

2023 MEDINA COUNTY DIGITAL AERIAL ORTHOIMAGERY AND LIDAR DATA SETS BID

In
Medina County, Ohio

Prepared By:

Board of Medina County Commissioners

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Date: _____

**2023 Digital Aerial Orthoimagery and LiDAR Datasets
Medina County, Ohio**

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NOTICE OF BID

Bids are requested for the Medina County Digital Aerial Orthoimagery and LiDAR Data Sets Bid in Medina County, Ohio.

The bid documents can be obtained from the Medina County Engineer webpage at www.highwayengineer.co.medina.oh.us.

All bids must be submitted electronically through the www.bidexpress.com web service no later than February 23rd, 2023 at 1:30 PM Ohio Time, at which time the bids will be received and read aloud.

The project shall have a final completion date of October 31st, 2023.

Each bidder shall be required to file a bid guaranty with the bid in form of either: a bond or Certified Check, Cashier's Check, or money order on a solvent bank or savings and loan association in the State of Ohio in the amount of not less than five percent (5%) of the total amount bid, conditioned that the bidder shall, if his bid is accepted, execute a contract in conformity with the bid, plans, details, specifications, and bills of material.

Contractor compliance with the equal employment opportunity requirements detailed in the Bid Documents shall be required.

The bid will be awarded to the lowest and best bidder. The Board of Medina County Commissioners reserve the right to reject any and all bids.

Board of Medina County Commissioners

Colleen M. Swedyk
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Medina County Gazette:

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PREFACE

Medina County, Ohio, (County), is seeking proposals for collection of digital aerial orthoimagery and LiDAR datasets to support the county-wide Geographic Information Systems (GIS) program. Specifically, the County is requesting services of a qualified Photogrammetric Consulting firm to provide the following products which adhere to ASPRS Class 1 accuracy standards and USGS QL1 LiDAR Base Specifications where applicable:

The following are required deliverables:

- Countywide rectified digital true color 4-band orthoimagery at a six-inch pixel resolution.
- Countywide USGS QL1 LiDAR (8 points per square meter).

The following deliverables are referred to as “ordered options”:

- Countywide rectified digital true color 4-band orthoimagery at a three-inch pixel resolution.
- Countywide LiDAR based 2-foot elevation contours with 3D breaklines.

Through this Request for Bids (RFB), the County seeks to select a company or firm to provide the above listed services. This document details the content and accuracy of data, service, and company information on which the County will base its selection.

2023 DIGITAL AERIAL ORTHOIMAGERY AND LIDAR DATA SETS - MEDINA COUNTY, OHIO

INSTRUCTIONS AND CONDITIONS

General

Sealed bids for the work will be opened by the Board of County Commissioners of Medina County, Ohio at 1:30 p.m., Ohio Time, on February 23, 2023, in accordance with Legal Notice duly published, at which time the bids will be publicly opened and read.

Bids shall be submitted only with all the forms furnished by the Medina County Engineer, including a non-collusion affidavit and a personal property tax verification affidavit.

Bid Guarantee

Each bid shall be accompanied by a bond or certified check, cashier's check or money order on a solvent bank or savings and loan association in the State of Ohio, in the amount of not less than five percent (5%) of the total amount bid.

The certified check, cashier's check or money order shall be made payable to the **Board of Medina County Commissioners**.

Bid bonds shall be issued by an approved surety company authorized to transact business in the State of Ohio. The bond shall meet the full satisfaction of the Medina County Prosecutor.

The said check, cashier's check, money order or bid bond shall be given as security that if the bid is accepted, a contract will be entered into, and the performance of said contract properly secured. The checks and/or bid bonds of all, except the two lowest and best bidders, shall be returned upon tabulation and evaluation of all bids. In the case of failure to enter into a contract, the check, cashier's check, money order or bid bond of the lowest bidder shall be forfeited and surrendered to the County as the agreed amount of liquidated damages.

In the case of acceptance of a bid by the County, the check, cashier's check, money order or bid bond of the lowest and best bidder will be returned after the contract has been signed. The check, cashier's check, money order or bid bond of the second lowest and best bidder will be retained until the lowest and best bidder has entered into a contract with the County. If they fail to do so, said check, cashier's check, money order or bid bond will be further retained until the second lowest and best bidder will have signed and properly secured the contract. In default thereof, the check, cashier's check, money order or bid bond of the second lowest and best bidder will be forfeited to the County as the agreed amount liquidated damages.

Bid Forms

The bid shall include all the attached blank forms, which shall be completely filled out to contain all the required information and be properly signed.

Unacceptable Bids

No bid will be accepted from, or contract awarded to, any person, firm, or corporation that is in arrears or is in default to Medina County on any debt or contract, that is a defaulter as surety or otherwise upon any obligation to the County, or has failed to perform faithfully any previous contract with the County.

Withdrawal of Bids

No bid will be allowed to be withdrawn after it has been received by the Board of County Commissioners.

Rejection or Acceptance of Bids

The Board of County Commissioners reserves the right to reject any and all bids. Further, the Board of County Commissioners reserves the right to waive any informalities in the bid. In awarding a contract, the County reserves the right to consider all elements entering the question of determining the responsibility of the bidder. Any bid which is incomplete, conditional, obscure, or which contains additions not called for, or irregularities of any kind, may be cause for rejection of the bid.

Bidder's Qualifications

The bidder shall submit with their bid evidence that is satisfactory to Medina County covering the following:

- a) adequate record of experience in the area of the work being bid;
- b) financial ability to perform the work to its completion in accordance with the specifications;
- c) efforts and intent to provide equal employment opportunities.

Contract Documents

Instructions, Specifications, Bid, and other attachments, hereto become fully a part of the contract documents. Any requirements set forth in them shall be binding as if they were repeated in the contract forms.

Location of Work

The aerial flight(s), which forms the subject of the contract, is for the entire Medina County consisting of all seventeen (17) townships and incorporated areas, covering approximately 425 square miles. In addition a 1-mile minimum buffer on all sides and at all corners of the County boundary is required.

Conditions of Work

The bidder's attention is directed to the necessity of examining the site and scope of tasks to be performed. The submission of a bid will be deemed an acknowledgment that this has been done and that the conditions and difficulties that may be encountered are fully and completely recognized and understood.

Taxes

The County of Medina is exempt from all sales, excise and transportation taxes, except State of Ohio gasoline tax. Tax exemption forms will be furnished if required. The unit prices bid shall be exclusive of such taxes and will be so construed.

Liability and Workers' Compensation Insurance

The Contractor shall comply with all provisions of the laws and rules of the Ohio Bureau of Workers' Compensation covering all operations under the Contract whether performed by the Contractor or its subcontractor. Contractor will agree to provide workers' compensation coverage on all employees utilized under this Agreement, as required by Ohio law and, see that such coverage is also provided by any subcontractor utilized. Contractor further will agree to hold the County harmless and indemnify and defend the Medina County Commissioners, Medina County Engineer, and their officers, employees, and agents against any claim for damages raised against them as a result of Contractor's failure to provide or assure such coverage.

The Contractor shall provide general liability insurance while work is in progress and during the time the contract is in effect. The amount of coverage shall be a Minimum of TWO MILLION DOLLARS (\$2,000,000) property damage and TWO MILLION DOLLARS (\$2,000,000) bodily injury.

The Contractor shall provide comprehensive automobile liability insurance for all owned, non-owned, and hired vehicles. The amount of coverage for each occurrence shall be a Minimum of ONE MILLION DOLLARS (\$1,000,000) property damage and ONE MILLION DOLLARS (\$1,000,000) bodily injury.

A Certificate of Liability Insurance must be submitted to the Board of Medina County Commissioners at the time of contract award. Said Certificate of Liability Insurance shall name Medina County, The Medina County Commissioners, and Medina County Engineer as additional insureds and provide a minimum of thirty (30) days

written notice to all insureds prior to cancellation.

The Contractor shall be liable for all amounts including that in excess of the insurance, if any, and the Contractor shall agree, in writing, to hold the County harmless from all claims of damages resulting from the work undertaken.

Should Contractor's policy of liability insurance be cancelled or subject to reduction of coverage, Contractor will immediately notify the County of such cancellation or reduction and shall use its best efforts to obtain the level of coverage required by this Contract. The inability of Contractor to obtain such replacement coverage may warrant the immediate suspension of this contract, at the sole discretion of the County.

Awarded, a current Cert Premium Payment issued by the Ohio Bureau of Workers' Compensation must be submitted to the Medina County Commissioners at the time of contract award.

Prebid Questions

Should a question arise at any time during the examination of Bid Documents or investigation of the site the Bidder may seek clarification by directing all pre-bid questions to,

Wes Kent
Medina County Engineer's Office
Phone: 330-722-9242
Email: wkent@medinaco.org

The Medina County Engineer is not obligated to respond to, or otherwise act upon, a prebid question received after 10:00 am four working days prior to the public opening of Bids, but reserves the right to act upon any information received.

Responses to prebid questions are not revisions to the Bid Documents and are not binding.

Corrections or Changes to the Bid Documents

Any binding interpretation, correction or change of the Bid Documents will be made by Addendum issued by the Medina County Engineer.

Notice of Special Conditions

Attention of the bidder is particularly called to those parts of the Bid Package and other contract documents and specifications which deal with the following:

1. Insurance requirements
2. Requirement for a contract bond or security for 5% of the bid
3. Affirmative Action and Equal Opportunity provisions
4. Board of Medina County Commissioners, prior to entering into a formal contract with the successful bidder, will receive from the contractor a signed affidavit stating their personal property tax liability to Medina County, Worker's Compensation Certificate, Insurance Certificate, non-collusion Affidavit and Bidder's Acknowledgment. The forms shall be included in this package.

Bidders must carefully examine the Bid Documents and perform a reasonable investigation before submitting a Bid. Submission of a Bid is an affirmative statement that the Bidder has investigated the Project and is satisfied as to the character, quality, quantities, and conditions to be encountered in performing the Work. A reasonable site investigation includes investigating the Project and other locations related to the performance of the Work.

Other Costs and Requirements

Bids must include all costs of furnishing labor, materials, equipment, supervision, coordination, and all other things necessary for the full and complete performance of the project and all costs of fulfilling the requirements of laws,

rules and regulations pertaining thereto. The following is a partial list of ancillary contract costs and requirements.

Said list is provided for the convenience of Bidders, to assist in their inclusion of all components of costs and fulfillment of all requirements, though this list does not recite all costs and requirements.

1. Bids must include the cost of all required bonds.
2. Bids must include the cost to procure all permits and licenses, to pay all charges, fees and taxes, and to provide all notices necessary and incidental to the due and lawful prosecution of the Work.
3. Bids must include the cost of insurance coverage of the type and at least in the amounts set forth in the specifications and bid provisions.
4. Medina County is exempt from all sales, excise, and transportation taxes, with the exception of State of Ohio motor fuel tax. Bid prices shall exclude all such taxes.

Additional Obligations Upon Contract Award

Upon award of the contract but prior to execution of the final agreement and notice to proceed, the contractor shall submit all of the following documents, completed as required:

- a. Acceptance of Notice of Award
- b. Contract
- c. Insurance certificate(s) and/or policy(ies) including the additional agencies insured, if applicable, as required in the General Conditions
- d. Statement on Delinquent Taxes

Signature of Bidders

The firm, corporate or individual name of the bidder must be completed. In the case of a corporation, the title of the officer signing must be stated and such officer must be thereunto duly authorized. In the case of the partnership, the signature of at least one of the partners must follow the firm name, using the term "member of the firm". In the case of an individual, use the terms "doing business as", or "sole owner".

Agreement to Terms of Attached Contract

By signing this bid, Contractor acknowledges reading all attached and all referenced documents and agrees he/she will abide by the terms therein, without modification, unless Owner agrees to such modifications in writing. Modifications of any documents attached or referenced herein shall not be made a condition of signing the final contract by the Contractor and failure to sign the contract as worded herein within the time allotted shall subject the Contractor to forfeiture of his/her bid security.

SECTION 1

Administrative Provisions

1. Issuing Office

This Request for Bids is issued by the Board of County Commissioners of Medina County, Ohio, herein referred to as **County**. The County shall be the sole point of contact for this RFB.

2. Rejection of Bids

The County reserves the right to reject any and all bids if they are deemed to be not in the best interest of the general public of Medina County, Ohio. The County shall have the authority to award the contract to the firm or person best meeting the enclosed specifications and conditions.

3. Questions Related to this Bid

Any questions arising from a review of specifications should be referred to:

Wes Kent, GIMS Specialist
Office of the Medina County Engineer
791 W Smith Road
Medina, OH 44256
(330) 722-9242
wkent@medinaco.org

who is herein named the **Technical Coordinating Officer**, according to the schedule in “Instructions and Conditions.” This will allow time for the Technical Coordinating Officer to respond with clarification as well as informing the Contracting Authority and other bidders. All questions and answers will be posted on the Highway Engineer website at

http://www.highwayengineer.co.medina.oh.us/gis/2023o_q_a.html .

4. Contractor’s Responsibility

The selected firm or person, hereafter referred to as the **Contractor**, will be required to assume full responsibility for the complete effort as required by this RFB. The County will consider the Contractor to be the sole point of contact with regard to all contractual matters.

5. Subcontracting

It is the intent of these specifications to select one Contractor suitably staffed and equipped to perform the services outlined in these specifications. While the use of subcontractors is not discouraged, it is desirable for the Contractor’s team to be made up of as few a number of firms as practical. This is to insure that the County receives work of consistent quality and workmanship.

6. Assignment

The Contractor is prohibited from reassigning, transferring, conveying, subletting, or otherwise disposing of this agreement or its rights, title, or interest therein or its power to execute such agreement to any person, company, or corporation.

7. Termination of Contract

The County reserves the right to terminate any contract entered into as a result of this RFB for reasons that might be termed “non-performance under the terms of the specifications.”

8. Permits and Clearances

The Contractor shall obtain all federal, state, and/or local licenses, permits and/or clearances necessary for performance of the contract. Should all or any part of the area where the data is to be captured lie within controlled air space, the Contractor shall coordinate his sorties with the cognizant Air Route Traffic Controller. Should a military installation(s) and/or other classified area(s) lie within the data collection area, the Contractor may be required to visit the installation(s) to obtain necessary clearances and instructions.

9. Progress Reports

Progress reports are to be emailed at the end of each week, or as requested, to the Technical Coordinating Officer until the data collection services have been completed. These reports shall consist of the weather sequence by day, and the status of progress on the data acquisition.

Thereafter, progress reports are to be emailed at the end of each month, or as requested, to the Technical Coordinating Officer until the project is fully executed and delivered.

10. Right to Inspect

The County reserves the right to perform inspections of any or all equipment, materials, and technical data used or developed during the course of this project by the Contractor and/or their Subcontractors. The County also reserves the right to inspect the Contractor's and/or their Subcontractor's facility, conduct interviews of personnel currently and/or previously assigned to the project, and to inspect the quality and progress of any and all work performed.

11. Copyright of Materials

Copyright to all data sets acquired for this project, and derivatives therefrom, is vested in the County from the moment of capture. The delivery media shall also become the property of the County. Unless written arrangements are made with the County to the contrary, the Contractor shall not use the data sets for any purpose other than those specified in these specifications and in the performance of this project. Should any original or re-flight data sets, or derivatives therefrom be lost, damaged, and/or destroyed while in the possession of the Contractor, regardless of the reason for loss, damage, or destruction, the Contractor shall replace the items, without cost to the County, in the same quantity and quality as set forth in these specifications.

12. Basis of Payment

The Contractor shall be paid for satisfactory work accomplished according to the methods of measurement and unit amount agreed upon between the County and the Contractor at the time of executing the contract for performance of work set forth in these specifications.

SECTION 2

Technical and Cost Proposal

Bids submitted by prospective contractors shall specifically address, but not be limited to, the following topics:

Competency

Each bid shall include statements setting forth the prospective contractor's business, technical organization, a general outline of past experiences, and specific description of at least three projects similar in size and geographic location to that contemplated herein. Descriptions of similar projects shall include the name of the contracting authority, individual references within the contracting authority, including address and telephone number of each individual.

Aircraft, Crew, and Cameras

Each bid shall include a certified statement defining specific aircraft contemplated for use on the project and names of crew members to be assigned to individual airplanes. The specific camera to be carried by each airplane shall be clearly identified and the corresponding certificate of calibrations*, stereo model flatness test, and letter of acceptance for said camera.

*Certificates of calibration dated more than two years past are not acceptable for bid purposes.

UAV and UAS Proposals

Responder Proposals utilizing commercial UAS (Unmanned Aerial Systems), UAV (Unmanned Aerial Vehicles), drones or pilotless aircraft as a method of image or LiDAR capture will not be considered at this time by the County.

Example Data

Each bid shall include at least two examples of previous digital orthoimagery work accomplished, including color IR orthoimagery. Each bid shall also include an example of contour lines generated from aerial captured LiDAR data.

Support Equipment

Each bid shall set forth a certified statement of the photographic support equipment, including processing, printing, and quality check equipment.

Ownership

The above certification shall include a certified statement as to the ownership and location of the aircraft, camera, and support equipment to be utilized in the furtherance of this project.

Scheme of Operation

Each bid shall include a complete narrative describing the prospective contractor's scheme of operation. The narrative shall include, but not necessarily be limited to, base of operations, which crew(s) will be assigned to the flying, conditions under which individual crews will leave the ground for the project site and procedures to be followed for flights, data acquisition, processing, and production of final product(s).

Impact Statement

The prospective contractor shall include written certification that their currently-held projects will not interfere with the efficient and timely execution of the contemplated project.

Procurement Process

Review of Bids and Requests for Clarification

A team of County employees will evaluate all Bids received in response to this RFB. During the evaluation, validation, and selection process, the County may desire to contact a Responder's representatives for answers to specific questions. Such representatives should be readily available to the County and able to respond to each of the various categories of the requirements. Whenever such clarification has significant bearing on the review of the bid, and/or may have potential contractual implications, the County may request the clarification in writing.

The County may obtain and use information, in addition to that contained in the Proposals, from any source desired. This includes customers of the Responders, regardless of whether or not the references were supplied by the Responders.

Right to Reject

The County reserves the right to reject any and all bids based on:

- failure to submit a bid addressing all required topics;
- failure to submit samples in the quantity or quality required by these specifications;
- lack of competency or qualifications to perform in accordance with these specifications;
- previous unsatisfactory performance;
- nonpayment of financial obligations;
- failure to respond promptly to written requests for clarification;
- failure to supply information on required financial and security forms;
- misrepresentation and/or statements contrary to fact.
- failure to provide a bid guarantee.

Furthermore, the County reserves the right to not make an award if it is deemed that no single bid fully meets the minimal functional, technical and data collection requirements of this RFB, or to award a contract for only a portion of the functionality identified herein.

Procedures When Only One Bid is Received

In the event only a single responsive bid is received, the County reserves the right to conduct an analysis of all evaluation criteria submitted in such bid. The sole Bidder shall provide such information, data and other documentation as deemed necessary for such analysis. The County reserves the right to reject such bid.

Selection of Successful Bidder

Following the procedures previously described, the County will select the Successful Bidder with whom it wishes to enter into contract negotiations.

Successful Bidder Statement of Work

The Successful Bidder will prepare a Statement of Work, including updated costs, and submit it to the County for evaluation and final approval.

Contract Finalization

This phase will be used to finalize the contract terms and conditions. If a contract cannot be negotiated with the intended Finalist, the County may terminate negotiations and pursue an agreement with the next highest rated proposal, repeating this procedure until a successful contract can be reached or all proposals rejected.

SECTION 3 - SPECIFICATIONS

General Requirements

The County specifically requests that proposed Contractors provide bids based on specifications herein. The County will give consideration to possible alternative procedures provided that the original bid complies with the enclosed specifications.

The Contractor shall furnish all materials, labor, supervision, equipment, quality control, and transportation necessary to execute and complete all work required by these specifications. The Contractor's level of effort shall be such that the required data collection is completed within a single flying season in an expeditious and professional manner.

Areas to be Captured

Digital Orthoimagery and LiDAR data of the entirety of Medina County, approximately 425 square miles, with a 1-mile buffer on all sides and corners of the County boundary, is to be acquired.

Time and Conditions of Data Acquisition

Data shall be secured:

- when deciduous trees are barren and the ground is free of snow, so that well-defined imagery and accurate LiDAR data can be obtained.
- imagery and LiDAR data shall not be secured when the ground is obscured by haze, smoke, dust, or flood waters.
- the solar altitude shall not be less than 25 degrees.
- streams should be within their normal banks.

All imagery and LiDAR data shall be secured during the Spring flying season of 2023, acceptable weather and ground conditions permitting.

Horizontal and Vertical Datum Requirements

Horizontal Datum: North American Datum of 1983 (NAD83)
Vertical Datum: North American Vertical Datum of 1988 (NAVD88)
Coordinate System: Ohio Stateplane, North Zone (FIPS 3401)
GEOID Model: GEOID 03
Mapping Units: US Survey Feet

Orthoimagery Specifications and Standards

The County requires 6-inch pixel resolution, 4-band (RGB and Near IR) true-color orthoimagery as part of this project. It is expected that the digital images will be clear, carefully mosaicked, and have standardized color balance throughout the project area. There should be minimal clouds or shadows of clouds in the imagery, as well as minimal building lean. Spectral reflectance from water surfaces, glass, or reflective surfaces should be reduced. Building rooftops and other structures shall not be clipped at seamlines or between individual image files.

Bidders should also provide proposals for 3-inch pixel resolution orthoimagery, meeting the standards and specifications listed in this document for the 6-inch pixel resolution orthoimagery.

The orthoimagery should be appropriately tiled based on the pixel resolution: 2,500' x 2,500' tiles for 6-inch pixel resolution; 1,250' x 1,250' tiles for 3-inch pixel resolution.

LiDAR Data Specifications and Standards

LiDAR data capture shall occur as close as possible to the time of the imagery capture. The sensor should be a professional quality unit which has an approved sensor to meet QL1 LiDAR Base specifications

The Contractor shall be responsible for post processing of LiDAR data of sufficient density and quality to meet the requirements specified in the *National Geospatial Program Lidar Base Specification Version 2022 rev. A*. All processing should be carried out with the understanding that all point deliverables are required to be in fully compliant LAS, v1.4 Point Record Format 6, 7, 8, 9, or 10. Data producers are encouraged to review the LAS specification in detail. Specifications of the LAS data sets will be verified.

The Contractor shall meet or exceed the National Standards for Spatial Data Accuracy (NSSDA) accuracy standards. The NSSDA standards specify that vertical accuracy be reported at the 95 percent confidence level for data tested by an independent source of higher accuracy. ASPRS Class 1 specifications are required.

The underlying digital elevation model (DEM) will be required to be prepared for delivery to the County.

All deliverables will meet or exceed the USGS LiDAR Base Specifications for Quality Level 1. It is the intention of the County to have this data set accepted in the USGS 3DEP program.

Topographic Mapping from LiDAR (Optional Deliverable) Specifications and Standards

Bidders should provide proposals for creating topography at a 2-foot contour interval with 3D breaklines, and spot elevations to accompany the contours. This data set should be generated using the acquired LiDAR as part of this project. Contours shall be 'engineering' or 'mapping' grade.

Aircraft and Crews

Aircraft Requirements

All aircraft shall be maintained and operated in accordance with regulations of the Federal Aviation Administration and the Civil Aeronautics Board.

Crews

Individual crew members shall have two years or more experience in flying precise photographic missions for aerial surveys. Resumes of the crews (pilot and photographer) to be used for this project shall be included with each bid submitted. The County reserves the right to interview the proposed crews for the project prior to the time data will be acquired and to disapprove any crew member deemed incompetent on the basis of his record of past performance.

Camera Tilt

Tilt of the camera from the vertical plane at the instant of exposure shall not exceed 3 degrees, nor shall it exceed 5 degrees between successive exposure stations. Average tilt over the project shall not exceed 1 degree.

Flight Heights

Departures from flight heights required to produce the final map scales shall not exceed $\pm 5\%$.

Notification of Flight

The County requests to be notified of the day and, if possible, the approximate time of flight(s) as

soon as that information becomes available.

Reflights

Unacceptable coverage resulting from deviation from flight plan shall be corrected at the Vendor's expense.

Ground Control Specifications

It is required that the Contractor develop a geodetic control network capable of creating Class 1 accuracy for the data products to be acquired, according to the American Society of Photogrammetry and Remote Sensing (ASPRS) Class 1 and Federal Geodetic Control Committee standards.

The County will make existing geodetic control information from previous mapping projects available for this project, upon request.

The procedures for establishing a ground control network should address:

1. Need to pre-target prior to the flyover or use of post-flight methods
2. Horizontal Control
3. Vertical Control
4. Tie-ins to existing National Geodetic Survey (NGS) points
5. Use of existing control points
6. Use of other existing control
7. Survey methods, including use of field crews, GPS, and other techniques

The control network must be a photo identifiable solution suitable for development of all specified products at the specified accuracies.

Recovery of Existing/Establishing New

Sufficient horizontal and vertical control surveys shall be established by the Contractor to support the subsequent acquisition of data. The Contractor shall recover any existing control, establish new control, if necessary, and position targets prior to the aerial mission.

Estimate of Requirements

In response to these Specifications, the Contractor shall indicate the estimated total number of horizontal and vertical control points that shall be required to satisfy the project requirements. The Contractor shall also provide a detailed description of the equipment and methods to be used to complete the horizontal and vertical control survey work in their Technical Plan of Operations.

Monumentation

At the County's option, horizontal and vertical control points may be monumented by the Contractor in the field with permanent monuments. Any additional monumentation that is suggested shall be indicated as such and included in this bid as an alternative option.

Existing GPS

The Contractor shall make maximum use of any available horizontal or vertical control information by contacting NGS or other agencies as appropriate.

Horizontal Control

All new horizontal control that is placed for this project, if more is required, should be to a minimum accuracy level of NGS Third Order. All horizontal control shall be established by appropriate GPS technology, or by traverse, as necessary. Federal Geodetic Control Subcommittee standards for instrumentation, field observations, and data reduction shall be

followed as applicable to a minimum Third Order survey.

All horizontal ground control shall be determined in the Ohio State Plane Coordinate System (North Zone 3401), using the North American Datum (NAD) 1983. All final control shall be identified in geodetic coordinates (NAD83) of latitude and longitude and in feet. The U.S. survey foot shall be used for all meter to feet conversions.

Survey Methods

The proposed contractor shall specify the techniques required for use in establishing horizontal control for this project. Where GPS is used, the number of units available should be indicated in The Technical Plan of Operations, as well as the length of observing time planned for each station. The current NGS "Geodetic Survey Standards and Specifications for Geodetic Surveys Using GPS Relative Position Techniques" shall apply.

The Contractor shall be required to submit a report indicating the location and characteristics of the existing control points that have been recovered and utilized. This report shall contain a map showing the locations of all existing and planned control points intended for aerial triangulation use. Additional, non-targeted horizontal control established after data acquisition should be done only with prior approval of the County.

The methodology and all costs associated with the recovery of the existing points and establishing any new permanent monuments (if required) must be itemized and described in detail. At the completion of ground control activities, the Contractor must submit a Ground Control Report on the GPS control survey network. The Contractor shall furnish a schematic control diagram of the survey records for all basic horizontal and vertical control pertinent to this project. It shall also show all traverse lines with their designations to include the beginning and end points.

An ESRI Shapefile layer(s) of the ground control used shall also be submitted. The diagram should be combined with field reports as one report, tying the information together.

Field Reports

Field reports shall be carefully and neatly prepared, identified, indexed, and preserved. All data regarding the establishment and extension of horizontal and vertical control, including descriptions of all established and recovered monuments shall be recorded.

Where existing control points are recovered by the Contractor in extending the basic control, the field reports shall contain the following:

- a) information as to the general condition of the recovered mark;
- b) the original description;
- c) exact letter and numbers stamped (not cast in) on the mark and amended description (if applicable);
- d) additional tie data (if any);
- e) a sketch of the location as appropriate to facilitate future recovery.

Work-site Maintenance and Procedures

Responsibility

Contractor's employees and subcontractors shall perform operations and maintain the work-site in a neat and orderly manner. The Contractor shall be responsible for removing any waste material from the work-sites involved including targeting material within a reasonable time frame. The Contractor shall not store materials on County property without the written permission from the County.

Right-of-Ways

The Contractor shall be allowed to conduct field operations at any time within the road right-of-way in rural or commercial areas provided the road is open for normal use. During field operations within road right-of-ways or when a field survey vehicle is parked within a road right-of-way, the contractor shall observe the laws and regulations governing such operations.

Time of Day

The Contractor shall only perform field operations within (or adjoining) residential subdivision areas during daylight hours unless written approval is received from the County to conduct operations at night. Monuments may be set with power tools only during daylight hours.

Land Access

Access to Public and Private Land - The Contractor shall comply with all statutory provisions for general entry upon property by surveyors.

Aerotriangulation

The contractor shall perform fully analytical or softcopy aerotriangulation to densify and check the project ground control and to relate the data acquisition to the control.

Immediately upon completion of all aerial triangulation work the Contractor shall prepare formal aerial triangulation reports to be submitted to the County. At a minimum, the reports will include a description of the following:

- a) Aerial Triangulation Results;
- b) All misclosures at ground control points with and without use of checkpoints;
- c) The final adjusted aerotriangulation solution to horizontal and vertical ground control, containing the final State Plane Coordinates for all ground control points, passpoints, and checkpoints;
- d) Identification of all points that were included in the initial solution and were subsequently discarded, with an explanation of the reasons for being discarded;
- e) Identification of the weighting factors applied to all points used in the final solution;
- f) Coordinate data in comma delimited ASCII format.

Narrative - The reports shall also include a brief narrative including:

- a) procedures and computer programs used;
- b) Root-mean-square error summaries will be given for bundle adjustment photographic measurement residuals and misclosures at control points;
- c) Where significant variances are encountered at control points, steps taken to analyze such variances and to rectify the discrepancies will be fully described. Finally, the report shall contain a statement by a certified photogrammetrist that the aerial triangulation solution will provide sufficient control for data compiled in accordance with ASPRS Accuracy Standards for large-scale Class 1 maps.

Quality Control

The Contractor must provide the County with a description of the quality control methods and procedures used in all aspects of the project. Describe what field verification measures are carried out to ensure that the products meet said ASPRS Standard. Verification should also be performed for map completeness to ensure that no gaps exist in the digital coverage.

SECTION 4 - DELIVERABLES

The following describes the required deliverables. All final digital data shall be delivered on a portable hard drive.

Metadata

All GIS data deliverables shall have Federal Geographic Data Committee (FGDC) compliant metadata in XML format.

Required Deliverables

- 1) One set of 6-inch pixel resolution, 4-band (RGB and NIR) digital orthoimagery in GeoTIFF format with associated world files for georeferencing.
- 2) Orthophoto tile center point layer in ESRI Shapefile format.
- 3) Orthophoto tile index polygon (rectangle) layer in ESRI Shapefile format.
- 4) One set of USGS Quality Level 1 (QL1) Aerial LiDAR in LAS and GeoTIFF raster formats (per the USGS Standard).
- 5) Associated Bare Earth raster DEM (0.5 meter) in GeoTIFF format with associated world files for georeferencing.
- 6) LiDAR Tile Index in ESRI Shapefile format.
- 7) Hydrologically-flattened Breaklines in ESRI Shapefile format.
- 8) One copy of Existing control point location and characteristic report.
- 9) One copy of Formal Aerial Triangulation Report (FAAT).
- 10) One copy each, GPS control survey network and ground control report along with ESRI Shapefile format point layer(s) of ground control.

Optional Deliverables

- 1) One set of 3-inch pixel resolution, 4-band (RGB and NIR) digital orthoimagery in GeoTIFF format with associated world files for georeferencing. This deliverable would supersede the 6-inch pixel resolution digital orthoimagery deliverable.
- 2) One set of countywide 2-foot vector contours with 3D breaklines in ESRI Shapefile format.

Acceptance of Deliverables and QA/QC Procedures

In addition to QA/QC performed by the vendor, the County will subject interim and final deliverable products to a series of visual, digital, and data accuracy checks. In general, products with missing data, gross errors, poor edgematch, incorrect attributes, inability to be read/used by GIS software, and/or formatting errors will be returned to the vendor for correction.

2023 Digital Aerial Orthoimagery and LiDAR Data Sets Medina County, Ohio

Pricing Form

Required Deliverables	Price
One set of 6-inch pixel resolution, 4-band (RGB and NIR) digital orthoimagery of the entirety of Medina County with a 1-mile buffer area of the surrounding counties.	
One set of USGS Quality Level 1 (QL1) Aerial LiDAR of the entirety of Medina County with a 1-mile buffer area of the surrounding counties.	
Optional Deliverables	Price
One set of 3-inch pixel resolution, 4-band (RGB and NIR) digital orthoimagery of the entirety of Medina County with a 1-mile buffer area of the surrounding counties.	
One set of countywide 2-foot vector contours with 3D breaklines of the entirety of Medina County with a 1-mile buffer area of the surrounding counties.	
TOTAL	

2023 Digital Aerial Orthoimagery and LiDAR Data Sets Medina County, Ohio

Required Forms

Bidder's Acknowledgment
Non-Collusion Affidavit
Personal Property Tax Verification Affidavit

2023 Digital Aerial Orthoimagery and LiDAR Data Sets - MEDINA COUNTY, OHIO

I have read the entire Request for Bid, addenda, and changes if any, and I fully understand its contents, have submitted all data requested herein, and acknowledge that the fees above notwithstanding are for the delivery of all items expressly required in the specifications within the request.

Signed: _____

Title: _____

Company: _____

Address: _____

Phone: _____

Date: _____

2023 Digital Aerial Orthoimagery and LiDAR Data Sets - MEDINA COUNTY, OHIO

NON-COLLUSION AFFIDAVIT

STATE OF OHIO)
COUNTY OF MEDINA _____) ss.

_____, being first duly sworn, says that he/she
is _____ of _____,

(sole owner, partner, president)

the party making the foregoing proposal or bid; that such bid is genuine, and not collusive or a sham; that such bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any bidder or person, to put in a sham bid, or that such other persons shall refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price of affiant element of said bid price, or of that of any other bidder, or to secure any advantage against the county of Medina or any persons or persons interested in the proposed contract, and that such bidder has not, directly or indirectly, submitted this bid, or the contents thereof, or divulged information or data relative thereto, to any association or to any member or agent thereof.

Affiant

Sworn to and subscribed before me this _____ day of _____, 2023.

[seal] Notary Public in and for

County, State of Ohio

My Commission Expires: _____

PERSONAL PROPERTY TAX VERIFICATION AFFIDAVIT

Now comes the successful bidder, _____, upon a competitive bid for _____, on the _____ day of _____, 2023, and first being duly sworn deposes and says that he/she **(was or was not)** charged at the time the bid was submitted with any delinquent personal property taxes on the general tax list of personal property of Medina County.

(If applicable), the amount due and unpaid delinquent personal property tax \$ _____.

Further Affiant Sayeth Naught.

(Signature)

(Title)

Sworn to before me this _____ day of _____, 2023.

Notary Public, State of Ohio

[Seal]

My Commission expires: _____

(THIS AFFIDAVIT MUST BE COMPLETED BEFORE A CONTRACT MAY BE ENTERED INTO UNDER OHIO REVISED CODE CHAPTER 5719.042)

**2023 MEDINA COUNTY DIGITAL AERIAL
ORTHOIMAGERY AND LIDAR DATA SETS BID**

MEDINA COUNTY, OHIO

FORM OF BID GUARANTEE / PERFORMANCE BOND

"KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned

_____ as principal

and _____ as sureties,

are hereby held and bound unto **Board of Medina County Commissioners** as obligee in the penal sum of the Dollar Amount of the bid submitted by the principal to the obligee on

_____ to undertake the project known as
2023 MEDINA COUNTY DIGITAL AERIAL ORTHOIMAGERY AND LIDAR DATA SETS.

The penal sum referred to herein shall be the Dollar Amount of the principal's bid to the obligee, incorporating any additive or deductive alternate proposals made by the obligee. In no case shall the penal sum exceed the amount of _____ DOLLARS. (If the foregoing blank is not filled in, the penal sum will be the full amount of the principal's bid, including alternates. Alternatively, if the blank is filled in, the amount stated must not be less than the full amount of the bid including alternates, in dollars and cents. A percentage is not acceptable.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this _____ day of _____, 20_____.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that whereas the above-named principal has submitted a bid for **2023 MEDINA COUNTY DIGITAL AERIAL ORTHOIMAGERY AND LIDAR DATA SETS.**

NOW, THEREFORE, if the obligee accepts the bid of the principal and the principal fails to enter into a proper contract in accordance with the bid, plans, details, specifications, and bills of material; and in the event the principal pays to the obligee the difference not to exceed ten percent (10%) of the penalty hereof between the amount specified in the bid and such larger amount for which the obligee may in good faith contract with the next lowest bidder to perform the work covered by the bid; or in the event the obligee does not award the contract to the next lowest bidder and resubmits the project for bidding, the principal pays to the obligee the difference not to exceed ten percent (10%) of the penalty hereof between the amount specified in the bid, or the costs, in connection with the resubmission of, printing new contract documents, required advertising, and printing and mailing notices to prospective bidders, whichever is less, then this obligation shall be null and void, otherwise to remain in full force and effect; if the obligee accepts the bid of the principal and the principal within ten (10) days after the awarding of the contract enters into a proper contract in accordance with the bid, plans, details, specifications, and bills of material, which said contract is made a part of this bond the same as

though set forth herein;

Now, also, if the said _____
(Contractor)

shall well and faithfully do and perform the things agreed by **Board of Medina County Commissioners** to be done and performed according to terms of said contract; and shall pay all lawful claims of subcontractors, material, men, and laborers, for labor performed and materials furnished in the carrying forward, performing, or completing of said contract; we agreeing and assenting that this undertaking shall be for the benefit of any material men or laborer having a just claim, as well as for the obligee herein; then this obligation shall be void; otherwise, the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal sum amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions, in or to the terms of the said contract or in or to the plans or specifications therefore shall in any wise affect the obligations of said surety on its bond.

Signed and Sealed this _____ day of _____, 20____.

Contractor: _____

By: (Signature) _____

Typed Name: _____

Title: _____

Surety Company: _____

Address: _____

By: (Signature) _____

Typed Name: _____

Attorney-in-Fact

Surety Agent: _____

Attest: (Signature) _____

Typed Name: _____

Address: _____

**2023 MEDINA COUNTY DIGITAL AERIAL
ORTHOIMAGERY AND LIDAR DATA SETS BID**

INDEPENDENT CONTRACTOR INDEMNIFICATION CLAUSE

The contractor and the owner mutually agree that the relationship formed by this agreement is intended to be that of customer and independent contractor, and is not an employment relationship. The contractor hereby represents that it is not an entity over whom the National Labor Relations Board has ever declined jurisdiction.

The contractor further agrees and covenants that, should a safety issue or complaint arise from, or involving, an employee, agent or representative of the contractor; the contractor will indemnify and hold the owner harmless, and will assume all legal and financial responsibility for said issue or complaint including, but not limited to, all fines, fees, costs, corrective action, provision of equipment, training and administration.

The contractor further agrees and covenants that, should a safety related issue, suit, or complaint be filed against the owner by an employee, agent, or representative of the contractor, the contractor will pay all associated costs of the owner, as the owner deems necessary, in order to defend, correct, or resolve said issue or complaint.

Signed:

Contractor

Date