MATANUSKA-SUSITNA BOROUGH ACTION MEMORANDUM **AM No. 22-086**

SUBJECT: Award of proposal number 22-152P to EagleView for the contract amount of $167,700 to collect high resolution oblique and ortho aerial imagery in the Lake Louise area.

AGENDA OF: June 21, 2022

ASSEMBLY ACTION:
Approved under the Consent Agenda 6-21-22

MANAGER RECOMMENDATION: Present to the assembly for consideration.

APPROVED BY MICHAEL BROWN, BOROUGH MANAGER: MVB

Route To:	Department/Individual	Initials	Remarks
	Purchasing Officer		
	Information Technology Director		
	Finance Director		
	Borough Attorney		
	Borough Clerk	BSA for LKM	

ATTACHMENT(S): Fiscal Note: Yes X No
Analysis Sheet (1p)
Scope of Services (6p)
Acquisition Map (1p)

SUMMARY STATEMENT: On May 12, 2022, the Matanuska-Susitna Borough Purchasing Division issued a solicitation requesting Proposals from qualified firms for to obtain high resolution/accuracy oblique and ortho aerial imagery in the remote Lake Louise area of the Borough in the summer of 2022. The area of interest is approximately 206 square miles on the eastern border of the Borough. The attached map provides an overview of the Area of Interest. Services purchased will support the GIS & Assessments Divisions in assembly district #1.

In response to the advertisement, two proposals were received. A proposal evaluation team made up of Borough GIS & Assessments Division staff evaluated the proposals and selected EagleView as the most advantageous firm for the Borough.

The final completion date for this project is March 31, 2023.

In accordance with MSB 3.08.170(B), Administration requests authority to modify the resulting contract completion date by 30 days for unforeseen circumstances.

The Information Technology Department, GIS Division will be administering the contract.

RECOMMENDATION OF ADMINISTRATION: Award of **PROPOSAL NUMBER 22-152P** to **EAGLEVIEW** for the contract amount of **ONE HUNDRED SIXTY SEVEN THOUSAND SEVEN HUNDRED DOLLARS AND 00/100 CENTS ($167,700.00)** to **COLLECT HIGH RESOLUTION OBLIQUE AND ORTHO AERIAL IMAGERY IN THE LAKE LOUISE AREA.**

MATANUSKA-SUSITNA BOROUGH
FISCAL NOTE

Agenda Date: June 21, 2022

SUBJECT: Award of proposal number 22-152P to EagleView for the contract amount of $167,700.00 to collect high resolution oblique and ortho aerial imagery in the Lake Louise area.

ORIGINATOR: Purchasing

FISCAL ACTION (TO BE COMPLETED BY FINANCE)	FISCAL IMPACT (YES) NO
AMOUNT REQUESTED 167,700.00	FUNDING SOURCE Cap Projects
FROM ACCOUNT # 480.000.000 4XX.XXX	PROJECT # 47519
TO ACCOUNT :	PROJECT #
VERIFIED BY: [signature]	CERTIFIED BY:
DATE: 6/8/22	DATE:

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Personnel Services						
Travel						
Contractual						
Supplies						
Equipment						
Land/Structures						
Grants, Claims						
Miscellaneous						
TOTAL OPERATING						
CAPITAL		167.7				
REVENUE						

FUNDING: (Thousands of Dollars)

General Fund						
State/Federal Funds						
Other		167.7				
TOTAL		167.7				

POSITIONS:

Full-Time						
Part-Time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

PREPARED BY: ______ PHONE: ______

DEPARTMENT: ______ DATE: ______

APPROVED BY: Cheyenne Heindel [signature] DATE: 6/8/22

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22-152P Lake Louise Oblique and Ortho Imagery

Scoring Summary

	Total	Objectives and Services	Relevant Project Experience	Proposed Project Staff	Methods	Management	Fee Proposal
Supplier	**/ 100 pts**	**/ 14 pts**	**/ 12 pts**	**/ 10 pts**	**/ 8 pts**	**/ 6 pts**	**/ 50 pts**
EagleView	85.33 pts	10.27 pts	8.8 pts	6 pts	5.867 pts	4.4 pts	50 pts ($167,700.00)
Quantum Spatial	66.15 pts	6.533 pts	8 pts	6 pts	5.333 pts	3.6 pts	36.69 pts ($228,561.00)

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SCOPE OF SERVICES

22-152P, LAKE LOUISE OBLIQUE AND ORTHO IMAGERY

OBLIQUE AERIAL IMAGERY PROJECT OVERVIEW

The Matanuska-Susitna Borough has a desire to obtain high resolution/accuracy oblique and ortho aerial imagery in the remote Lake Louise area of the Borough in the summer of 2022. The area of interest is approximately 206 square miles on the eastern border of the Borough.

PROJECT OVERVIEW & PROJECT DELIVERABLES

The attached map provides an overview of the Area of Interest. A shapefile, provided by the Borough as part of this solicitation packet, provides exact project boundaries. Square-miles listed are approximate and may shrink or expand slightly (within a few square-miles).

PROJECT SCOPE

Digital Orthoimagery Specifications

All delivered digital orthoimagery shall meet or exceed the specifications outlined in USGS' Digital Orthoimagery Base Specification V1.0, Chapter 5, Section B, Book 11, 2014, **except for the following changes and clarifications** (page numbers reference the USGS spec):

- Geographic Extent (pg. 1-2) - The tiling schema will be based on Borough tax map grid.
- Use and Distribution Rights (pg. 2) - All top down Ortho-Imagery and data delivered shall be free from restrictions regarding use and distribution. Data and documentation provided as part of this acquisition shall be freely distributable in the public domain.
- Acquisitions Conditions, Vegetation Conditions (pg. 2; #6) – spring or fall leaf off imagery is preferred, a 2022 acquisition takes priority over leaf off conditions.
- Acquisitions Conditions, Image Coverage (pg. 2; #8)- It is understood that the tile schema and zone boundaries many not align perfectly; as a result, partial tiles are acceptable if a portion of the tile falls outside of a zone boundary. The vendor and Borough project manager will determine a plan for how to deal with the no-data portions of the tiles so those areas can be displayed as transparent without affecting other valid data pixel values.
- Acquisitions Conditions (pg. 2) - As outlined in the USGS specification and this SOW, the imagery shall ideally be leaf-off, ground snow-free (with some high elevation leniency), lakes ice-free.
- Aerotriangulation (pg. 3)- Standards for aerial triangulation shall meet or exceed the standards outlined in sections 7.7 and 7.8 on page AS of the ASPRS Positional Accuracy Standards for Digital Geospatial Data Edition I. Ver. 1, Nov 2014.
- Datums and Coordinates (pg. 3) - NAD 83; Alaska State Plane Zone 4 Feet; NAVD88 shall be used. The Borough will provide the projection file that should be used so that our mapping system correctly recognizes the information.
- Digital Orthorectified Image Color (pg. 4) – Four band (R,G,B,NIR) is preferred for orthoimagery.
- Spatial Resolution (pg. 4)-The ground pixel resolution shall be 3 inch or better
- Horizontal Accuracy (pg. 4)- Horizontal accuracy shall meet or exceed the Standard High Accuracy class outlined in the USACE Photogrammetric and UDAR Mapping, EM 1110-1-1000, April 2015 manual, found in Chapter 3, page 3-7, Table 3-5. A portion of the table can be seen in Table 2. Computed accuracy shall meet or exceed the 95 percent National Standard for Spatial Data Accuracy (NSSDA) Confidence Interval.

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Common Orthoimagery Pixel Sizes[4]	Recommended Horizontal Accuracy Class $RMSE_x$ & $RMSE_y$ (inch)	Orthoimage $RMSE_x$ & $RMSE_y$ in terms of pixels	Recommended use
1 inch	≤1	≤1-pixel	Highest accuracy
	2	2-pixels	Standard high accuracy
	≥3	≥3-pixels	Lower accuracy - visualization
2 inch	≤2	≤1-pixel	Highest accuracy
	4	2-pixels	Standard high accuracy
	≥6	≥3-pixels	Lower accuracy - visualization
3 inch	≤3	≤1-pixel	Highest accuracy
	6	2-pixels	Standard high accuracy
	≥9	≥3-pixels	Lower accuracy - visualization
4 inch	≤4	≤1-pixel	Highest accuracy
	8	2-pixels	Standard high accuracy
	≥12	≥3-pixels	Lower accuracy - visualization
6 inch	≤6	≤1-pixel	Highest accuracy
	12	2-pixels	Standard high accuracy
	≥18	≥3-pixels	Lower accuracy - visualization

Table 2

- Photo Check Points (pg. 4 & 5)- The number of check points shall meet or exceed those outlined in the USACE Photogrammetric and LIDAR Mapping, EM 1110-1-1000, April 2015 manual. Chapter 3, page 3-13, Table 3-12. A portion of the table can be seen in Table 3.
- Digital Orthorectified Image Format (pg. 4) - The Borough will not consider a loss-less compression.
- Edge Matching (pg. 5) - The maximum allowable mis-join between transportation features or other well-defined linear features is two (2) product Ground Sample Distance (GSD) pixels.
- File Naming Convention (pg. 5)-The Borough will supply the file naming convention.
- Quality Assessment and Testing (pg. 7) - All quality control items listed on page 7 of the USGS Digital Orthoimagery Base Specification V1.0 shall be checked by the vendor prior to delivery. A report outlining the process and results of those checks shall be delivered with the data. Once the data is delivered to the MSB,

Project Area (Square Kilometers)	Horizontal Accuracy Testing of Orthoimagery and Planimetrics
	Total Number of Static 2D/3D Check Points (clearly defined points)
500	20
501-750	25
751-1000	30
1001-1250	35
1251-1500	40
1501-1750	45
1751-2000	50
2001-2250	55
2251-2500	60

Table 3

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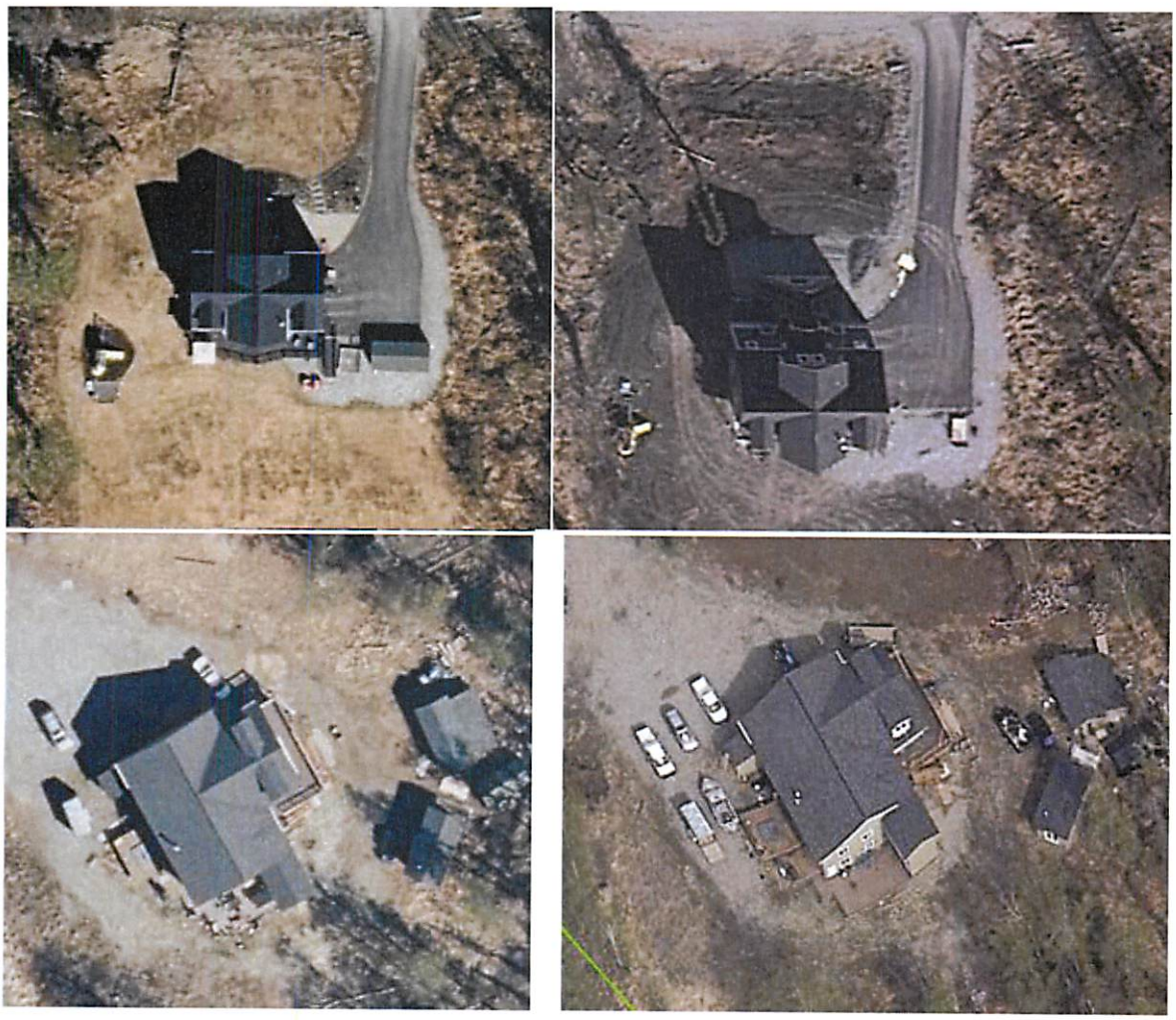
a secondary check will be coordinated and performed by MSB staff. The vendor will be asked to correct any tiles that do not meet the specifications outlined in the scope of work.

- The orthoimagery will have no visible seams through buildings.
- **The following additional specification must also be met: Flight overlap- At a bare minimum, the images shall be acquired with 60% along-track overlap, and 30% sidelap. Tall objects (such as tall buildings, towers and trees) shall have minimal tilt. It is expected that overlap will be above the listed minimum, which created the unacceptable examples below. 80/60 front and side lap, with a large format camera, has rectified these issues in the past. The borough does not dictate methods and means nor does it prescribe the amount of overlap needed to deliver the acceptable imagery, this is up to the contractor. Please include in your bid a flight plan that will prevent the final products from having significantly tilted features. Review examples of acceptable and unacceptable building lean of the same structures on the following pages.**

Acceptable **Unacceptable**



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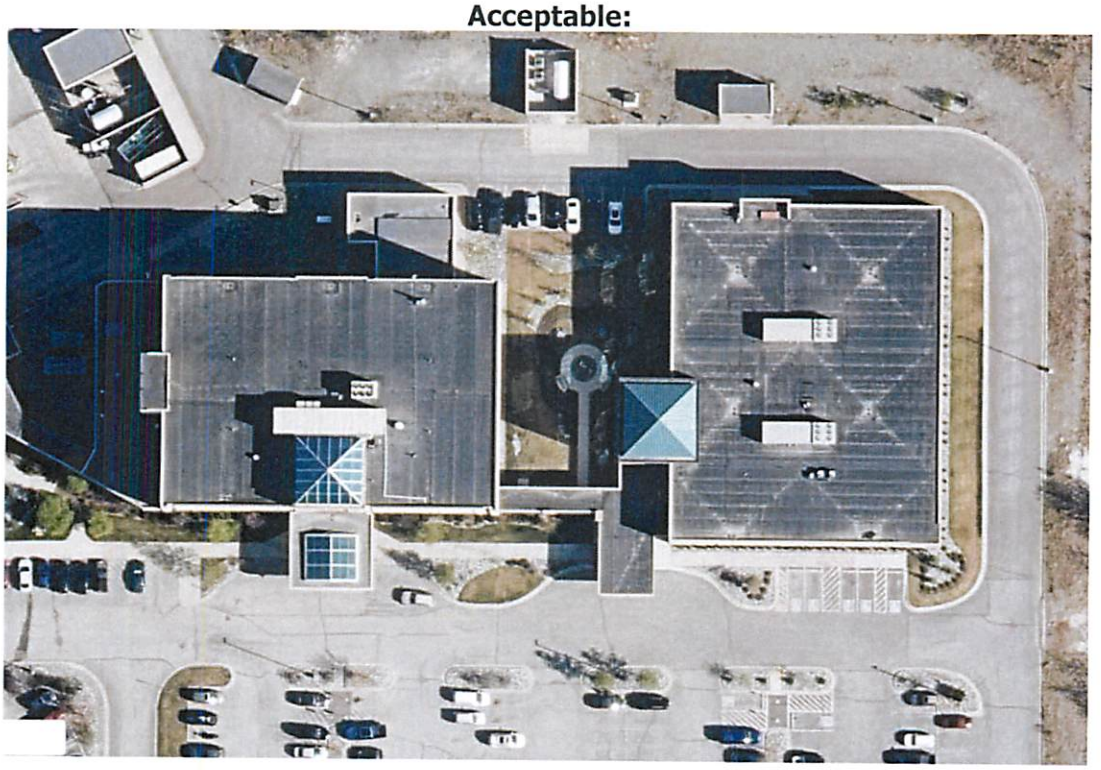
Unacceptable:

Acceptable:



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OBLIQUE IMAGERY RESPONSE:

Digital Oblique Imagery Specifications

- Oblique imagery shall be collected simultaneously with orthoimagery, to guarantee identical leaf/snow/sun angle conditions.
- Oblique imagery should contain minimal visible seamlines, especially on structures and transportation features.
- Imagery from all four cardinal directions is required for each parcel/structure.
- Vendor shall provide oblique imagery from which accurate measurements can be directly taken on a computer screen.
- Vendor shall supply technical support, documentation, and training for both web based viewing and use in ESRI desktop software.
- Acquisition is to occur in 2022 while ground conditions match the same standards set for the orthoimagery.
- Please provide data quality details; e.g. pixel resolution, horizontal accuracy, and vertical accuracy. If a specification can be provided, please do so.
- Please provide an outline of the collection and post-processing quality control process.
- Identify the standalone application(s) that can be used to view the oblique imagery and the cost(s) (please clearly outline one-time vs. annual costs). Identify key application capabilities; e.g. viewing only, measuring capabilities, adding other GIS data (including allowable formats), etc.
- Provide information on data restrictions/options and associated costs; e.g. can the data be considered public domain, licensing options, options for sharing with the public, etc.
- Provide details about cameras and equipment that will be used for such a collect including any USGS certifications.

PROJECT SCHEDULE:

Responses to this solicitation should include a proposed timeline that includes project meetings with Borough staff (see the Project Management section below for more detail), key acquisition and post processing steps, and deliverable dates.

Regarding the deliverable dates, Imagery shall be delivered within 8 weeks of collection flights. Processing of lower elevation data should not wait for the collection of higher elevation data. The Borough will review the data based on the specifications outlined in this scope of work and respond with any correction requests within 2 weeks. The vendor shall make corrections and redeliver within 2 weeks. The Borough will perform a second review and accept the data if the identified errors have been adequately corrected.

PROJECT MANAGEMENT:

The selected vendor is responsible for the following project management items:

- Permits - The vendor shall be responsible for applying for, and obtaining, any required permit for access, overflight, or intrusion into restricted or otherwise limited ground access and/or airspace.
- Project Status Reports & Meetings-The vendor shall provide weekly written project status reports. The vendor shall coordinate face-to-face or teleconference meeting(s) for the following:
    - 1 hour project kickoff and closeout meetings (one each),
    - ½-hour project update meetings including the vendor project manager and Borough project manager (every two weeks from May to September (or until final products are delivered) each

year).
    - 1 hour project overview meetings including the vendor project manager, Borough project manager, and project sponsor (IT director) (two per collection year).
- Preliminary Data Review Coordination - After data collection but prior to full data delivery, the Borough project manager shall be provided access to preliminary data for review. The simplest method for achieving this objective can be determined between the selected vendor and the Borough project manager.

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2022 Lake Louise Aerial Imagery Acquisition

2022 Lake Louise Acquisition Area (206 sq mi)

Mat-Su Borough Boundary

SUSITNA LAKE

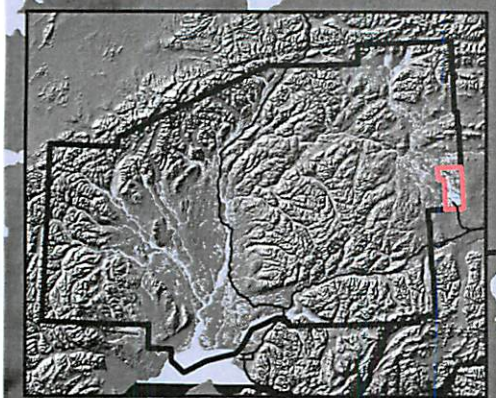
DOG LAKE

LAKE LOUISE

MUD LAKE

LITTLE LAKE LOUISE

S Lake Louise Rd



N

0 0.5 1 2 Miles

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