the project using the appropriate camera settings, project information, ground control, and approved imagery.

Sample segments of the imagery are inspected in an uncor-
rected state to verify the integrity of each data set.

**Step 2:** The GPS/IMU parameters for each airborne mission are optimized using the ground control points and the error calibration map. The horizontal and vertical positions of all ground control points in the block are observed in each panchromatic band.

**Step 3:** The ground control, GPS, and IMU information is ingested and tie points between strips are identified. The analyst will plot and measure the project’s ground control, with known XYZ information, onto the AT imagery. A single control point, which should be identifiable in the imagery, may be projected onto one or many overlapping images. To ensure accurate results in the final bundle adjustment, each control point must be accurately measured on each intersecting image.

**Step 4:** Once the control points and tie points have been generated, the analyst will process the bundle adjustment for the project block. The bundle adjustment will solve the relative and absolute orientations of all images referenced in the block. The results will optimize the geometry of all AT images.

**Step 5:** A digital file containing the RMSE computations of the adjustment is then derived. The results of the adjustment are verified through the development of a sub-sampled panchromatic mosaic of the data. The mosaic is corrected using the AT points only. This mosaic is inspected by the photogrammetric technician to identify any gross errors in the adjustment, as well as the identification of any voids or image quality problems.

### AT Software and Hardware

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Function</th>
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<tbody>
<tr>
<td>Leica XPro</td>
<td>Raw Image Download and GNSS/IMU Data</td>
</tr>
<tr>
<td>Leica IPAS</td>
<td>Differential GNSS and IMU Processing</td>
</tr>
<tr>
<td>Orima version 9.10</td>
<td>Apply GPS/IMU Georeferencing to Raw Imagery</td>
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</table>

### Reporting:
A full report on the methodology and results of the AT adjustment is prepared and delivered shortly after completion of this phase. Content of the AT report includes:
- General Project Information
- Ground Control Coordinates
- AT Procedure
- AT Results
- AT Approvals and Contact Information

After completion of AT, the raw imagery is prepared for the orthophoto processing. Following is a description of the proposed workflow to develop high-resolution orthophotography from the newly acquired digital imagery. This workflow is basically the same regardless of the orthophotography pixel resolution.

### 4.7. Initial Radiometric Adjustments

Radiometric processing will compensate for the effects of temperature, aperture, and other radiometric factors. A set of intermediate images are generated from radiometric processing and are written to the intermediate storage on the central server. Using our proprietary image color and radiometric balancing software, we implement a process that reduces the lens vignetting and any image hotspot effects.

The software then applies a global histogram manipulation to balance the image in tone, contrast, and color to re-create the “real world” view of the project area. This is accomplished while maintaining the largest dynamic range possible. This software allows us to easily switch between viewing each individual image and an entire project block for balancing. We use these techniques to confirm the radiometric balance for the AT block on our projects. Prior to full orthoimagery production, Fugro will submit sample imagery to become the standard for which the final orthoimagery will be compared.

An accurate DEM is required for orthophoto production. The RFP indicates that the 2015 lidar DEM and the USGS DEM is available for ortho rectification for Area1. The USGS DEM will be used for the ortho rectification for Area 2. Fugro utilized these data sets for production of orthophotography at 0.5 ft. pixel for the 2015 RCMPO project and we expect to have the same successful delivery.
4.8. Creation of L2 Strip Ortho Images
With the refined orientation data file from aerotriangulation and a suitable DEM, XPro is again used to produce a strip ortho for all or a portion of a flight line. This task is computer intensive and normally the process is divided across many nodes of the Condor computer cluster. Several processing options are available including creation of single band, 3-band (RGB), or 4-band (RGB+CIR) ortho images. The factory radiometric calibration is applied and the modified Chavez Atmospheric (haze removal) correction may be applied. The output image is typically segmented so as to stay under 4GB tiff (uncompressed) file size limit. Each of the segments carries its own geo-reference so further processing may be done on individual segments.

4.9. Project Mosaicking and Seam-line Generation
Fugro’s image database mosaicking and editing suite is an automated image mosaic software that creates an image database for an entire project. The ortho footprints can be viewed and modified in order to produce the best mosaic possible (i.e. reduce the footprint size in order to force the seam lines to best utilize the nadir view in each exposure/flight line while maximizing the side lap). Our image database software automatically generates a seam line file that is used to mosaic the imagery. Mosaic seam lines are determined using a "shortest path" algorithm.

Our editing process provides the ability to interactively change/modify seam lines and input/paste additional or different orthophoto imagery into the image database without having to re-mosaic the project. This process also allows us the flexibility to extract image tiles in multiple resolutions and/or coordinate projections without re-working the project.

4.10. Generate and QA Mosaics
Digital orthos are visually checked for accuracy on the workstation screen, and its absolute accuracy is verified by overlaying and comparing the locations of the paneled control that are visible on the image against a CAD file containing the point locations in vector form. The edge matching of adjacent strips of imagery is accomplished using a single color band from adjoining strips of imagery displaying each strip in alternating colors of red and cyan. In areas where the overlapping images are coincident, the imagery appears in a gray scale rendition while any offset is colored red or cyan. Any offsets are measured to confirm that the offset falls within the accuracy specification for the project.

Subsampled L2 strip orthos are exported and parameters are developed. The finishing department radiometrically balances the subsampled L2 tracks while the auto-generated seam lines undergo manual inspections and alterations to prevent splitting buildings and minimizing above ground features from being clipped. The balanced subsampled L2 tracks are then imported and mosaicked using the final edited seam lines. The subsampled mosaic is then applied to the full resolution tracks and mosaicked.

4.11. Techniques for Building Lean Reduction and True Ortho Production
A reduction in building lean is part of the project planning and orthoimagery production process for identified urban areas and for building over five (5) stories. A comprehensive review of the project area will determine areas that require the building lean reduction prior to flight. Fugro’s preliminary recommendation of the areas for increased flight lines is detailed on the included preliminary orthoimagery flight plan map. The flight plan includes increased flight line side lap, assuring proper coverage. That increase in flight line side lap allows the orthoimagery production team to pick the center-most region of each image and process accordingly to minimize the lean exposing transportation features obstructed by tall buildings. Fugro has been meeting client specified levels of building lean reduction and true orthos for as long as we have been producing digital orthoimagery.
4.12. Final Formatting for Delivery

The final mosaic undergoes another round of inspection and then packaged to the final projection and tile layout. The finishing department performs a 100% final visual check for ortho image quality prior to outputting the approach data to the designated media. The media is then inspected to confirm that there is no corruption within the data files and to confirm that all of the needed data files are on the designated media. The project manager is responsible for conducting a final overview QC of all deliverables leaving the department. A review of the lead technician’s QC, file management procedures, and delivery format and coverage are all checked a final time before a deliverable is sent out. Reporting of deliveries and submitting any QC reports is the direct responsibility of the project manager.

4.13. Spatial Metadata

Metadata records are developed to document each data deliverable in accordance with the FGDC Content Standard for Digital Geospatial Metadata (FGDC-STD-001-1998). Compliance with these guidelines will be verified using the MP metadata parser available on the FGDC web portal. Metadata records will be peer reviewed to identify and correct any errors that would not be flagged by automated tools.

Fugro has developed proprietary automated metadata tools that greatly increase the speed and efficiency of metadata production. During the imagery production a metadata master file is developed that has input and review from leads at all key phases of production. Once the master file has been submitted and approved by the customer it is used to propagate tile level metadata.
4.14. Planimetric Feature Compilation - Building Footprints

Fugro has extensive experience in the collection of digital planimetric features using stereo compilation and 2D orthoimagery techniques to meet National Map Accuracy Standards and ASPRS standards for 1” = 100’ scale map accuracy. From the customer-provided planimetric dataset, Fugro will conduct a thorough review of the project area in relation to the newly collected imagery by using automated and manual techniques. Areas of building structure, pools and deck changes will be updated (compiled) to represent the current planimetric feature listing.

It is understood that RCMPO requires an update of all structure rooftop outlines (greater than 100 square feet) since the 2015 aerial imagery data acquisition. All rooftop polygons will be delivered as a polygon building footprint feature class in a project-wide ArcGIS file geodatabase. It is also understood that only added and modified structures polygon shapes will be updated with new line work. Existing structures will not require editing to account for any structure horizontal offsets encountered against the 2017 imagery. Attributes Fugro will include average elevation of the roof, the, and date of edit, with the understanding that building type will be edited in by the RCMPO. Fugro’s thorough review of the project area will also generate a shapefile (point)
4.14.1 Planimetric Compilation/Edit Process

Building footprints and average roof elevation have been requested by the RCMPO. Updating of building footprints (last updated 2015) – based on “BuildingFootprints.shp” provided by the RCMPO and New building footprints – based on difference between “BuildingFootprints.shp” and the full extent of the AOI 1 shapefile shall be provided. The structure of the final deliverable geodatabase is the same as the “BuildingFootprints.shp” that the RCMPO has provided.

Polygons will be topologically clean. The minimum size of buildings to be digitized will be 10 feet by 10 feet.

The building feature class has attributes for the average elevation of the roof, the building type (commercial or non-commercial), and date of edit. The selected respondent will only be responsible for entering the average elevation of the roof and the edit date for each polygon. The following is a step-by-step description of the planimetric vector compilation, editing and QC process:

Step 1 The project will be set up on softcopy photogrammetry workstations by the photogrammetric technician who will create a separate project directory for the project. The project tiles will be imported and prepared for 3D compilation.

Step 2 Prior to the initiation of compilation, a data capture matrix is set up in MicroStation on the softcopy photogrammetric and data edit stations by the photogrammetric and edit team members who are assigned to the project. The setup of the project is based on the specifications set forth by the RCMPO. The specific design and content of the shapefiles will adhere to the RFP specifications.

Step 3 The compilation setup is verified through collection and formatting of the stereo imagery. Fugro has developed a production workflow that is used when a mapping project requires the development of polygon topology. The photogrammetric technician collects features to be depicted as closed polygons (multi-addressable structures, pools, and decks) and adds a label point within each feature. Fugro will collect all planimetric feature data in 3D mode. As the technician finishes compiling within the tile, the .DGN CAD file is given a unique name. The photogrammetric technician calls up the adjacent tiles and performs a preliminary edge match to determine that features tie across tile boundaries and to ensure that no features are omitted.

Step 4 As progressive imagery tiles are compiled, the operator conducts ongoing checks for the X and Y coincidence between adjacent tiles verifying that no horizontal shift occurs at tile boundaries. All vector data features will be compiled in 3D with one digital file tile. This will simplify the tracking of the project through production. All features will be digitized to the edge of the RCMPO’s provided project boundary. Polygons at the edge of the boundary will be closed; building polygons will extend beyond the project boundary. A text node will be placed in all polygon features.

Step 5 Cartographic editors review the compiled data to identify any systematic errors or inconsistencies between the newly collected data and the project’s feature table. The datasets are further tested to verify that the conversion routine to produce the final Esri geodatabase format correctly converts all layers of the digital files. The photogrammetric team leader will review the results. Copies of completed test data with accompanying documentation regarding requirements and routines will be circulated to all Fugro production units for use as a standard in data collection. Fugro’s project manager and the photogrammetric team leader will conduct a final review of all planimetric mapping data.

4.14.2 Planimetric QC

The planimetric review and QC phase of the project consist of an inventory review of the deliverables, file/data structure assessment, georeference assessment, topology checks and a final visual inspection. Details for each phase of QC include:

- **Inventory Review**
  - Conduct file inventory
  - Check media for file corruption
  - Verify project coverage

- **File/Data Structure Assessment**
  - Verify proper format
  - Review metadata
  - Proper naming convention
  - Missing/additional feature datasets
  - Correct feature dataset domain
  - Missing/additional feature classes
  - Missing/additional feature class fields
  - Correct field definitions
  - Geodatabase domain

- **Georeference Assessment**
  - Esri spatial data format
  - Coordinate system
  - Geographic coordinate system
  - Horizontal datum
  - Vertical datum
  - Units of measure

- **Topology Checks**
  - Data gaps/sliver between polygons
  - Overlapping features
  - Small polygon check (resulting from collection errors)
  - Void polygon removed
  - Multi-part features
  - Edge matched

- **Visual Inspection**
  - Misaligned features
4.15. Internal Quality Management System

Fugro is committed to provide timely delivery of high-quality geospatial products and services.

The success of the project is realized through a combination of comprehensive planning and a structured approach to quality control. With an emphasis on identifying potential risks, mitigations, and preventing errors, our planning and assessment procedures ensure that all products delivered under this contract meet the highest possible quality standards.

Fugro’s ISO9001:2008-certified Quality Management System (QMS) encompasses all operations—from aviation operations to finance—and provides customers with an added level of assurance in our design, development, production, and delivery processes. Fugro requires input from the client personnel to develop quality control acceptance criteria, as well as to provide feedback during the production and review and acceptance processes upon final delivery.

The history of our QMS dates back to 2001 when we first achieved certification for compliance to the ISO9001 quality standard. In November 2008, we achieved OHSAS 18001:2007 certification, and we achieved certification for ISO 9001:2008 compliance in 2010; re-certified in 2016.
The success of our QMS system is evidenced by a number of improvements, including our first-time-right delivery rate, which improved to over 99% for orthoimagery since 2009. More importantly, Fugro has realized dramatic and measured improvements for cycle time reduction, reduced rework, improved subcontractor management, and performance. Together, these achievements have benefited our customers by transferring the burden of quality control from the customer to Fugro.

Finally, a key component of our QMS is the mandatory process of auditing and updating production and management procedures and quality metrics. This requirement allows us to continually and efficiently adapt our processes to technology innovations, which then translate into benefits for our customers.

Fugro’s commitment to the success of your project includes three (3) separate types of quality control processes to ensure all specifications for quality and timeliness meet or exceed requirements:

1. Project Management Quality System
2. Quality Control of Subcontractor Work (if used)
3. Internal Quality Control Processes

Based on requirements, specific quality control checks are built into each production process so that quality control occurs throughout the life of a project and not simply as a final review.

4.16 Project Management Quality

Our approach to project management is based on previous experience serving on multiple contracts similar in nature and scope. Once the project criteria are determined the project manager maintains communications with the team lead throughout the project through weekly production meetings, email, and specific issue calls to ensure the project remains on track and within the project specifications. Building on past success and incorporating lessons learned, our program management plan is designed to meet the following objectives:

- Ensure the successful completion of each task order, on-time, first-time-right.
- Produce quality products and services.
- Provide a central source for all communications between the RCMPO and Fugro.
- Track progress against schedule and budget with regular reporting to the RCMPO and Fugro.
- Identify technical issues early and resolve them in a timely manner.
- Incorporate lessons learned into subsequent tasks.

4.17 Quality Control of Subcontractor Work (if required)

Fugro ensures that all team subcontractors abide by the same or similar procedures during their own internal production processes and requests the same level of documentation be submitted to Fugro for review by the project manager. Furthermore, all data produced by any approved subcontractor is quality-controlled by Fugro staff using the procedures mentioned in the diagram below prior to incorporation into our internal QA/QC production process described in the following section.

For this RCMPO project, Fugro does not anticipate the use of sub-contractors unless the RCMPO requires installation of additional ground control points.

4.18 Internal Quality Control Processes

As dictated by our QMS, internal quality control procedures are implemented and documented at each step of the project to ensure that all services required by the contract are completed meeting the minimum specification and requirements. Procedural checks that include visual inspections, automated routines, and technical reviews, are detailed on the following pages.
4.18.1 Airborne Data Acquisition QA/QC

Our QA/QC procedures for acquisition are broken down into the various phases of flight planning and data acquisition. The QA/QC steps for each acquisition phase are as follows.

4.18.1.1 Flight Planning

- Establish project boundary and flight plan based on the scope of work (SOW) and send to the client for review and approval.
- Finalize flight plan based on approved project boundary.
- Import flight plan into the digital flight management system; the following project plans will be reviewed and validated by the lead pilot and project manager:
  - Airspace charts
  - Base station configuration
  - Ground elevations in flight area
  - Solar and/or tidal charts
  - Safety requirements

4.18.1.2 Ground GPS Acquisition

- Locate monument or establish temporary point.
- Record onto Survey Control Data sheet.
- Assemble GPS equipment and record data.
- Check to ensure that PDOP is less than 3.0 (or as required by SOW).
- Ensure receiver is secure and operational.
- Download and deliver data.

4.18.1.3 Flight Operations

- When Air Traffic Control (ATC) or Range coordination is required, the lead pilot contacts the appropriate agency to schedule/coordinate flight.
- Prior to full flight, the following steps will be performed:
  - Inspect storage and system components to ensure all units are operational and there is sufficient storage space.
  - Select/confirm the lever arm coordinates.
  - Load navigation system, perform system check.
  - Perform 5 minute static alignment and record PDOP, GPS, and UTC start time.
  - Ensure IMU and all channels are operational.
  - The crew begins flight line data recording: observe video display, POS status and mass memory screens; record UTC start/stop times, GPS data, ground speed, altitude, comments/concerns, lines, waypoints and times on flight log.
  - After the flight mission is complete, a 5 minute static alignment will be performed followed by a systematic shutdown of the system.
  - Collected data will be downloaded for QC.
  - Arrange delivery of data and email flight log to team; perform data backup.

4.18.2 Ground Control QA/QC (if required)

All planning, reconnaissance, field observations, post-processing, adjustments, and final report development is performed under the direct supervision of a highly-experienced land surveyor.

- Fixed height tripods are used during the GPS survey to eliminate antenna height measurement error.
- Vertical tripod measurements are taken before and after collection to ensure there are no errors.
- The field crews perform processing and closure analysis of the data to eliminate field blunders and determine baselines.
- Blunders which do not fit the network or project tolerances are re-observed.
- The final adjustment and processing of target locations is coordinated and completed by a single surveyor to ensure the overall consistency and integrity of the control network. This crucial step facilitates a smoother aerial triangulation process.
4.19. Data Processing

Our QA/QC procedures for processing are broken down into the various phases of front end processing and imagery processing. The QA/QC steps for each front end and image processing phase are, as follows. In addition, the processes below includes any rework that is required on any phase deliverable rejected by the RCMPO and returned to Fugro for error corrections.

4.19.1 Airborne GPS and IMU Data QA/QC

Airborne GPS control is accomplished through the simultaneous observation of five or more satellites in the GPS constellation using the on-board receiver and one or more ground receivers (base stations) located over known control points that are in the vicinity of the project area. The simultaneous collection of airborne GPS and IMU data with the aerial imagery ensures an exceptional level of accuracy in the final product.

- Fugro coordinates the daily activities of all flight crews. Prior to deployment the project manager explains the collection specifications in detail to the crew members. If accessible to non-airport personnel, the GPS occupation of a primary airport control station (PACS) is established prior to any airborne GPS collection.
- For the RCMPO project, Fugro will utilize a permanent PACS located at the Fugro Aviation facility at Rapid City Municipal Airport (KRAP). The GPS station records at a one second intervals for the duration of the airborne collection. Coordinates for this base station point are adjusted by the project surveyor and tied into the control network.
- Airborne GPS and IMU data is immediately processed using the airport GPS base station data, which is available to the flight crew upon landing the plane. This ensures the integrity of all mission data.
- When necessary, we use a combination of CORS stations and surveyor established GPS stations to ensure that a base station is operating within range of the aircraft at all times. If this occurs, it is included in the pre-planning. Once a decision has been made to fly, any GPS stations established for the project area is activated at a one second interval for the duration of the airborne collection.

4.19.2 Aerotriangulation QA/QC

The aerotriangulation process is an invaluable tool in the production process as it ensures that the underlying GPS ground control, airborne GPS and IMU data are sound and support the accuracy specifications of the project.

- An initial bundle/block adjustment is developed for each data sortie.
  - The accuracy of each bundle/block is confirmed through an RMSE evaluation against the project ground control.
  - The accuracy of the adjustment is verified through an iterative process where the adjustment is repeatedly run, while progressively increasing the constraints on the ground control.
  - The bundle adjustment result is applied to the images of each AT block (consisting of multiple lifts or sorties). The results of the adjustment are verified through the generation of the full-resolution panchromatic orthophoto chips over the ground control points.
  - The orthophoto chips are inspected to identify any errors in the adjustment to ensure the accuracy meets project specification. Orthophoto strips are generated and visually reviewed to ensure coverage across all flight lines to ensure edge matching between flight lines.
  - The adjustment/inspection process is repeated as bundle/block adjustment for adjoining sorties are complete and these small blocks are adjusted to build the overall bundle adjustment.
  - Throughout the process, the accuracy of each adjustment is checked against the GPS ground control points.

4.19.3 Orthorectification of the Imagery QA/QC

- Preliminary field data is reviewed to ensure that there are no gaps between flight lines before the flight crew leaves the project site.
- Turbulence is inspected and if it affects the quality of the data, the flight line will be rejected.
- Full office visual review is performed to ensure that it is complete, uncorrupted, and that the entire project area has been covered without gaps between flight lines.
- The technician performs a visual inspection of raw images on selected bands of each collected flight lines for completeness. This step ensures that the sensor is functioning properly.
- Flight line trajectory files are checked to ensure completeness of acquisition of project flight lines, calibration lines, and cross flight lines.
- The raw RGB images for each collected flight lines will be rectified using the newly created DEM and the GPS/IMU solution in Fugro proprietary software. The technician will visually review all rectified images.
to ensure completeness of acquisition for all flight lines. The technician will also use these images to identify any gaps, clouds, shadows and any unpredicted issues in project area. All issues that don’t meet project specification will be rejected and re-flown.

- The orthophoto production process incorporates the ability to develop a completed digital orthophoto mosaic of all or part of a data sortie at a greatly reduced resolution.
- “Quick look” generation permits the quick assessment of iterative adjustments to finalize the parameters that will be applied to the data for radiometric corrections to the orthophoto while data limiting computer resources by only processing the imagery at full resolution once.
- Additionally quick looks enable the technician to assess the accuracy of the processed imagery as well as identifying areas of distortion that would necessitate regeneration of the DEM or aerotriangulation data.
- Digital orthophotography is visually checked for accuracy on the workstation screen, and its absolute accuracy is verified by overlaying and comparing the locations of the paneled control that are visible on the image against a CAD file containing the point locations in vector form.
- The edge matching of adjacent strips of imagery is accomplished using a single color band from adjoining strips of imagery displaying each strip in alternating colors of red and cyan.
- In areas where the overlapping images are coincident, the imagery appears in a gray scale rendition while any offset is colored red or cyan.
- Offsets are measured so that the offset falls within the accuracy specification for the project.
- Using the parameters developed from the quick look, the finishing department radiometrically corrects the orthophotos prior to completing the mosaicking and clipping of the final tiles, then the files are returned to digital orthophoto production for mosaicking.

4.19.3.1 Orthoimagery Delivery QA/QC

- The finishing department performs a 100% final visual check for image quality prior to outputting the approach data to the designated media.
- The media is then inspected to confirm that there is no corruption within the data files and to confirm that all of the needed data files are on the designated media.
- The project manager is responsible for conducting a final overview QC of all deliverables leaving the department. A review of the lead technician’s QC, file management procedures, and delivery format and coverage are all checked a final time before a deliverable is sent out. Reporting of deliveries and submitting any QC reports is the direct responsibility of the project manager.

4.19.4 Final Delivery Quality Control

The project manager for the project is responsible for conducting a final overview QC of all deliverables leaving the department. A review of the lead technician’s QC, file management procedures, and delivery format and coverage are all checked a final time before a deliverable is sent out. Reporting of deliveries and submitting any QC reports is the direct responsibility of the project manager.

Some of the additional quality control routines that are incorporated into each phase of lidar processing are:

- Existing ground control and elevation data can be used to verify the accuracy of the lidar data; ensuring that the target accuracies are met.
- The coverage and edge matching of the data are re-checked during the vegetation re-classification process to ensure that the data meets the required accuracy specifications.
- Peer reviews are conducted by the technicians during the entire process.
- The project manager consistently checks on quality during production.
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<td>1</td>
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</tr>
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<td>Thu 5/10/18</td>
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<td>Thu 4/5/18</td>
<td>Thu 4/5/18</td>
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<td>Wed 4/4/18</td>
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<td>Thu 4/12/18</td>
<td>Thu 4/19/18</td>
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<td>9</td>
<td>Acquisition progress report</td>
<td>Thu 5/10/18</td>
<td>Thu 5/10/18</td>
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<tr>
<td>10</td>
<td>Data Processing</td>
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<td>Thu 8/23/18</td>
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<td>11</td>
<td>GPS/IMU Data processing</td>
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<td>Building Footprints</td>
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<tr>
<td>18</td>
<td>Planimetric collection</td>
<td>Mon 7/2/18</td>
<td>Fri 9/7/18</td>
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<td>Geodatabase creation (project-wide)</td>
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<tr>
<td>26</td>
<td>Final Report</td>
<td>Fri 10/19/18</td>
<td>Fri 10/19/18</td>
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</table>
COST/BUDGET PROPOSAL FOR:
DIGITAL GIS BASE MAP
DEVELOPMENT SERVICES
CITY OF RAPID CITY, SOUTH DAKOTA

Submitted To:
Patsy Horton
Community Planning and Development Services Department
300 Sixth Street
Rapid City, SD 57701
Tel: 605-394-4120

Submitted By:
Les Biven
Fugro Geospatial, Inc
4350 Airport Road
Rapid City, SD 57703
Tel: 605-343-0280
Fax: 605-343-0305
Email: l.biven@fugro.com
www.fugro.com/geospatial

Due Date/Time:
November 30, 2017
### Cost Proposal For the RCMPO Digital GIS Base Map Development Services

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>COST</th>
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<tr>
<td>Component 1 – Aerial photograpy acquisition for RCMPO (AOI 1)</td>
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<td>Component 2 – Digital orthophoto production for RCMPO (AOI 1)</td>
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<td>Component 5 – Digital planimetric feature compilation – building footprints (UPDATE)</td>
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<td>Component 6 – Option Additional 15 control points (AOI 2)</td>
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<tr>
<td>New Component 8 - Cost for rebar pin with caps for 15 new control points</td>
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</table>

**TOTAL PROJECT COST:**  $119,383.23
EXHIBIT D
Debarment

CERTIFICATION FOR DEBARMENT, SUSPENSION
AND OTHER RESPONSIBILITY MATTERS

The CONSULTANT certifies to the best of its knowledge and belief that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;

2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, or receiving stolen property;

3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental agency(federal, state or local) with commission of any of the offenses listed in paragraph (2) of this certification; and

4. Have not within a three-year period preceding this application had one or more public transactions (federal, state or local) terminated for cause or default.

The CONSULTANT certifies that if it becomes aware of any later information that contradicts the statements of paragraph (1) through (4) above, it will promptly inform the City of Rapid City.
During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations**: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination**: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment**: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports**: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the Federal Highway Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance**: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

   a. withholding payments to the contractor under the contract until the contractor complies; and/or
   b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions**: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.
During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

**Pertinent Non-Discrimination Authorities:**

- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- The Age Discrimination Act of 1975, as amended, (29 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).
City of Rapid City, South Dakota

REQUEST FOR PROPOSALS
FOR
DIGITAL GIS BASE MAP DEVELOPMENT SERVICES

Deadline:
4 copies and one digital proposal scan in pdf format due November 30, 2017 at 4:00 PM MST

Questions shall be addressed to:

Angela Tallon
GIS Division
300 Sixth Street
Rapid City, SD 57701
605-716-3654

Proposals shall be addressed to:

Patsy Horton
Community Planning & Development Services
300 Sixth Street
Rapid City, SD 57701
605-394-4120

Any technical questions regarding this document or processes should be directed to Angela Tallon at 605-716-3654 or angela.tallon@rcgov.org
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INTRODUCTION

Overview
The Rapid City Area Metropolitan Planning Organization (RCMPO) in conjunction with the South Dakota Department of Transportation (SDDOT), the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA), is soliciting proposals from professional mapping firms for Spring of 2018 leaf-off aerial flights for natural color digital orthorectified photography which will be used to create a new digital orthophoto base map for the RCMPO. The project will consist of two Components with separate requirements plus one optional Component. Each Component will cover a specific area: Area 1 (484.229 sq mi) and Area 2 (61.304 sq mi). Orthophotography production for Area 1 will use the RCMPO’s existing DTM/DEM and the USGS DEM. Orthophotography production for Area 2 will use the USGS DEM. The third Component involves digital compilation of select planimetric features.

The RCMPO desires that the aerial photography be flown in the Spring of 2018 in snow-free, leaf-off conditions. The aerial photography specifications should be adequate (scale, resolution, etc.) to support production of the products desired by the RCMPO under this RFP, including:

- Color digital orthophotography with an approximate 0.5 ft. ground resolution intended to be used at a scale of 1”=200’ that meets National Standards for Spatial Data Accuracy (NSSDA) at a 1:2400 scale as indicated in the areas on the map in Appendix 1.
- Digital planimetric mapping, specifically the footprints of buildings. Respondents are invited to propose options for updating the RCMPO’s 2015 footprint feature class. As an option, respondents are invited to expand the building footprint feature class to the boundary of Area 1 in Appendix 1.
- Other products. Respondents are invited to propose other value-added products as part of the project.

It is the RCMPO’s intention to select one successful aerial photography firm to deliver all of these services. The RCMPO will not coordinate work between data processing and aerial photography firms. The City of Rapid City/ Pennington County GIS Division will be managing this project.

Background
The Rapid City Area Metropolitan Planning Organization (RCMPO) includes the City of Rapid City, the City of Box Elder, the City of Summerset, the City of Piedmont, Ellsworth Air Force Base, the unincorporated area of Black Hawk and the developing areas of Pennington County and Meade County. This includes the existing urbanized area and the area which is projected to become urbanized within the twenty year horizon of the Long Range Transportation Plan. The total project area includes approximately 545 square miles. A shape file of the project area and tiling scheme may be downloaded from:

https://www.rcgov.org/departments/community-resources/geographic-information-system/gis-rfp.html

Excellent survey control exists within and around the RCMPO. The approximately 165 control locations may be seen in Appendix 3. Two types of control stations have been established: primary and secondary. Primary stations are surveyed using GPS to better than first order accuracy horizontally and are “bluebooked.” Secondary stations are GPS surveyed to first order accuracy. Vertical accuracy for both types is 0.1 foot, plus or minus. All stations have NAVD88 datum elevations. Horizontal control uses South Dakota State Plane, south zone, feet in NAD83(2011) coordinates. Given the distribution of stations, it is anticipated that sufficient points...
will be available as photographic panel points for the project. Respondents may download a shape file containing the control network at:

https://www.rcgov.org/departments/community-resources/geographic-information-system/gis-rfp.html

for use in project planning. The selected firm will coordinate panel requirements with the GIS Division. Respondents may propose the use of aircraft equipped with GPS technology in order to minimize the amount of ground control necessary to meet the defined standards for the photogrammetric and planimetric requirements of the project. The RCMPO will be responsible for providing photography panels at the selected locations.

**Project Details**
The RCMPO desires that the aerial photography be flown in the Spring of 2018 in snow-free, leaf-off conditions. The aerial photography specifications should be adequate (scale, resolution, etc.) to support production of the products desired by the RCMPO under this RFP.

Product delivery may be phased to extend into the Fall of 2018 and beyond, depending upon the requirements of the RCMPO and negotiations with the selected firm. The RCMPO will retain ownership and rights to all photographs and digital products created during the performance of this project. Responses to this RFP should include a schedule for completion of tasks in general compliance with the timeline on page 8.

**INSTRUCTIONS TO PROPOSOERS**

**Solicitation**
The RCMPO will negotiate a professional services agreement with the successful respondent. All respondents are responsible for the costs incurred in responding to this proposal.

**Submission of Proposals**
It is intended that each respondent furnish all information requested in this document. Unless specifically requested, promotional literature is discouraged and will not be considered to meet any of the requirements.

Each respondent shall be required to include the following items in their proposal. These items should be used as the format around which the proposal is organized. Exclusion of any of these items could be grounds for proposal rejection by the RCMPO.

1. **Transmittal Letter.** A letter of transmittal, not to exceed two pages in length, which bears the signature of an authorized representative of the respondent and designates by name not more than two individuals authorized to negotiate and sign an agreement with the RCMPO on behalf of the respondent.

2. **Organizational Description.** A description of your organization, including qualifications addressing your organization’s capability to provide the services requested. This must also include a description of subcontractors and associations with other firms you wish to utilize in the performance of the tasks, including the intended working relationships and responsibilities of each. Also include a description of your understanding of the RCMPO’s needs in the proposed project and your staffing commitments to assure your ability to meet the RCMPO’s time frame. Please describe past client projects you have completed that are similar in nature to that proposed in this document.
3. **Proposed Project Team Members.** Provide a written description of the consultant team composition, including disciplines, primary role in regards to the project, and relevant experience. The information provided must clearly indicate the consultant team’s point of contact, the team leader for the project (if different) and the responsible party in each firm who will be providing the required professional experience.

Provide a table showing the number of person-hours (not percentages of time) that will be devoted to each task by consultant team members. List the names of principal investigators and other key professionals who will be involved. Support personnel may be identified by classification. If subcontracting is necessary, include subcontractors' key personnel and support staff in a separate table. Clearly identify subcontractors' involvement.

Describe current commitments to other work in sufficient detail to permit assessment of each consultant team member's ability to meet the proposal's commitments. Include a statement that the level of effort proposed for principal and professional members of the study team will not be changed without written consent of RCMPO.

4. **Product Procedures.** Describe how you will produce each of the products requested in this RFP. This must include the methods used and the quality control/quality assurance procedures that will be observed. The minimum data product specifications described under each work Component must be met. Subcontractors or other firms that will work on any part of the project must also be identified, including the general nature and scope of work that will be undertaken by these firms, along with each firm’s work location. The vendor shall retain full responsibility for all work completed or uncompleted by any subcontractor.

5. **Mobilization.** Describe the plan for mobilization of aerial resources including the location from which the resources will be staged and the flight time to the project area. If the aerial collection firm is not part of the proposing firm, this information should be included in the proposal.

6. **Project Schedule.** Include a schedule for completing the work specified in this request, including a progress reporting strategy.

7. **RCMPO Obligations.** Provide a list of all items to be provided by the RCMPO to assist you in completing the requested work. This should include any data (i.e. existing control, additional control with placement costs, etc.) and/or proposed use of staff, office space, and any equipment or materials/supplies that will be expected from the RCMPO. This Component should also describe a strategy for project management indicating the mechanisms intended to be used to coordinate the proposed work with the RCMPO.

8. **Product Example.** Provide an example digital orthophoto image file and example planimetric data set(s) from similar work completed by your organization. The orthophoto image should be delivered in a TIF file format accompanied by an ESRI standard world header file (*.tfw) for viewing in ArcGIS. The planimetric data set(s) should be delivered in ArcGIS feature class format as part of a file geodatabase. Example data should be submitted on a CD-ROM. The RCMPO will assume the samples are representative of the data the Respondent will provide to the RCMPO in this project. *Only one copy of the example data sets is necessary.*

9. **References.** Each proposal must provide the name, address and phone number for five (5) individuals from organizations that have procured similar services to act as references for the
respondent. The individuals identified must at least hold a position of project management or other contract authority.

10. **Budget.** Submit proposed budget in a sealed envelope. The lump sum cost proposal shall include a sub-total, including any effort by a subcontractor, for each component as identified in the Scope of Work. The lump sum cost proposal for each component shall include sufficient detail to identify the calculations for the estimated cost proposal. The proposed budget shall be allocated by RCMPO fiscal year. RCMPO's fiscal years run from January 1 through December 31.

11. **Certification Regarding Debarment, Suspension, Ineligibility And Voluntary Exclusion – Lower Tier Covered Transactions:** By signing and submitting this proposal, the respondent certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation, by any Federal department or agency, from transactions involving the use of Federal funds. Where the offeror is unable to certify to any of the statements in this certification, the bidder shall attach an explanation to their offer.

12. **Non-Discrimination Statement:** The RCMPO, in conjunction with the State of South Dakota, requires that all contractors, vendors, and suppliers doing business with any State agency, department, institution or recipient of pass-through grants, provide a statement of non-discrimination. By signing and submitting their proposal, the offeror certifies they do not discriminate in their employment practices with regard to race, color, creed, religion, age, sex, ancestry, national origin or disability.

13. **Modification or Withdrawal of Proposals:** Proposals may be modified or withdrawn by the offeror prior to the established due date and time. No oral, telephonic or facsimile responses or modifications to informal, formal bids, or Request for Proposals will be considered.

14. **Proprietary Information:** The proposal of the successful offeror(s) becomes public information. Proprietary information can be protected under limited circumstances such as client lists and non-public financial statements. Pricing and service elements are not considered proprietary. An entire proposal may not be marked as proprietary. Offerors must clearly identify in the Executive Summary and mark in the body of the proposal any specific proprietary information they are requesting to be protected. The Executive Summary must contain specific justification explaining why the information is to be protected. Proposals may be reviewed and evaluated by any person at the discretion of the RCMPO. All materials submitted become the property of the RCMPO and may be returned only at the RCMPO's option.

15. **Governing Law:** Venue for any and all legal action regarding or arising out of the transaction covered herein shall be solely in the State of South Dakota. The laws of South Dakota shall govern this transaction.

16. **Discussions with Respondents (Oral Presentation/Negotiations):** An oral presentation by a respondent to clarify a proposal may be required at the sole discretion of the RCMPO. However, the RCMPO may award a contract based on the initial proposals received without discussion with the respondent. If oral presentations are required, they will be scheduled after the submission of proposals. Oral presentations will be made at the respondent's expense.

This process is a Request for Proposal/Competitive Negotiation process. Each Proposal shall be evaluated, and each respondent shall be available for negotiation meetings at the
RCMPO’s request. The RCMPO reserves the right to negotiate on any and/or all Components of every proposal submitted. From the time the proposals are submitted until the formal award of a contract, each proposal is considered a working document and as such, will be kept confidential. The negotiation discussions will also be held as confidential until such time as the award is completed.

One (1) original and four (4) copies of the proposal document, along with a digital copy in a pdf file format should be submitted. The Proposer’s response should contain only the information requested. All cost proposals shall be submitted in a sealed envelope and shall be valid for a period of not less than ninety (90) days from the date of receipt. The only sealed envelope opened shall be that of the selected firm. Proposals should be submitted to Patsy Horton at the following address by the proposal due date and time specified. Late proposals will not be accepted.

Attention: Patsy Horton
Community Planning and Development Services Department
300 Sixth Street
Rapid City, SD 57701

Proposals are due no later than 4:00 P.M., MST, on November 30, 2017.

Clarification and/or revisions to the specifications and requirements
Respondents are expected to raise any questions, exceptions, or additions they have concerning the RFP document in writing. If a respondent discovers any significant ambiguity, error, conflict, discrepancy, omission, or other deficiency in this RFP, they should immediately contact Angela Tallon, GIS Division, at mailto:angela.tallon@rcgov.org and request modification or clarification of the RFP document.

In the event that it becomes necessary to provide additional clarifying data or information, or to revise any part of this RFP, revisions/amendments and/or supplements will be posted to the City of Rapid City web site on the GIS RFP webpage at:

https://www.rcgov.org/departments/community-resources/geographic-information-system/gis-rfp.html

It is the responsibility of the respondent to check the web page for change documents.

Written questions and/or requests for clarification will be accepted by the RCMPO until November 14, 2017, at 4:00 p.m. MST. Responses to inquiries and/or clarifications shall be posted on or before 4:00 p.m. MST on November 17, 2017.

Time Line
The proposed schedule for the RFP process is as follows:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
<td>RFP Publication</td>
<td>November 7, 2017</td>
</tr>
<tr>
<td>Deadline for submission of written inquiries</td>
<td>November 14, 2017</td>
</tr>
<tr>
<td>Responses to inquiries posted at GIS RFP webpage</td>
<td>November 17, 2017</td>
</tr>
<tr>
<td>Proposals due</td>
<td>November 30, 2017</td>
</tr>
<tr>
<td>Selection of successful firm</td>
<td>December 8, 2017</td>
</tr>
<tr>
<td>Signed Contract due from selected firm</td>
<td>December 18, 2017</td>
</tr>
<tr>
<td>Notice to Proceed</td>
<td>January 3, 2018</td>
</tr>
</tbody>
</table>
The proposed schedule for completion of the work tasks is as follows:

- Paneling of identified ground control points: March-April 2018
- Aerial photography acquisition: April-May 2018
- Delivery of orthos and aerials: September 2018
- Delivery of planimetric data: November 2018

The above dates are subject to change at the option of the RCMPO and negotiations with the selected firm.

**Basis of Award**

The award resulting from this request for services will be made to one firm submitting a response that best serves the needs of the RCMPO. Proposals will be evaluated on criteria that include:

- Approach
- Competence
- Experience
- Management Procedures

This list of criteria is meant for informational purposes only. The RCMPO reserves the right to make its selection on any subjective criteria it deems appropriate.

A short list of firms, if necessary, will be developed from a review of written responses. These firms may be required to make a presentation by phone to supplement their proposals if requested by the RCMPO. The RCMPO will make every reasonable attempt to schedule presentation times convenient for the short-listed respondents. Failure of a respondent to conduct a requested presentation to the RCMPO on the date scheduled may result in rejection of the proposal.

The RCMPO reserves the right to reject any and all proposals and to negotiate the terms of the contract, including the award amount, with one or more, or none of the respondents prior to entering into a contract. Omissions, alterations, or irregularities of any kind shall constitute sufficient cause for rejection of a proposal. However, the RCMPO reserves the right to waive irregularities in the proposals. The RCMPO reserves the right to advertise for new proposals if, in its judgment, the best interest of the RCMPO will be served. Non-disclosure cannot be guaranteed after the selection stage of this procurement due to public record laws.

**Ownership of Completed Products**

All maps, photographs, documents, reports or digital data prepared or completed during the performance of services specified in this RFP shall become the property of the RCMPO and shall not be copyrighted by the proposer. Also, the same materials shall not be released or made available to any third party or used for other purposes at any time without the written approval of the RCMPO.

**SCOPE OF WORK**

**Project Components**
The proposed project involves color digital aerial photography acquisition for the RCMPO area (Area 1 of Appendix 1), digital orthophoto production, digital aerial photography acquisition and production for the County Area (Area 2 of Appendix 1), and digital planimetric feature compilation.

A description of each Component including minimum specifications is provided below to help guide firms in the formulation of responses to this RFP.

Respondents are invited to recommend any alternative approaches to photography, and/or rectification that will result in a better product and/or cost savings to the RCMPO. Respondents are also invited to recommend any alternative approaches to planimetric feature compilation that should be considered by the RCMPO with respect to level of detail, attribution, etc.

Component 1 - Aerial photography acquisition for the RCMPO area

The RCMPO desires to obtain natural color aerial photography in the Spring of 2018 to support development of large-scale digital orthophotography and planimetric mapping. Respondents are asked to propose an approach to the photography acquisition that will best meet these and other needs of the RCMPO.

The proposed approach to aerial photography acquisition for the RCMPO area should outline the respondent’s intended flight plan including date and time of photography, flight height and negative scale, flight lines, endlap and sidelap, planned aerial equipment and materials, and relevant quality control procedures.

Specifications

Specifications associated with this work Component will meet or exceed the requirements of the National Standards for Spatial Data Accuracy (NSSDA). In addition:

- Photographic coverage for the RCMPO area will be for approximately 484 square miles of land. The geographic area of interest is depicted in Area1 of Appendix 1. Respondents may download a shape file containing the data grid at: https://www.rcgov.org/departments/community-resources/geographic-information-system/gis-rfp.html for use in project planning.

- The color aerial photography shall be captured utilizing a direct digital aerial mapping camera. The digital frame shall capture natural color and near infrared (NIR).

- Respondents should identify ground control needed to support the photography. Respondents shall clearly identify any proposed additional control points that are in addition to the existing RCMPO control points, as this will raise the total cost of the project to the RCMPO. Respondents that require additional points are invited to include the cost of placing and surveying those points as an option in the price proposal. Any additional points should be placed on public land or in the public right of way. Land ownership information is available online at www.rapidmap.org.

- The RCMPO will be responsible for paneling all needed ground control. All panels will be in place prior to flight date. Approximately 40 additional quality control points,
distributed randomly throughout the project area, will be used to determine the positional accuracy of the digital orthophotos using the NSSDA standards. The NSSDA positional accuracy testing will be performed by the RCMPO.

- Photography shall not be acquired when the ground is obscured by haze, snow, smoke, dust, flood waters, or environmental factors that may obscure ground detail. Photography with cloud coverage of any amount of thin cirrus, thin cirrostratus, and/or thin altostratus clouds is acceptable as long as sufficient light is available to produce the shadows and contrast necessary for good quality aerial photographs. Clouds and/or shadows of clouds shall not appear in the photographs. The solar altitude should not be less than 30 degrees. Photography will be collected in snow-free, leaf-off conditions.

- Unacceptable aerial photography shall be re-flown at the earliest opportunity, weather permitting, by the vendor at no additional cost to the RCMPO, with the re-flight coverage overlapping the accepted photography by at least two stereo models.

**Component 2 - Digital orthophoto production**

The second work Component involves production of digital orthophotography from the aerial photography work in Component 1. Respondents should present a strategy for creating and delivering digital orthophoto images that shall conform to NSSDA whereby 95% of the ortho images shall not exceed a horizontal positional error of 2.0 feet. The photos shall be at a resolution suitable for generating digital orthophotos with a 6 inch pixel resolution or better and at a scale sufficient for 1:1200 scale mapping. Orthophotography production will use the RCMPO's existing DTM/DEM (LiDAR based) and the USGS DEM. Appendix 4 shows the coverage area for the LiDAR based DTM/DEM.

**Specifications**

- Images are to be geo-referenced to the South Dakota State Plane Coordinate System (South Zone) based on the NAD83(2011) adjusted horizontal and NAVD88 vertical data.

- Individual digital images will be edge matched with no pixel gaps or overlaps between geographic tiles.

- Color and density matching of digital ortho images will be controlled to create the appearance of a seamless mosaic. Respondents are expected to identify the quality assurance and checking procedures that will be employed to guarantee proper tone balancing and overall image quality.

- Digital images will be delivered in a standard TIFF file format with accompanying ESRI standard world header files (*.tfw) that are appropriate for use within the RCMPO's ArcGIS and AutoCad software environments.

- Digital images will be delivered as individual files. Vendors are asked to suggest a tiling scheme; tiles should be approximately 1 square mile in size. Individual files will use the exact same pixel resolution and be cut exactly at the tile boundary to facilitate loading them into a mosaic in an ArcGIS Enterprise geodatabase.
Deliverables

- 4 band (RGB, NIR) digital orthophotography images in .tif files with .tfw header.
- FGDC-compliant metadata that can be imported into ArcGIS Desktop.

Optional Deliverables

- Color-infrared (CIR) digital orthophotography images in .tif files with .tfw header.

Component 3 – Aerial photography acquisition for county area

The third work Component involves production of aerial photography to support the development of large-scale rectified digital aerial photography for various developed areas in Pennington County.

The proposed approach to aerial photography acquisition should outline the respondent’s intended flight plan including date and time of photography, flight height and negative scale, planned aerial equipment and materials, and relevant quality control procedures.

Specifications

- Photographic coverage for the County area will be for approximately 61 square miles of land. The geographic area of interest is depicted in Area 2 of Appendix 1. The RCMPO intends to have photography collected to produce 0.5 foot pixel resolution. Respondents may download a shapefile containing the data grid at:

  https://www.rcgov.org/departments/community-resources/geographic-information-system/gis-rfp.html

  for use in project planning.

- The color aerial photography shall be captured utilizing a direct digital aerial mapping camera. The digital frame shall capture natural color, but may additionally and optionally capture other light bands such as, but not necessarily limited to, near infrared (NIR).

- Photography shall not be acquired when the ground is obscured by haze, snow, smoke, dust, flood waters, or environmental factors that may obscure ground detail. Photography with cloud coverage of any amount of thin cirrus, thin cirrostratus, and/or thin altostratus clouds is acceptable as long as sufficient light is available to produce the shadows and contrast necessary for good quality aerial photographs. Clouds and/or shadows of clouds shall not appear in the photographs. The solar altitude should not be less than 30 degrees. Photography will be collected in snow-free, leaf-off conditions.

- Unacceptable aerial photography shall be re-flown at the earliest opportunity, weather permitting, by the vendor at no additional cost to the RCMPO, with the re-flight coverage overlapping the accepted photography by at least two stereo models.

Component 4 – Digital orthophoto production

The fourth work Component involves production of digital orthophotography from the aerial
photography work in Component 3. Respondents should present a strategy for creating and delivering digital orthophoto images in State Plane coordinates. Orthophotography production will be done using the USGS DEM.

Specifications

- Images are to be geo-referenced to the South Dakota State Plane Coordinate System (South Zone) based on the NAD83/2011 datum.
- Individual digital images will be edge matched with no pixel gaps or overlaps between adjacent geographic partitions.
- Color and density matching of digital images will be controlled to create the appearance of a seamless mosaic. Respondents are expected to identify the quality assurance and checking procedures that will be employed to guarantee proper tone balancing and overall image quality.
- Digital images will be delivered in a standard TIFF file format with accompanying geo-referenced header files (.tfw) that are appropriate for use within the RCMPO’s ArcGIS and AutoCad software environments.
- Digital images will be delivered as individual files utilizing the tiling scheme supplied by the RCMPO. Individual files will use the exact same pixel resolution and be cut to facilitate loading them into a mosaic in an ArcGIS Enterprise geodatabase. Note that the tiling scheme is based on state plane sections and tax parcels that do not line up with grid north. Where there are groups of adjacent tiles, the boundaries of individual tiles internal to the group should be cut using the tiling scheme as a general guide along grid north/south/east/west to ensure edges are cut along straight lines of pixels. Edges along the outer part of the group will also need to be cut along straight lines of pixels, but this will require acquiring photography slightly outside of the tile boundaries in order to prevent having “no data” areas in the resulting files.

Deliverables

- Digital orthophotography images in .tif files with .tfw header files.
- FGDC-compliant metadata that can be imported into ArcGIS Desktop.

Optional deliverables

- 4 Band (RGB, NIR) digital orthophotography images in .tif files with .tfw header files.
- Color-infrared (CIR) digital orthophotography images in .tif files with .tfw header files.

Component 5 – Digital planimetric feature compilation – building footprints

The fifth work Component involves digital compilation and deliver of select planimetric features within the RCMPO project area that will include the footprints for buildings.

Respondents are asked to propose an approach to the planimetric compilation that ensures a
product derived from aerial photography that meets National Map Accuracy Standards for scales of 1\(^{\prime}\)=200\(^{\prime}\). Respondents should address planned quality control practices to ensure compilation completeness and topological consistency. Respondents are asked to update the feature class from the 2015 project. Respondents are invited to propose options to expand the building footprint feature class to the Area that is shown as Area 1 in Appendix 2.

**Specifications**

- The feature class will be geo-referenced to the South Dakota State Plane Coordinate System (South Zone) based on the NAD83(2011) adjusted horizontal and NAVD88 vertical data. The RCMPO will supply the spatial reference and the database schema for the feature class, or the existing feature class if the respondent chooses to update it rather than creating an entirely new feature class.

- The building feature class has attributes for the average elevation of the roof, the building type (commercial or non-commercial), and date of edit. The selected respondent will only be responsible for entering the average elevation of the roof and the edit date for each polygon.

- Polygons will be topologically clean.

- The minimum size of buildings to be digitized will be 10 feet by 10 feet.

**Deliverables**

- A polygon building footprint feature class in a project-wide ArcGIS file geodatabase.

- FGDC-compliant metadata that can be imported into ArcGIS Desktop.

**Optional Deliverables**

- A polygon building footprint feature class that has been expanded to include the entire Area 1 in Appendix 1 in a project-wide ArcGIS file geodatabase.

**Component 6 – Additional Control Points**

The sixth work Component involves the firm’s proposal for the RCMPO to provide additional control points that are not in the existing network.
## Consultant Evaluation Form

**Project Name:**

**Firm Name:**

**Interviewer:**

**Date:**

### PROPOSAL EVALUATION CRITERIA

<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring (Circle One)</th>
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<tr>
<td><strong>P1: Firm’s Approach - 35% of total</strong></td>
<td></td>
</tr>
<tr>
<td>The evaluator should consider the following information when scoring this category:</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>The extent the proposed approach to services meets the project needs.</td>
<td></td>
</tr>
<tr>
<td>Evaluator notes:</td>
<td></td>
</tr>
</tbody>
</table>

| **P2: Firm’s Competence – 20% of total** |                      |
| Demonstrated competence to meet quality requirements based on QA/QC procedures and overall approach to project management | 1 2 3 4 5 6 7 8 9 10 |
| Evaluator notes: |                      |

| **P3: Firm’s Experience – 25% of total** |                      |
| Proven experience of the firm to provide similar products, including recommendations from those clients, and/or previous experience with the RCMPO. | 1 2 3 4 5 6 7 8 9 10 |
| Evaluator notes: |                      |

| **P4: Firm’s Management Procedures – 20% of total** |                      |
| Ability to deliver products within proposed time frame. | 1 2 3 4 5 6 7 8 9 10 |
| Evaluator notes: |                      |

1 = Fails to meet the expectations of the reviewer in this category
10 = Fully meets the expectation of the reviewer in this category
**INTERVIEW EVALUATION**
(if necessary)
**FORM (25 Total Points Possible)**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Interviewer: ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Name:</td>
<td>Date: ____________________________</td>
</tr>
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</table>

**PROPOSAL EVALUATION CRITERIA**

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<tr>
<td>P1: Firm’s Approach - 35% of total</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

The evaluator should consider the following information when scoring this category:

The extent the proposed approach to services meets the project needs.

Evaluator notes: ____________________________

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<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>P2: Firm’s Competence – 20% of total</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

The evaluator should consider the following information when scoring this category:

Demonstrated competence to meet quality requirements based on QA/QC procedures and overall approach to project management.

Evaluator notes: ____________________________

<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring (Circle One)</th>
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</thead>
<tbody>
<tr>
<td>P3: Firm’s Experience – 25% of total</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

The evaluator should consider the following information when scoring this category:

Proven experience of the firm to provide similar products, including recommendations from those clients, and/or previous experience with the RCMPO.

Evaluator notes: ____________________________

<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring (Circle One)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P4: Firm’s Management Procedures – 20% of total</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

The evaluator should consider the following information when scoring this category:

Ability to deliver products within proposed time frame.

Evaluator notes: ____________________________

1 = Fails to meet the expectations of the reviewer in this category

10 = Fully meets the expectation of the reviewer in this category
THIS AGREEMENT made on this ___ day of January, 2018 between the City of Rapid City, 300 Sixth Street, Rapid City, South Dakota 57701, hereinafter referred to as OWNER, and (Consultant), hereinafter referred to as CONSULTANT. This project will encompass the preparation of the Digital GIS Base Map Development Services.

OWNER and CONSULTANT in consideration of their mutual covenants herein agree in respect of the performance of orthophotography, planimetrics and elevation contour services by CONSULTANT and the payment for those services by OWNER as set forth below.

SECTION 1 - BASIC SERVICES TO CONSULTANT

1.1 General

CONSULTANT shall provide to OWNER services in all phases of the Project to which this Agreement applies as hereinafter provided. These services will include new acquisition of digital ortho-rectified photography, digital planimetric mapping and other value-added products, serving as OWNER’S professional aerial photography and processing services representative for the Project, providing professional planning consultation and advice and furnishing selected planning services.

1.2 Scope of Work

The Basic Services Scope of Work is described in detail in Exhibit A and shall include Components 1 through 5 to include aerial photography acquisition, digital orthophoto production, and digital planimetric feature compilations (building footprints).

SECTION 2 – OWNER’S RESPONSIBILITIES

2.1 The Community Planning and Development Services Director or their designee shall act as OWNER’S representative with respect to the services to be rendered under this Agreement. The Community Planning and Development Services Director shall have complete authority to transmit instructions, receive information, interpret and define OWNER’S policies and decisions with respect to CONSULTANT’S services for the Project.

2.2 Assist CONSULTANT by placing at CONSULTANT’S disposal all available information pertinent to the Project including previous reports and any other data
relative to the Project.

2.3 Examine all studies, reports, sketches, drawings, proposals and other documents presented by CONSULTANT, obtain advice of an attorney, insurance counselor and other consultants as OWNER deems appropriate for such examination and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of CONSULTANT.

2.4 Give prompt written notice to CONSULTANT whenever OWNER observes or otherwise becomes aware of any development that affects the scope or timing of CONSULTANT’S services.

SECTION 3 - PERIOD OF SERVICE

The CONSULTANT’S period of service shall complete the scope of work stated in Exhibit A by December, 2018, provided a written “Notice to Proceed” is issued by January 3, 2018. The CONSULTANT’S services shall be provided in general accordance with the schedule as defined in Exhibit B.

SECTION 4 - PAYMENTS TO CONSULTANT

4.1 Methods of Payment for Services and Expenses of CONSULTANT

For Basic Services. The OWNER will pay the CONSULTANT in a lump sum amount of $________ as detailed in the attached Exhibit C “Cost Estimate” for services rendered under Section 1 as detailed in Exhibit A.

Payment will be made pursuant to invoices submitted by the CONSULTANT with a signed voucher. Progress payments may be made upon completion of each Component as detailed in Exhibit A or at the OWNER’s discretion based on work completed and documented on progress reports.

4.2 Times of Payments

CONSULTANT may submit vouchers for Basic Services by each Component as that Component is completed or for all completed Components. OWNER shall make prompt payments in response to CONSULTANT’S signed vouchers.

For these services, the OWNER shall make prompt payments to the CONSULTANT based on Component billings submitted by the CONSULTANT up to 90% of the maximum fee for each Component as shown on Exhibit C, “Cost Estimate”. The remaining 10% shall be due upon approval of the deliverables for the Project as accepted by OWNER.

4.3 Other Provisions Concerning Payments

4.3.1 If OWNER fails to make any payment due CONSULTANT for services and
expenses within forty-five (45) days after receipt of CONSULTANT’S statement, the CONSULTANT may, after giving seven (7) days written notice to OWNER, suspend services under this Agreement until CONSULTANT has been paid in full all amounts due for services, expenses and charges.

4.3.2 The employees of CONSULTANT, professional associates and consultants, whose time is directly assignable to the program shall keep and sign a time record showing the element of the Project, date and hours worked, title of position and compensation rate.

4.3.3 Records. The CONSULTANT shall maintain an accurate cost keeping system as to all costs incurred in connection with the subject to this Agreement and shall produce for examination books of accounts, bills, invoices and other vouchers or certified copies there under if originals be lost at such reasonable time and place as may be designated by the OWNER and shall permit extracts and copies thereof to be made during the contract period and for three years after the date of final payment to CONSULTANT.

All personnel employed by CONSULTANT shall maintain time records for time spent performing work on study described in this Agreement for a period of three years from the conclusion of the requested services. Time records and payroll records for said personnel shall be similarly retained by CONSULTANT for a period of three years from the conclusion of the requested services.

Upon reasonable notice, the CONSULTANT will allow OWNER auditors to audit all records of the CONSULTANT related to this Agreement. These records shall be clearly identified and readily accessible. All records shall be kept for a period of three (3) years after final payment under Agreement is made and all other pending matters are closed.

4.3.4 Inspection of Work. The CONSULTANT shall, with reasonable notice, afford OWNER or representative of OWNER reasonable facilities for review and inspection of the work in this Agreement. OWNER shall have access to CONSULTANT’S premises and to all books, records, correspondence, instructions, receipts, vouchers and memoranda of every description pertaining to this Agreement.

4.3.5 Audits. If the CONSULTANT expends $750,000.00 or more in federal awards during the CONSULTANT’s fiscal year, the CONSULTANT must have an audit conducted in accordance with 2 CFR Part 200, Subpart F - Audit Requirements, by an auditor approved by the Auditor General to perform the audit. On continuing audit engagements, the Auditor General’s approval should be obtained annually. Approval of an auditor must be
obtained by forwarding a copy of the audit engagement letter to:

Department of Legislative Audit A-133 Coordinator  
427 South Chapelle Street  
% 500 East Capitol Avenue  
Pierre, SD 57501-5070

If the CONSULTANT expends less than $750,000.00 during any Sub-Recipient fiscal year, the State may perform a more limited program or performance audit related to the completion of the Agreement objects, the eligibility of services or costs, and adherence to Agreement provisions.

Audits will be filed with and approved by the State Auditor General by the end of the ninth month following the end of the fiscal year of the entity being audited or thirty (30) days after receipt of the auditor’s report, whichever is earlier.

For either an entity-wide, independent financial audit, or an audit under 2 CFR Part 200, Subpart F, the Sub-Recipient will resolve all interim audit findings to the satisfaction of the auditor. The Sub-Recipient will facilitate and aid any such reviews, examinations, and agreed upon procedures, the State or its contractor(s) may perform.

Failure to complete audit(s) as required, including resolving interim audit findings, will result in the disallowance of audit costs as direct or indirect charges to programs. Additionally, a percentage of awards may be withheld, overhead costs may be disallowed, and awards may be suspended, until the audit is completely resolved.

The CONSULTANT will be responsible for payment of any and all audit exceptions which are identified by the State. The State may conduct an agreed upon procedures engagement as an audit strategy. The CONSULTANT may be responsible for payment of any and all questioned costs, as defined in 2 CFR 200.84, at the discretion of the State.

Notwithstanding any other condition of the Agreement, the cooperative audit resolution process applies, as appropriate. The books and records of the CONSULTANT must be made available if needed and upon request at the CONSULTANT’s regular place of business for audit by personnel authorized by the State. The State and federal agency each has the right to return to audit the program during performance under the grant or after close-out, and at any time during the record retention period, and to conduct recovery audits including the recovery of funds, as appropriate. If applicable, the CONSULTANT will comply in full with the administrative requirements and cost principles as outlined in U.S. Office of Management & Budget (OMB) uniform administrative requirements, cost principles, and
4.3.6 Payments. Payment shall be made subject to audit by duly authorized representatives of the OWNER. Payment as required in Super Circular 200.

The CONSULTANT shall pay subcontractors or suppliers within 15 days of receiving payment for work that is submitted for progress payment by the OWNER. If the CONSULTANT withholds payment beyond this time period, written justification by the CONSULTANT shall be submitted to the OWNER upon request. If it is determined that a subcontractor or supplier has not received payment due without just cause, the OWNER may withhold future estimated payments and/or may direct the CONSULTANT to make such payment to the subcontractor or supplier. Prompt payment deviations will be subject to price adjustments.

4.3.7 The OWNER may terminate the entire Agreement or any portion of the Agreement upon ten (10) days’ written notice. If the CONSULTANT breaches any of the terms or conditions of this Agreement, the OWNER may terminate this Agreement, at any time with or without notice. If termination for such a default is effected by the OWNER, any payments due to the CONSULTANT at the time of termination may be adjusted to cover any additional costs to the OWNER due to the CONSULTANT’S default. Upon termination, the OWNER may take over the work and may award another party an agreement to complete the work under this Agreement.

If the OWNER terminates this Agreement without fault on the part of the CONSULTANT, the CONSULTANT will deliver to the OWNER all work product completed to the date of termination. The CONSULTANT’S work product will become the OWNER’S property and the CONSULTANT will be paid for work performed and delivered up to the date of termination. The value of work performed and services rendered and delivered, and the amount to be paid as actual costs will be mutually satisfactory to the OWNER and to the CONSULTANT. The CONSULTANT will be paid a portion of the fixed fee, plus actual costs. The portion of the fixed fee will be based on the ratio of the actual costs incurred to the estimated actual costs. Actual costs to be reimbursed will be determined by audit of such costs to the date of termination, except that actual costs to be reimbursed will not exceed the Maximum Limiting Fee.

If the OWNER terminates the CONSULTANT’S services for fault on the part of the CONSULTANT, the OWNER will be entitled to recover payments made to the CONSULTANT for the work which is the cause of the at-fault termination. The OWNER will pay the CONSULTANT for work satisfactorily performed and delivered to the OWNER up to the date of termination. The OWNER may adjust any payment due to the CONSULTANT at the time of
termination to cover any additional costs to the OWNER due to the CONSULTANT’S default. After audit of the CONSULTANT’S actual costs to the date of termination and after determination by the OWNER of the amount of work satisfactorily performed and the additional costs incurred by the OWNER due to CONSULTANT’S default, the OWNER will determine the amount to be paid to the CONSULTANT. Upon termination, the OWNER may take over the work and may award another party an agreement to complete the work under this Agreement.

4.3.8 Funding Provision. The payment of federal funds under this Agreement is subject to the availability of Metropolitan Planning Organizations Federal Highway Administration and Federal Transit Administration funds appropriated by Congress.

4.4 Definitions

Reimbursable Expenses means the actual expenses incurred by CONSULTANT or CONSULTANT’S independent professional associates or consultants directly in connection with the Project, including expenses for: transportation and subsistence incidental thereto; reproduction of reports, graphics, and similar Project related items; and if authorized in advance by OWNER, overtime work requiring higher than regular rates. In addition, if authorized in advance by OWNER, Reimbursable Expenses will also include expenses incurred for computer time and other highly specialized equipment, including an appropriate charge for previously established programs and expenses of photographic production techniques times a factor of 1.0 as determined in accordance with CONSULTANT’S normal accounting practices. All costs must be accumulated and segregated in accordance with Consultant's normal business practice and FAR Part 31.

4.5 Ownership of Data

Documents and all products of this Agreement are to be the property of the OWNER. Any reuse of documents for extensions of the Project or other projects shall be at the OWNER's sole risk and liability.

4.6 Publication and Release of Information

The CONSULTANT shall not copyright material developed under this Agreement without written authorization from the OWNER. The OWNER reserves a royalty-free non-exclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, the work for government purposes.

4.7 Acquisition of Property or Equipment

The acquisition of property or equipment will be in accordance with Super
4.8 Independent Consulting and Subcontracting

While performing services hereunder, CONSULTANT is an independent contractor and not an officer, agent, or employee of the City of Rapid City.

Any employee of the CONSULTANT engaged in the performance of services required under the agreement shall not be considered an employee of the OWNER, and any and all claims that may or might arise under the Worker's Compensation Act of the State of South Dakota on behalf of said employees or other persons while so engaged and any and all claims made by any third party as a consequence of any act or omission of the part of the work or service provided or to be rendered herein by the CONSULTANT shall in no way be the obligation or responsibility of the OWNER.

CONSULTANT shall perform all work except specialized services. Specialized services are considered to be those items not ordinarily furnished by CONSULTANT which must be obtained for proper execution of this Agreement. Specialized services required by the study, if any, will be provided pursuant to Section 2 of this Agreement.

Neither this Agreement nor any interest therein shall be assigned, sublet or transferred unless written permission to do so is granted by the OWNER. Subcontracts are to contain all the required provisions of the prime contract as required by 49 CFR Part 18, definitions.

4.9 Personnel Employment

The CONSULTANT warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT, to solicit or secure this agreement, and that he has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, brokerage fee, gifts, or any other considerations, contingent upon or resulting from the award of making of this Agreement. For breach or violation of this warranty, the OWNER shall have the right to annul this Agreement without liability or, in its discretion to deduct from the agreement price or consideration, or otherwise recover, the full amount of such fees, commission, percentage, brokerage fee, gift or contingent fee.

4.10 Claims

To the extent authorized by law, the CONSULTANT shall indemnify and hold harmless the OWNER, its employees and agents, against any and all claims, damages, liability and court awards including costs, expenses and reasonable attorney fees to the extent such claims are caused by any negligent performance
of professional services by, the CONSULTANT, its employees, agents, subcontractors or assignees.

It is further agreed that any and all employees of either party, while engaged in the performance of any work or services, shall not be considered employees of the other party, and that any and all claims that may or might arise under the Worker’s Compensation Act of the State of South Dakota on behalf of said employees, while so engaged on any of the work or services provided to be rendered herein, shall in no way be the obligation or responsibility of the other party.

4.11 Acceptance and Modification

This Agreement together with the Exhibits, Appendices and schedules identified above constitute the entire agreement between OWNER and CONSULTANT and supersede all prior written or oral understandings. This Agreement and said Exhibits and schedules may only be amended, supplemented, modified or canceled after consultation with, and approval in writing by, the parties to this Agreement.

SECTION 5 – GOVERNING LAW

This agreement and any dispute arising out of this agreement shall be governed by the laws of the State of South Dakota.

5.1 Forum Selection

Any dispute arising out of this contract shall be litigated in the Circuit Court for the 7th Judicial Circuit, Rapid City, South Dakota.

5.2 Compliance Provision

The CONSULTANT shall comply with all federal, state and local laws, together with all ordinances and regulations applicable to the work and will be solely responsible for obtaining current information on such requirements. The CONSULTANT shall procure all licenses, permits or other rights necessary for the fulfillment of its obligation under the Agreement.

SECTION 6 – MERGER CLAUSE

This written agreement which includes the Request for Proposals and associated exhibits, to include Exhibit A – Scope of Work, Exhibit B – Project Schedule, Exhibit C – Cost Estimate, Attachment A – Standard Title VI / Nondiscrimination Assurances, Attachment B - Debarment, Attachment C – Certification Regarding Lobbying, and Attachment D - Request for Proposals, constitute the entire agreement of the parties. No other promises or consideration are a part of this agreement.
This Agreement together with the Exhibits, Appendices and schedules identified above constitute the entire agreement between OWNER and CONSULTANT and supersede all prior written or oral understandings. This Agreement and said Exhibits and schedules may only be amended, supplemented, modified or canceled after consultation with, and approval in writing by, the parties to this Agreement.

SECTION 7 – COMPLIANCE WITH CLEAN AIR ACT

CONSULTANT stipulates that any facility to be utilized in the performance of this contract, under the Clean Air Act, as amended, Executive Order 11738, and regulations in implementation thereof is not listed on the U.S. Environmental Protection Agency List of Violating Facilities pursuant to 40 CFR 15.20 and that the OWNER and the State Department of Transportation shall be promptly notified of the receipt by the CONSULTANT of any communication from the Director, Office of Federal Activities, EPA, indication that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

SECTION 8 – TITLE VI ASSURANCE

The CONSULTANT will be bound by ATTACHMENT A, attached to and made a part of this Agreement, said assurance being entitled, “STANDARD TITLE VI/NONDISCRIMINATION ASSURANCES APPENDIX A & E.”

SECTION 9 – CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

CONSULTANT certifies, by signing this agreement that neither it nor its Principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency, attached as Attachment B.

SECTION 10 – INSURANCE AND REPORTING

Before the CONSULTANT begins providing service, the CONSULTANT will be required to furnish the OWNER the following certificates of insurance, with the City listed as an additional insured, and assure that the insurance is in effect for the life of the contract:

A. Commercial General Liability Insurance: CONSULTANT shall maintain occurrence based commercial general liability insurance or equivalent form with a limit of not less than $1,000,000.00 for each occurrence. If such insurance contains a general aggregate limit it shall apply separately to this Agreement or be no less than two times the occurrence limit.

B. Professional Liability Insurance or Miscellaneous Professional Liability Insurance: CONSULTANT agrees to procure and maintain professional liability insurance or miscellaneous professional liability Insurance with a limit not less than
$1,000,000.00.

The insurance provided for general liability and errors and omissions shall be adequate for the liability presented.

C. Business Automobile Liability Insurance: CONSULTANT shall maintain business automobile liability insurance or equivalent form with a limit of not less than $500,000.00 for each accident. Such insurance shall include coverage for owned, hired and non-owned vehicles.

D. Worker's Compensation Insurance: CONSULTANT shall procure and maintain workers' compensation and employers' liability insurance as required by South Dakota law.

Before beginning work under this Agreement, the CONSULTANT shall furnish the OWNER with properly executed Certificates of Insurance which shall clearly evidence all insurance required in this Agreement and which provide that such insurance may not be canceled, except on 30 days' prior written notice to the OWNER.

SECTION 11- REPORTING

CONSULTANT agrees to report to the OWNER any event encountered in the course of performance of this Agreement which results in injury to any person or property, or which may otherwise subject CONSULTANT, or the OWNER or its officers, agents or employees to liability. CONSULTANT shall report any such event to the OWNER immediately upon discovery.

CONSULTANT'S obligation under this section shall only be to report the occurrence of any event to the OWNER and to make any other report provided for by their duties or applicable law. CONSULTANT'S obligation to report shall not require disclosure of any information subject to privilege or confidentiality under law (e.g., attorney-client communications). Reporting to the OWNER under this section shall not excuse or satisfy any obligation of CONSULTANT to report any event to law enforcement or other entities under the requirements of any applicable law.

SECTION 12 – DISCLOSURE TO REPORT LOBBYING

CONSULTANT certifies, to the best of CONSULTANT’S knowledge and belief, that: no Federal appropriated funds have been paid or will be paid, by or on CONSULTANT’S behalf, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of a Federal contract, grant, loan, or cooperative agreement. If any funds other than Federal appropriated funds have been paid or will be paid to any of the above
mentioned parties, the undersigned shall complete and submit Standard Form LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions.

CONTRACTOR shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty or not less than $10,000 and not more than $100,000 for each such failure.

SECTION 13 - SEVERABILITY PROVISION

In the event that any court of competent jurisdiction shall hold any provision of this Agreement unenforceable or invalid, such holding shall not invalidate or render unenforceable any other provision hereof.

SECTION 14 – SUPERCESSION PROVISION

All other prior discussions, communications, and representations concerning the subject matter of this Agreement are superseded by the terms of this Agreement, and, except as specifically provided in this Agreement, this Agreement constitutes the entire agreement with respect to the subject matter.

SECTION 15 – CONFLICT OF INTEREST

The CONSULTANT agrees to establish safeguards to prohibit any employee or other person from using their position for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain as contemplated by SDCL §§ 5-18A-17 through 5-18A-17.6. Any potential conflict of interest must be disclosed in writing and approved in writing, by the OWNER. In the event of a conflict of interest, the CONSULTANT expressly agrees to be bound by the conflict of interest resolution process set forth in SDCL §§ 5-18A-17 through 5-18A-17.6.

SECTION 16 – ASSIGNMENT PROVISION

The CONSULTANT will not assign any portion of the work to be performed under this Agreement, or execute any contract, amendment, or change order, or obligate the CONSULTANT in any manner with any third party with respect to the CONSULTANT’S rights and responsibilities under this Agreement without the STATE’S prior written consent.

SECTION 17 – EQUAL EMPLOYMENT OPPORTUNITY
In connection with the execution of this Agreement, the CONSULTANT will not discriminate against any employee, or applicant for employment, because of race, religions, color, sex, disability, or national origin. Such actions will include, but not be limited to, the following: employment, upgrading, demotion, or transfer, recruitment, or advertising, layoff or termination, rates of pay, or other forms of compensation, and selection for training, including apprenticeship.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement by their duly authorized officers on the day, month and year first written above.

OWNER:

Attest: Mayor Date

Finance Officer Date

APPROVED AS TO FORM

Carla Cushman Date
Assistant City Attorney

STATE OF SOUTH DAKOTA
COUNTY OF PENNINGTON

On this _____ day of ___________, 2018, before me, a Notary Public, personally appeared Steve Allender, Mayor of the City of Rapid City, and acknowledged to me that he did sign the foregoing document as such officer and for the purposes therein stated.

My Commission Expires:

Notary Public

(SEAL)
By: __________________________________________

STATE OF ________________________
COUNTY OF ________________________

On this ____ day of ____________, 2018, before me, a Notary Public, personally appeared __________________, a Principal of ____________________________, and acknowledged to me that s/he did sign the foregoing document as such officer and for the purposes therein stated.

My Commission Expires: ____________________________

(SEAL)

Address for Giving Notices:

City of Rapid City
Community Planning and Development Services
300 Sixth Street
Rapid City, South Dakota 57701

Consultant
Attn:
Street Address
City, State Zip Code
During the performance of this contract, the CONSULTANT, for itself, its assignees and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended (hereinafter referred to as the “Regulations”), incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, religion, national origin, sex, age or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, religion, national origin, sex, age or disability.

4. **Information and Reports:** The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the South Dakota Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the South Dakota Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain this information.

5. **Sanctions for Noncompliance:** In the event of the contractor’s noncompliance with the nondiscrimination provisions of this contract, the South Dakota Department of Transportation shall impose such contract sanctions as it or the...
Federal Highway Administration may determine to be appropriate, including but not limited to:

(a) withholding of payments to the contractor under the contract until the contractor complies, and/or
(b) cancellation, termination or suspension of the contract, in whole or in part.

(6) Incorporation of Provisions: The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives pursuant thereto.

The contractor shall take such action with respect to any subcontract or procurement as the South Dakota Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for non-compliance. Provided, however, that, in the event of a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the South Dakota Department of Transportation to enter into such litigation to protect the interest of the State, and, in addition, the contractor may request the United States to enter such litigation to protect the interests of the United States.

During the performance of this Agreement, the CONSULTANT, for itself, its assignees, and successors in interest, agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

**Pertinent Non-Discrimination Authorities:**

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq. [78 stat. 252]) (prohibits discrimination on the basis of race, color, national origin), and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973 (23 U.S.C. § 324 et seq.) (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794 et seq.), as amended (prohibits discrimination on the basis of disability), and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended (42 U.S.C. § 6101 et seq.) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC Ch. 471, § 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (Broadened the scope,
coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 CFR Parts 37 and 38;

- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. Ch. 471, § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq.).
CERTIFICATION FOR DEBARMENT, SUSPENSION
AND OTHER RESPONSIBILITY MATTERS

The CONSULTANT certifies to the best of its knowledge and belief that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;

2. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, or receiving stolen property;

3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental agency (federal, state or local) with commission of any of the offenses listed in paragraph (2) of this certification; and

4. Have not within a three-year period preceding this application had one or more public transactions (federal, state or local) terminated for cause or default.

The CONSULTANT certifies that if it becomes aware of any later information that contradicts the statements of paragraph (1) through (4) above, it will promptly inform the City of Rapid City.
CERTIFICATION OF CONSULTANT

I certify that I am the _____ and duly authorized representative of the firm of ____________ _______________________, whose address is _________________________________, and that neither I nor the above firm I represent has:

1. employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above CONSULTANT) to solicit or secure this Agreement.

2. agreed, as an expressed or implied condition for obtaining this Agreement to employ or retain the services of any firm or person in connection with carrying out the Agreement, or

3. paid, or agreed to pay, to any firm, organization or person (other than a bona fide employee working solely for me or the above CONSULTANT) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the Agreement; except as here expressly stated (if any):

I acknowledge that this certificate is to be furnished to the State of South Dakota Department of Transportation, the Federal Highway Administration, and United States (U.S.) Department of Transportation, in connection with this Agreement involving participation of Federal-aid Highway Funds, and is subject to applicable state and federal laws, (both criminal and civil).

__________________________
Signature

Title: ______________________

Date: ______________________
Attachment C
Professional Services Agreement
CERTIFICATION OF CONSULTANT

I certify that I am the _____and duly authorized representative of the firm of _________
_________________________, whose address is _________________________________, and
that neither I nor the above firm I represent has:

1. employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above CONSULTANT) to solicit or secure this Agreement.

2. agreed, as an expressed or implied condition for obtaining this Agreement to employ or retain the services of any firm or person in connection with carrying out the Agreement, or

3. paid, or agreed to pay, to any firm, organization or person (other than a bona fide employee working solely for me or the above CONSULTANT) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the Agreement; except as here expressly stated (if any):

I acknowledge that this certificate is to be furnished to the State of South Dakota Department of Transportation, the Federal Highway Administration, and United States (U.S.) Department of Transportation, in connection with this Agreement involving participation of Federal-aid Highway Funds, and is subject to applicable state and federal laws, (both criminal and civil).

____________________________
Signature

Title: __________________________

Date: __________________________
Conflict of Interest Policy

As a General Policy, the Rapid City Area Metropolitan Planning Organization (MPO) seeks to prevent and avoid any conflicts of interest in the conduct of its business operations and to avoid any appearance of such conflicts to the public it serves. Each MPO committee member has the duty to place the interests of the MPO foremost in any dealings on behalf of the organization and has a continuing responsibility to comply with this Policy.

In order to comply with this Policy, it is expected that:

- If a committee member has an interest in a proposed transaction with the MPO in the form of a significant personal or organizational financial interest in the transaction or holds a position as trustee, director, officer or staff member in such organization or business, s/he must make full disclosure of such interest before any discussion or negotiation of such transaction. The disclosure shall be recorded in the minutes of the meeting.
- Any committee member who has a potential conflict of interest with respect to any matter coming before the MPO shall not participate in any discussion of or vote in connection with the matter. The disclosure shall be recorded in the minutes of the meeting.
- Any committee member who gains privileged information by virtue of his or her role as a committee member shall not use that privileged information for personal or professional gain.

This Policy shall be distributed to each committee member. A signature in the designated space at the bottom of this Policy will indicate the committee member's agreement to abide by this Policy to the best of his or her ability. Noncompliance with the intent and spirit of this Conflict of Interest Policy may result in action deemed appropriate by the MPO.

This Policy may be revised or amended as determined appropriate by the MPO.

I have read the above statement of policy regarding conflict of interest and agree to abide by the policy to the best of my ability in my role as a Rapid City Area MPO committee member.

Signature: _______________________________  Date: _______________
Printed Name: ________________________________