

## 5. SECTION B - SCOPE OF SERVICES:

### 5.1. Background

Located adjacent to the nation's capital, Montgomery County is the most populous county in the State of Maryland and one of the most diverse counties in the nation. Montgomery County is approximately 493 square miles, including a significant portion within the Washington, D.C. Metropolitan Area Flight Restricted Zone (FRZ). The Montgomery County government comprises over 30 executive branch departments and agencies that help deliver services to over 1 million county residents. Montgomery County is proud of the services it offers. These include some of the best in the nation, which the County strives to deliver in keeping with its Vision Statement and Guiding Principles, many of which the imagery program supports. The County's priority outcomes include:

- Thriving Youth and Families
- A Growing Economy
- A Greener County
- Easier Commutes
- A More Affordable and Welcoming County for a Lifetime
- Safe Neighborhoods
- Effective, Sustainable Government

Since 2002, the Montgomery County Government (hereafter, the "County") has amassed a library of oblique and orthogonal imagery. The imagery is typically collected every two years and often augments the State of Maryland's ortho imagery program. Imagery access is provided via an on-premise image services (ortho) for integration with the County's Enterprise GIS platform and a software-as-a-service (SAS) platform for viewing ortho and oblique imagery. Access to these imagery resources has been an integral part of many cases across a variety of disciplines, including;

- Public Safety
- Permitting
- Environmental Protection
- Judicial Proceeding
- Community Planning
- Transportation Planning and Engineering

### 5.2. Intent

The intent of this RFP is to enter into one (1) contract with a single offeror ("Contractor") to provide the County with aerial imagery services and related viewing and analysis software. Montgomery County will continue to utilize the latest aerial imagery collection and viewing technologies to enhance these and other workflows. In addition to traditional imagery uses, advances in GIS technologies have made (Artificial Intelligence) AI-driven deep learning models more widespread and accessible. These include object detection, pixel classification, and change detection tools. Many of these tools are available to the County's GIS community. While setting several basic requirements for the County's imagery program, this RFP will also evaluate respondents' expertise with recent AI advancements and their influence on imagery needs and specifications. For example, the County recently used its ortho imagery catalog and deep learning tools to identify solar panel locations and assess progress on renewable energy goals. The County expects

these types of applications to expand over time. We encourage respondents to share their knowledge of AI tools and imagery, and to discuss the importance of data formats, resolution, collection parameters (such as solar angle), and other considerations given the growth of AI and deep learning in imagery tools. Offeror's knowledge regarding leveraging aerial imagery for AI and machine learning applications is considered in the evaluation criteria.

Offerors should recognize that the County operates in an Enterprise Geographic Information Systems (GIS) environment with the Department of Technology and Enterprise Business Solutions (TEBS) GIS serving as a central hub for all of the Executive Branch's GIS resources and needs. Similarly, the imagery contract is expected to provide TEBS GIS with similar flexibility to provide aerial imagery services across the organization. Historically, Montgomery County has owned all the imagery deliverables and provides on-premise ortho imagery services via an ArcGIS Imager Server. This allows users to interactively analyze ortho imagery via a suite of raster processing tools, and as mentioned earlier, deep learning imagery tools. Although the County also retains a local copy of historical oblique imagery, access to this imagery has depended mainly on vendor-provided SAS software. The expectation remains that owning all orthogonal imagery deliverables and their derivatives will continue to be standard practice. The County has more flexibility with the oblique ownership model; however, a hybrid ownership approach is preferred. The Offeror must clearly describe their oblique ownership model.

### 5.3. Scope of Services/Specifications/Work Statement

Below are the "core" specifications for the County's imagery program. These requirements emulate the recent expectations our user community has grown accustomed to. This primarily includes delivering orthogonal and oblique imagery products and a SAS viewing/analysis solution capable of measuring height, distance, area, ground slope, and elevation. Imagery has historically been collected every two years. However, the service upgrades requirements that follow this section will allow the offeror to provide estimates for more frequent collection. Imagery collection awarded under the Contract resulting from this solicitation is anticipated to begin in the winter of 2027 and will be a two-year contract with an option to renew for three (3) two-year renewal terms. During each of the two-year contract terms, it is expected that imagery will be collected one time under the following core specifications. To complement the State's aerial imagery program schedule, imagery is anticipated to be collected in the winter of 2027. Access to the viewing software and existing imagery libraries is expected to begin in June 2026, upon contract execution, and last for the duration of the contract. The offeror must, however, propose methods to provide for continued access for the County following the conclusion of the final term of the Contract resulting from this solicitation.

#### 5.3.1 Temporal Requirements

Since 2002, the County has amassed an extensive collection of orthogonal and oblique imagery. Although the County has internal capabilities to host and view the collection of orthogonal imagery, the County has depended on third-party solutions to catalog and access the oblique imagery collection. To meet the requirements of many of the County's imagery users, the offeror must demonstrate an imagery catalog covering both oblique and orthogonal images dating back at least 10 years. Within this period, five distinct imagery vintages must be made available to the County at no additional cost.

#### 5.3.2 Project Management

The Contractor must assign an experienced Project Manager during the flight acquisition process. Ideally, the Project Manager can demonstrate experience with several similar-sized collection projects. The Project Manager must collaborate with the County's GIS Manager to ensure the successful implementation and completion of the imagery acquisition process. The Contractor must follow the Project Management

Institute (PMI) or equivalent project management methodology. The County's expectations for project management during the acquisition and processing phases include:

- Initial preflight meeting (can be remote) to discuss flight specifications, flight restrictions, timeline, and contingencies.
- Leading weekly status reports that describe imagery collection and processing updates and proactively identify any issues affecting schedule, delays, and/or quality.
- Ensuring that collection and processing are completed on time and within budget and that a quality product is delivered as defined below.
- The Project Manager must be experienced and able to apply the protocols necessary to obtain flight approval within the FRZ. The Project Manager and Contractor must be prepared to employ the necessary preparation to obtain flight approval and plan for the extra time needed for such authorization to stay within the agreed-upon timelines. The County is ready to assist the Contractor with any documentation necessary to facilitate flight approval with the FAA. Contractors must provide their experience in obtaining such approvals for past projects.

### 5.3.3 Aerial Imagery Collection and Reporting

The Contractor must acquire all imagery within a single flying season and the requirements outlined below. Both orthogonal and oblique imagery products should be collected within 24 hours for consistent comparison, viewing, and analysis. The Contractor shall provide their ability to meet this requirement in their response to this RFP.

#### A. Environmental Conditions

- Aerial imagery should be captured under clear sky conditions, with no cloud cover, and when the ground is clear of snow, haze, smoke, dust, and cloud shadows.
- Deciduous trees must be sufficiently barren to allow for the intended use of the imagery.
- Streams and rivers should be within their normal banks.
- The solar angle must be 30 degrees or more above the horizon at exposure time to minimize shadows.
  - Areas of Rockville, Silver Spring, and Bethesda shall be flown at a solar angle of 40 degrees or more.
  - Allowance for a solar angle of 25 degrees or more may be approved upon request for rural sections of the County.

#### B. Project Coordinate System

The coordinate system for all products produced must be in Maryland State Plane NAD 1983 (2011). Elevation must be based on the North American Vertical Datum (NAVD88). Deliverables must be in U.S. feet. All data products must have a defined projection.

The State anticipates releasing and adopting the new North American Terrestrial Reference Frame (NATRF2022). This reference system will replace the NAD1983 (2011) horizontal and NAVD88 vertical data. The Maryland Geological Survey is working with the National Geodetic Survey (NGS) to establish a revised State Plane Coordinate System for Maryland. The new coordinate system will require legislative approval to officially implement it statewide. If this new system is adopted during the course of the contract resulting from this solicitation, the Contractor must coordinate with County staff to determine the best method for transitioning to the new coordinate system.

### C. Ground Control

Offerors shall propose their approach for controlling the imagery, including how, if applicable, existing control will be included. Each Offeror shall outline the number of control points required and show the preliminary locations of the necessary control points on the flight plan map. The Contractor is responsible for establishing ground control of sufficient density and accuracy to meet the accuracy requirements of the deliverable at the required resolutions. The offeror shall perform a quantitative analysis of the data and report the final RMSE<sub>H</sub>, in accordance with the instructions in the ASPRS Positional Accuracy Standard for Digital Geospatial Data (Edition 2, Version 1.0, August 23, 2023). An independent evaluation of the results may also be conducted by the County. The accuracy assessment results should be reported as follows: "This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a \_(ft.) RMSE<sub>H</sub> horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSE<sub>H</sub> = \_(ft.).".

### D. Digital Elevation Model

The Contractor must utilize a Digital Elevation Model (DEM) to support orthorectification. The Contractor must obtain and utilize the latest available elevation data for the project areas. Montgomery County's current elevation data (1-foot resolution) from 2023 is available at <https://montgomeryplanning.org/tools/gis-and-mapping/elevation-data/>. A new DEM for the County is anticipated to be delivered in 2026.

### E. Digital Orthogonal Imagery Production and Deliverables

- The digital orthogonal images must be clear and sharp in detail and of high radiometric quality. The images must also be free from image blurs, image artifacts, "cold" and "hot" pixels, color distortion, color balance or tonal problems, or any other type of digital blemish.
- The Contractor must provide three (3) inch pixel resolution, ground sampling distance (GSD) using a tiling scheme approved by the County. Partial tiles are not acceptable.
- The County requested base product is a 3-band true color composite.
- Metadata must be delivered in ISO 19139 Metadata Implementation Specification (ISO 19115-2) and include the following information:
  - Identification information
  - Collection date(s)
  - Spatial representation information
  - Data quality information
- The imagery must be delivered to TEBS GIS via an external hard drive in a logical and easily accessible file structure. File formats may include JPEGs, GeoTIFFs, and/or Mr.SID. All image tiles must contain the necessary projection files and information for integration with Esri ArcGIS Software and be at the native resolution.
- The offeror must also make a Web Map Tile Service (WMTS) available for alternative access options to the orthogonal imagery.
- All orthogonal products delivered must belong to the County without licensing restrictions for distribution as the County sees fit. All derived products via deep learning processes must also belong to the County without licensing restrictions.
- The offeror shall provide the following descriptive information regarding their "base" orthogonal product. Failure to provide this information may impact the offeror's evaluation.
  - Forward overlap. Provide the percentage forward overlap applied during collection.
  - Side overlap. Provide the percentage side overlap applied during collection.

- Angular Exterior Orientation Parameters. Provide the target omega (roll or tilt), phi (pitch or tip), and kappa (yaw or swing) degrees for consecutive exposure stations.
- Positional Accuracy. Provide the horizontal accuracy. The formula can be referenced in the *ASPRS Positional Accuracy Standard for Digital Geospatial Data* (Edition 2, Version 1.0, August 23, 2023), page 13, Sec 7.3 “Horizontal Positional Accuracy Standards for Geospatial Data”. The horizontal accuracy is to be expressed as  $RMSE_H$ . Also, provide the two horizontal error components,  $RMSE_x$  and  $RMSE_y$ .
- Seamline mismatch. Provide the maximum seamline mismatch allowed in the base orthogonal product.

#### F. Digital Oblique Imagery Production and Deliverables

- The digital oblique images must be clear and sharp in detail and of high radiometric quality. The images must also be free from image blurs, image artifacts, “cold” and “hot” pixels, color distortion, color balance or tonal problems, or any other type of digital blemish.
- The Contractor must provide three (3) inch pixel resolution, ground sampling distance (GSD).
- Metadata must be delivered in ISO 19139 Metadata Implementation Specification (ISO 19115-2) and include the following information:
  - Identification information
  - Collection date(s)
  - Spatial representation information
  - Data quality information
- The imagery must be integrable with the County’s GIS enterprise platform. This includes the desktop environment (Esri’s ArcGIS Pro) and the online environment (Esri’s ArcGIS Enterprise and ArcGIS Online). This can consist of image services, add-ins, and/or custom widgets.
- The oblique imagery must be collected within 24 hours of the orthogonal imagery. The offeror must provide clarity as to their ability to meet this requirement.
- The Contractor must provide the following descriptive information regarding their “base” oblique product. Failure to provide this information may impact the offeror’s evaluation.
  - Forward overlap. Provide the percentage forward overlap applied during collection.
  - Side overlap. Provide the percentage side overlap applied during collection.
  - Angular Exterior Orientation Parameters. Provide the target omega (roll or tilt), phi (pitch or tip), and kappa (yaw or swing) degrees for consecutive exposure stations.
  - Positional Accuracy. Provide the horizontal accuracy. The formula can be referenced in the *ASPRS Positional Accuracy Standard for Digital Geospatial Data* (Edition 2, Version 1.0, August 23, 2023), page 13, Sec 7.3 “Horizontal Positional Accuracy Standards for Geospatial Data”. The horizontal accuracy is to be expressed as  $RMSE_H$ . Also provide the two horizontal error components,  $RMSE_x$  and  $RMSE_y$ . Also provide vertical accuracy ( $RMSE_v$ ) if applicable.
  - Seamline mismatch. Provide the maximum seamline mismatch allowed in the base oblique product.
- The primary method to view the oblique imagery will be an online SAS viewer. Requirements for the SAS are provided in section 5.3.4 below. The offeror, however, must provide assurances that access to the oblique imagery will persist via the County’s enterprise GIS platform if licensing to the offeror’s online viewing SAS is suspended due to contract termination or lapse.

#### 5.3.4 Online Viewing Software

The Contractor must provide access to a cloud solution that will allow the County to manage individual County employees. The solution must provide built-in user types and support single sign-on (SSO) using a SAML v2.0 compliant identity provider. The software must meet the following requirements:

- The Contractor must coordinate and provide access to all County users' previous orthogonal and oblique image libraries of the County at no additional cost to the County within the cloud solution. This may include access to libraries licensed by the offeror and collected prior to being under contract with the County to meet the temporal requirements stated previously in section 5.3.1.
- The cloud solution must allow at least 50 concurrent authorized users to log in and access the imagery libraries authorized under the Contract.
- The online viewing software must provide oblique imagery capable of measuring height, distance, area, ground slope, and elevation while considering the topography/ground elevation in the measurement result.
- The cloud software must allow users to view oblique mosaics at an extent sufficient to view detail at a neighborhood scale (.5 mile X .5 mile) or larger. The application must also allow the user to export the viewable extent at a sufficient resolution to create large posters for use as demonstrative evidence in legal proceedings.
- The cloud software must be able to ingest and display other GIS layers. Preferably, the solution can ingest Esri's REST API map and feature services or other open-source services.

### 5.3.5 Technical Assistance and Training

The Contractor must provide the County with a dedicated technical representative for issues related to any products delivered as part of the contract. The Contractor must also provide access to training regarding the cloud solution. This may include end-user training sessions, administration training sessions, and telephone support. The Contractor must outline the amount of training and technical assistance that can be reasonably accommodated within the Contract's timeframe.

### 5.3.6 Service Upgrades

The core scope of services enumerated above is to provide quality aerial photography and software access for a two-year term with an option to renew for three additional two-year terms. The County is also requesting that the offeror provide their ability to provide several "buy-ups" below. These options may be executed pending available funds and requirements. The County is especially interested in hearing the offeror's opinions regarding the importance of these additional requirements for applying advanced AI tools such as object detection, pixel classification, and change detection tools. The County now has access to many of these tools and wishes to understand imagery specifications that may impact the application of these tools and their successful outputs. The offeror shall provide commentary regarding the listed questions under each applicable service upgrade. The offeror is invited to add additional commentary that they feel is pertinent to the County's use of AI and imagery. Costs associated with these service upgrades should be provided as additional costs compared to the base product described in section 5.3 (four collections and all necessary processing in addition to software access over the life of the contract,

#### A. One-inch pixel resolution, ground sampling distance

The County is interested in obtaining one-inch pixel resolution oblique and orthogonal imagery instead of the standard three-inch resolution imagery. The imagery shall meet all the other specifications listed under 5.3.3. The offeror shall also provide all of the descriptive information regarding the inch information for each product as described in 5.3.3 sections E and F.

- All things being equal, would one-inch pixel resolution yield better object classification results from pretrained deep learning models?

#### B. Four-Band Imagery

The County is also interested in obtaining four-band orthogonal imagery. The imagery shall meet all the other specifications listed under 5.3.3. The offeror is invited to discuss the use cases of 4-band imagery and its advantages when leveraging AI and deep learning models.

- What additional information could the County obtain from four-band imagery (infrared) using remote sensing and machine learning techniques?

#### C. Additional Imagery Collections

Although the County is accustomed to obtaining imagery every two years during leaf-off periods, some stakeholders desire leaf-on imagery and yearly leaf-off collections. The offeror should provide the ability to conduct additional imagery collections during the contract term, with potentially two collections per year if leaf-on and leaf-off is required. The additional collections should meet the base standards described in section 5.3.3. For clarity, the offeror should provide the additional cost for:

- Each additional orthogonal imagery collection and processing.
- Each additional oblique imagery collection and processing.
- Each additional oblique and orthogonal imagery collection and processing if collecting both types of imagery together results in cost savings.

#### D. Certified Orthogonal Product

The County is interested in obtaining an orthogonal product that meets a 1-foot (4X GSD) RMSE<sub>H</sub> horizontal positional accuracy class. The standard for meeting this requirement shall meet the ASPRS Positional Accuracy Standard for Digital Geospatial Data (Edition 2). This includes the requirements for checkpoint testing (30 well-distributed checkpoints) and accuracy requirements for aerial triangulation and IMU orientation. Additional forward and side lap adjustments as necessary and per industry best practices. The offeror should provide the descriptive information required for the base product under section 5.3.3 E above.

- Is higher accuracy imagery an important consideration when deep learning derived products? What accuracy considerations are important when conducting change detection?

#### E. Drone Services

To augment many of the County's various inspection workflows, the offeror should provide their ability to make on-demand drone imagery available for various-sized projects. The offeror would acquire and process ortho drone imagery using current industry-standard technology and workflows. The County is also interested in learning about any other drone-derived products that could be made available (elevation data, 3-D meshes, LiDAR point clouds, etc.) All outputs must be ready for direct use within the County's ArcGIS Enterprise environment. If drone imagery is requested, the offeror must meet the following requirements: FAA Part 107 compliance and adherence to all applicable airspace, privacy, and safety rules. This includes obtaining proper waivers for areas within the D.C. Flight Restricted Zone

- Perimage camera position (x, y, z) recorded via GNSS. For JPGs, GPS must be embedded in EXIF; for TIFFs, provide a companion file (text/CSV) listing latitude/longitude (decimal degrees) and height.
- Delivery of complete metadata and processing reports sufficient to document methods, accuracy, and lineage.

The offeror must also provide the following descriptive information regarding their drone products:

- Aircraft/platform type and navigation/positioning method
- Planned ground sample distance (GSD).

- Positional Accuracy. Provide the horizontal and vertical accuracy. The formula can be referenced in the *ASPRS Positional Accuracy Standard for Digital Geospatial Data* (Edition 2, Version 1.0, August 23, 2023), page 13, Sec 7.3 “Horizontal Positional Accuracy Standards for Geospatial Data”. The horizontal accuracy is to be expressed as  $RMSE_H$ . Also, provide the two horizontal error components,  $RMSE_X$  and  $RMSE_Y$ .
- Forward overlap. Provide the percentage forward overlap applied during collection.
- Side overlap. Provide the percentage side overlap applied during collection.
- Output format types (GeoTiff Orthomosaic)
- Additional products available via drone acquisition such as 3-D meshes and LiDAR point clouds. Provide common industry specs for any additional products.

#### 5.4. Contractor’s Qualifications

The following experience is expected and will be evaluated as part of the proposal's scoring. The Contractor must demonstrate expertise in each of the following areas, as demonstrated by a minimum of two (2) similarly-sized projects completed successfully within the last three (3) calendar years:

- Digital orthogonal and oblique imagery data collection, processing, and delivery.
- Project management of orthogonal and oblique imagery data collection, processing, and delivery.
- Deploying, operating, and managing the safe operation of the fixed-wing aircraft.
- Obtaining any necessary flight clearances required to access the operational area.
- Managing the large amount of digital data associated with digital collection and orthogonal and oblique imagery processing.
- Familiarity with the ASPRS Positional Accuracy Standard for Digital Geospatial Data.
- Color balancing image tiles; and
- Expertise in developing imagery viewing and analysis software in a cloud environment that can support multiple users in an enterprise environment.

#### 5.5. Contractor’s Responsibility

The Contractor must be capable of and must furnish all necessary services required to complete all tasks and work requirements, produce high-quality deliverables described in this RFP and the resulting contract, and meet the specifications stipulated in the offeror’s responses to this RFP. The offeror is encouraged to carefully review the contents of this RFP to ensure their responses include all of the requested information. The Contractor must provide the necessary project management processes to ensure that products are delivered on time and on budget, and provide the highest quality value for the employees and citizens of Montgomery County. This includes the offeror demonstrating they meet the temporal requirements listed under section 5.3.1. Aside from the physical deliverables described in Section 5.3 and summarized in Section 5.7, it is the Contractor’s responsibility to;

- Maintain a problem-solving approach, the Contractor must efficiently and effectively troubleshoot any issues arising from any imagery stakeholders using the imagery products.
- Be an innovation partner with the County to get the most out of its imagery investments. This can include providing technical workshops, sharing insights, and providing technical advice.

#### 5.6. County’s Responsibility

The County is responsible for requesting work, issuing purchase orders for work requested, accepting deliverables, and paying true and correct invoices for work that is satisfactorily performed and accepted.

#### 5.7. Reports/Deliverables



Below is a summary of the expected deliverables and acceptance criteria for both core and upgraded products and services:

#### Core Products

Section	Deliverable Description	Acceptance Criteria
5.3.2	Initial Preflight Meeting (for each collection)	Facilitated meeting with county project manager to discuss flight plans. Notes provided by the contractor.
5.3.2	Weekly status reports (during active collections)	Weekly emails to the county project manager to provide acquisition, collection, and processing updates.
5.3.3 (E)	One (1) set (one collection vintage) of 3-band, 3-inch pixel resolution, digital orthoimages in GeoTIFF, Mr.SID, and JPEG format in U.S. Survey Feet covering Montgomery County. Images shall be delivered via an external hard drive.	<p>Imagery was collected following the specifications listed in sections 5.3.3 A, B, C, D, and E. Imagery also meets the specifications listed in the offeror's response to section 5.3.3 E bullet 8. Contractor shall provide evidence that imagery meets all listed specifications if requested by the County. Accuracy assessment results are reported in the form of the following statement:</p> <p>"This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a _(ft.) RMSE<sub>H</sub> horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSE<sub>H</sub> = __(ft.)".</p>
5.3.3 (E)	Access to a Web Map Tile Service (WMTS) for ortho imagery display in third-party applications.	A Web Map Tile Service that adequately functions in third-party applications that accept WMTS server feeds.
5.3.3 (F)	Access to one (1) set (one collection vintage) 3-inch pixel resolution, digital oblique covering Montgomery County. Access to the oblique imagery will be provided by an online SAS viewer (see deliverable below). Imagery must also be integrable with the	Imagery was collected following the specifications listed in sections 5.3.3 A, B, C, D, and F. Imagery also meets the specifications listed in the offeror's response to section 5.3.3 F bullet 6. Contractor shall provide evidence that imagery

	County's GIS enterprise platform. This includes the desktop environment (Esri's ArcGIS Pro) and the online environment (Esri's ArcGIS Enterprise and ArcGIS Online). This can consist of image services, add-ins, and/or custom widgets. Access to the oblique imagery must persist via the County's enterprise GIS platform if licensing to the offeror's online viewing SAS is suspended due to contract termination or lapse.	meets all listed specifications if requested by the county.  Accuracy assessment results reported in the form of the following statement:  "This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a _(ft.) RMSE <sub>H</sub> horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSE <sub>H</sub> = _(ft.)".
5.3.4	Enterprise access to an online imagery viewing and analysis software.	Imagery software meets all of the specifications under section 5.3.4. Software architecture is scalable and continues to perform adequately under high load scenarios. Software provides access to an image library that meets the temporal requirements listed under section 5.3.1.
5.3.5	Access to technical assistance and training.	Access to a dedicated technical representative who assists the county in navigating technical issues. This shall include reasonable response times (within 24 business hours) to requests for technical assistance. The contractor shall also provide access to a defined number of training sessions for the provided imagery viewing and analysis software, as provided in section 5.3.4.
<b>Service Upgrades (Optional)</b>		
5.3.6(A)	One set (one collection vintage) of 3-band, 1-inch pixel resolution digital orthoimages in GeoTIFF, MrSID, and JPEG formats, measured in U.S. Survey Feet, covering Montgomery County. The images will be delivered on an external hard drive.	Imagery was collected following the specifications listed in sections 5.3.3 A, B, C, D, and E (except the 3-inch pixel resolution). Imagery also meets the specifications in the offeror's response to section 5.3.3 E bullet 8. Contractor shall provide evidence that imagery meets all listed specifications if requested by the county.

		<p>Accuracy assessment results reported in the form of the following statement:</p> <p>“This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a _(ft.) RMSE<sub>H</sub> horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSE<sub>H</sub> = _(ft.)”.</p>
5.3.6(A)	<p>Access to one (1) set (one collection vintage) 1-inch pixel resolution, digital oblique covering Montgomery County. Access to the oblique imagery will be provided by an online SAS viewer. Imagery must also be integrable with the County’s GIS enterprise platform. This includes the desktop environment (Esri’s ArcGIS Pro) and the online environment (Esri’s ArcGIS Enterprise and ArcGIS Online). This can consist of image services, add-ins, and/or custom widgets. Access to the oblique imagery must persist via the county’s enterprise GIS platform if licensing to the offeror’s online viewing SAS is suspended due to contract termination or lapse.</p>	<p>Imagery was collected following the specifications listed in sections 5.3.3 A, B, C, D, and F (except the 3-inch pixel resolution). Imagery also meets the specifications listed in the offeror’s response to section 5.3.3 F bullet 6. Contractor shall provide evidence that imagery meets all listed specifications if requested by the county.</p> <p>Accuracy assessment results reported in the form of the following statement:</p> <p>“This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a _(ft.) RMSE<sub>H</sub> horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSE<sub>H</sub> = _(ft.)”.</p>
5.3.6(B)	<p>One (1) set (one collection vintage) of 4-band, 3-inch pixel resolution, digital orthoimages in GeoTIFF, Mr.SID, and JPEG format in U.S. Survey Feet covering Montgomery County. Images shall be delivered via an external hard drive.</p>	<p>Imagery was collected following the specifications listed in sections 5.3.3 A, B, C, D, and E (excluding bullet 3). Imagery also meets the specifications in the offeror’s response to section 5.3.3 E bullet 8. Contractor shall provide evidence that imagery meets all listed specifications if requested by the county.</p> <p>Accuracy assessment results reported in the form of the following statement:</p>

		<p>“This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a _(ft.) RMSE<sub>H</sub> horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSE<sub>H</sub> = _(ft.)”.</p>
5.3.6(C)	<p>Additional orthogonal and oblique imagery collections according to the imagery specs listed in section 5.3.3. These collections will be in addition to the base collection over the two-year contract and will be scheduled and coordinated as funding and requirements dictate.</p>	<p>Imagery was collected following the specifications listed in sections 5.3.3 A, B, C, D, and E. Imagery also meets the specifications listed in the offeror’s response to section 5.3.3 E bullet 8. Contractor shall provide evidence that imagery meets all listed specifications if requested by the county.</p> <p>Accuracy assessment results are reported in the form of the following statement:</p> <p>“This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a _(ft.) RMSE<sub>H</sub> horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSE<sub>H</sub> = _(ft.)”.</p>
5.3.6(D)	<p>One (1) set (one collection vintage) of 3-band, 3-inch pixel resolution, digital orthoimages in GeoTIFF, Mr.SID, and JPEG format in U.S. Survey Feet covering Montgomery County. Images shall be delivered via an external hard drive.</p>	<p>Imagery was collected following the specifications listed in sections 5.3.3 A, B, C, D, and E. Imagery also meets the specifications listed in the offeror’s response to section 5.3.3 E bullet 8 with the additional requirement that the imagery meets a 1-foot (4X GSD) RMSE<sub>H</sub> horizontal positional accuracy class. The standard for meeting this requirement shall meet the ASPRS Positional Accuracy Standard for Digital Geospatial Data (Edition 2). This includes the requirements for checkpoint testing (30 well-distributed checkpoints) and accuracy requirements for aerial triangulation and IMU</p>

		<p>orientation. Contractor shall provide evidence that imagery meets all listed specifications if requested by the county.</p> <p>Accuracy assessment results are reported in the form of the following statement:</p> <p>“This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a _(ft.) RMSEH horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSEH = _ (ft.)”.</p>
5.3.6(E)	One set of georeferenced ortho drone imagery for the identified project area. Other deliverables may be requested as listed by the offeror under section 5.3.6(E)	<p>The imagery was collected and processed according to the requirements and offeror-provided specs listed in section 5.3.6(E).</p> <p>Accuracy assessment results are reported in the form of the following statement:</p> <p>“This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 2 (2023) for a _(ft.) RMSEH horizontal positional accuracy class. The tested horizontal positional accuracy was found to be RMSEH = _ (ft.)”.</p>

## 6. SECTION C - PERFORMANCE PERIOD

### 6.1. TERM

The effective date of this Contract begins upon signature by the Director, Office of Procurement. The period in which the Contractor must perform all work under the Contract begins on the Contract's effective date and ends after a two (2) year period. The Contractor must also perform all work in accordance with the time periods stated in the Scope of Work. Before this term for performance ends, the Director, at his/her sole option, may (but is not required to) renew the term. The Contractor's satisfactory performance does not guarantee a renewal of the term. The Director may exercise this option to renew this term three (3) times for an additional two (2) years each.

### 6.2 PRICE ADJUSTMENTS