



Town of Nantucket

REQUEST FOR PROPOSALS FOR GIS BASE MAP DATA COLLECTION - Phase 1

The Town of Nantucket invites qualified responders to submit proposals for the development of a new large scale GIS base map.

I. GENERAL INFORMATION AND SUBMISSION REQUIREMENTS

1. Proposals can be obtained and will be accepted at the Town of Nantucket, Project Manager's Office, 16 Broad Street, Nantucket, MA 02554, until March 5, 2013 at 11:00 AM. One original and three hardcopies of the non-price proposal are required. One original of the price proposal is required.

Price and non-price (technical) proposals must be submitted in separate envelopes that are sealed and clearly marked:

- *Non-Price Proposal for Phase 1 GIS Data Collection*
- *Price Proposal for Phase 1 GIS Data Collection*

2. The RFP will be available to the public after the evaluation is complete.
3. Award date. Award will be made within sixty (60) days after proposal opening unless otherwise stated in the specifications or the time for award is extended by mutual consent of all parties. All submittals shall be valid for a minimum period of sixty (60) calendar days following the date established for acceptance.
4. If any changes are made to this RFP, an addendum will be issued. Addenda will be mailed or faxed to all companies and individuals on record as having requested the RFP.
5. Questions concerning this RFP must be submitted in writing to: Diane A. O'Neil, Chief Procurement Officer, 16 Broad Street, Nantucket, MA 02554 before February 21, 2013 at 2 pm. Questions may be delivered, mailed, emailed (doneil@nantucket-ma.gov) or faxed. Written responses will be mailed or faxed to all companies and individuals on record as having requested the RFP.
6. Responses may be modified, corrected or withdrawn only by written notice received by the Town of Nantucket prior to the time and date set for the response opening. Modifications must be submitted in a sealed envelope clearly labeled "Modification No. ____" and must reference the original RFP response.

Negligence on the part of the responder in preparing the proposal confers no rights for the withdrawal of the proposal after it has been opened.

7. The Town of Nantucket reserves the right to reject any and all responses and to waive any minor informality in responses received whenever such rejection or waiver is in its best interest.
8. The Town of Nantucket will not be responsible for any expenses incurred in preparing and submitting responses. All submittals shall become the property of the Town of Nantucket. All plans, specifications



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and other documents resulting from this contract shall become the property of the Town of Nantucket. Unless specifically exempt under the Massachusetts public records law, the Town has the right to disclose information contained in proposals.

9. Responders must be willing to enter into the Town of Nantucket's standard form of contract.
10. The RFP, and any subsequent contract for the services, is hereby issued in accordance with M.G. L. c. 30B.
11. Proposals received prior to the date of opening will be securely kept, unopened. No responsibility will attach to an officer or person for the premature opening of a proposal not properly addressed and identified.
12. Any submittals received after the advertised date and time for opening will be returned to the responder unopened.
13. Purchases by the Town of Nantucket are exempt from federal, state and municipal sales and/or excise taxes.
14. The Tax Compliance Certification and the Certificate of Non-Collusion must be included with the response. These forms must be signed by the authorized individual(s).
15. Unexpected closures. If, at the time of the scheduled response opening, Town Hall is closed due to uncontrolled events such as fire, snow, ice, wind or building evacuation, the response opening will be postponed until 3:00 PM on the next normal business day. Submittals will be accepted until that date and time.
16. The Town of Nantucket is an Affirmative Action/Equal Opportunity Employer. The Town encourages submittals from qualified MBE/DBE/WBE firms.
17. Responders should be aware that many overnight mailing services do not guarantee service to Nantucket.
18. Responses to the RFP must be prepared according to the guidelines set forth herein. Selection of the successful responder will be based upon an evaluation and analysis of the information and materials required under the RFP.



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II. Phase 1 GIS Data Collection Phase 1

The Town of Nantucket (the "Town") is located off the south coast of Cape Cod and southeast of Martha's Vineyard. The Town of Nantucket is a group of three main islands (Nantucket, Tuckernuck, Muskeget), and any small nearby islands. The total land area of Nantucket is approximately 49 sq. miles land area (plus nearshore shallow water). The full-time population is approximately 12,000 and the summer population is 56,000.

A shapefile of the Town is available to interested vendors on from the town GIS coordinator upon request to nporter@nantucket-ma.gov

The Town invites responders to submit proposals for Spring 2013 aerial data collection to be used for the development of a new large scale GIS base map based. Note that because of fiscal year funding requirements, the project will be completed in two phases.

Phase 1: New aerial mission and ground control to collect and deliver to the Town;

- 4-band digital imagery
- Airborn GPS and IMU data
- Ground Control locations and
- FAAT solution

Phase 2: The vendor for Phase 2 will use the deliverables of Phase 1 to develop new orthophotography, topography and detailed planimetric data to 40-scale ASPRS Class 2 standards:

- town-wide 4-band color and CIR orthophotography with 3" pixels,
- detailed 40-scale planimetrics
- 1-foot contours and spot elevations

This RFP is for Phase 1 only.

Note: The Town is open to suggestion on how to relax the required horizontal accuracy of Muskeget, Tuckernuck in order to moderate survey costs for these islands, e.g. ASPRS Class 3.

Note: In the event that the Town's budget does not support 40-scale, it also requests, as an option, for bids for a new 100-scale base map with 2-foot contours and orthophotography with 6-inch pixels to ASPRS Class 2 standards (also with the option of Muskeget and Tuckernuck being to Class 3 standards).

The requirements of Phase 2 will be specified in a subsequent RFP. The vendor selected for Phase 1 will be eligible to bid for the production of Phase 2.

Defined Terms

Nantucket Coordinate System

All data products shall be delivered in the Massachusetts State Plane Coordinate System, Island Zone, US Survey Foot. The horizontal datum shall be NAD1983. Vertical Datum shall be NAVD1988.



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Scope of Work

Aerial Data Collection

The Town requires new Spring 2013 digital aerial imagery to be created to serve as the basis of the required deliverables. The contracted vendor shall comply with all Federal Aviation Administration (FAA) regulations and obtain all necessary flight clearances. All areas exposed at low tide should be captured. Note also that Nantucket's shoreline is actively changing and the vendor is responsible for ensuring that the imagery captures at a minimum all areas that would be exposed at mean low tide plus 100 feet. In addition, the aerial imagery and subsequent orthophotography must include all of Nantucket Harbor, Head of the Harbor, and the water areas between Muskeget, Tuckernuck and the main island.

MassGIS distributes medium-scale orthophotography for Nantucket which can be used to see relatively recent shoreline location for planning purposes: <http://www.mass.gov/mgis/download.htm>. Note that the MassGIS data is in Massachusetts SPC Mainland Zone meters, and this Nantucket project requires the data to be delivered in Massachusetts SPC Island Zone US Survey Feet.

Conditions for Imagery Flight

The vendor shall capture the aerial imagery, free of clouds, cloud shadows, atmospheric haze and severe sun glare reflections. All photographs shall be captured during Spring 2013, under a cloudless sky, while deciduous vegetation is free of leaves, when streams are within their normal banks and when the ground is free of snow. The project requires the imagery to be collected at a minimum sun angle of 45 degrees. Given the other requirements, it should also be captured as close to low tide as is possible.

Aerial Imagery with Digital Camera

The Town requires the use of a professional digital aerial camera for this project. The source imagery shall be collected using a large format aerial camera such as the Leica ADS40 or the Zeiss/Intergraph Z/I DMC. The camera must be capable of making 4-bands simultaneously. The vendor should make the case for the use of the proposed camera. Airborne GPS shall be used with the camera as part of the image capture flight. On-board and ground-based GPS and Inertial Measurement Unit (IMU) equipment and methodologies shall be described.

The sensors shall be properly calibrated to insure that data are of the highest radiometric quality and are consistent across the project area. All data bands shall be collected at a minimum depth of 8-bits per band.

The imagery shall be collected using the appropriate blue, green, red and near infrared bands required to create natural color and color infrared (CIR) data sets. Band to band alignment of the sensor must be of sufficient accuracy to eliminate any fringing effects in the final imagery that are related to sensor array offsets.

Specifications and Standards for Image Capture

Spacing of Photographs - Overlapping images in each flight line shall provide full stereoscopic coverage of the area mapped. Image overlap must be adequate to develop orthophotography. Image crab in excess of 3 degrees may be cause for rejection of a flight line or any portion thereof in which excess crab occurs.

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.



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Flight Plan/Boundaries - The imagery shall cover a minimum of one full stereo-model beyond each end boundary. Flight plans for image capture should be included in the proposal.

Flight Height – Because large format aerial cameras have different sensor sizes and camera focal lengths, a specific flight altitude is not mandated in this RFP. The altitude should be low enough to allow the creation of the data sets to ASPRS Class 2 accuracy and very clear and detailed orthophotography. Pixels in the raw photography should cover less area than the delivery pixel size, e.g. smaller than 3" for 40-scale. The proposed flight height should be stated and examples of orthophotography from similar projects should be supplied with the proposal.

Image Quality – All imagery shall be free from artifacts or imperfections due to the sensor system or subsequent handling.

QA/QC for Aerial Photography, Airborne GPS

As soon as the aerial imagery has been captured, it must be inspected for any defects, e.g. cloud shadow, density, clarity, completeness, sidelap, endlap and crab. Successful capture of airborne GPS shall also be confirmed. A QC summary report shall be provided to the Town within one week of the date of aerial photography.

Reflights

Unacceptable coverage resulting from deviation from flight plans for image quality, or any other conditions of the raw imagery that prevents the development of the required deliverables shall be corrected at the vendor's expense.

Ground Control

It is required that the vendor develop a geodetic control network capable of creating ASPRS Class 2 standards for 40-scale mapping. The ground control shall be managed and certified by a Massachusetts registered land surveyor.

The procedures for establishing a ground control network should address:

- Horizontal Control
- Vertical Control
- Tie-ins to existing NGS points
- Use of other existing control (e.g. Mass. Highway Dept., et al)
- Survey methods, including use of field crews, GPS, and other techniques

Fully Analytical Aerial Triangulation (FAAT)

Fully Analytical Aerotriangulation (FAAT) will be used to densify control. The Plan for Services should describe the expected positional accuracy of the horizontal and vertical control. A step-by-step discussion of the procedures and equipment used for the FAAT should be included in the Plan for Services. This discussion should also describe quality control procedures.



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Phase 1 DELIVERABLES

The following describes the required deliverables. All final digital data will be delivered on DVD or portable hard drives which will remain the property of the Town. Two copies are required. The following describes the required deliverables.

Metadata

All data deliverables shall have Federal Geographic Data Committee (FGDC) compliant metadata in File Geodatabase and/or XML format readable within ArcCatalog.

Aerial Photography Deliverables

1. Aerial Photography Report: As soon as the aerial photography has been completed, the products shall be inspected by the vendor and an aerial photography, Airborne GPS and IMU quality reports issued to the Town.
2. Geodatabase data of the actual flightlines and photo centers from the flight.
3. The 4-band imagery in TIFF format.

Ground Control Deliverables

The results of the project ground control work will be delivered to the Town as a Ground Control Report. This report shall include:

1. The ground control field notebook(s), including swing-tie sketches to all points.
2. A digital data layer in Esri file geodatabase format containing the ground control points along with pertinent attributes including calculated X, Y and Z coordinates, type of point, etc.).

FAAT Deliverable

The contractor will submit an aerotriangulation report at the completion of the FAAT development.

Quality Assurance Quality Control

The vendor should conduct quality assurance/quality control checks during all phases of the project. The Plan for Services should describe each of these checks, and which team member or staff person will be conducting the QA/QC. The proposal should be specific and not generalize the QA/QC "philosophy" of the firm.

Acceptance of Deliverables and Nantucket QA/QC Procedures

In addition to QA/QC performed by the vendor, the Town 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, etc. will be returned to the vendor for correction.

III. FORM OF PROPOSAL

The Proposer shall submit in separate, clearly identified, sealed envelopes a non-price proposal and price proposal.



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First, the Town shall open and evaluate the non-price proposals according to Section IV of this RFP. Then the Town shall open the price proposals, and select the most advantageous proposal based on proposal ratings and the proposal prices.

A. Non-Price Proposal

The non-price proposal shall consist of all materials and information, other than price, required in this RFP. The non-price proposal shall include a Plan of Service that details the following:

The proposal must contain the following sections:

I. BUSINESS AND TECHNICAL PROPOSAL

A. Introduction

B. Corporate Profile (including all subcontractors)

C. Prior Project Experience Summary

1. A minimum of five references, including name, position, address, and telephone numbers, for prior or ongoing projects conducted by the Contractor, with a brief description of the relevant work performed for each client that highlights the elements that are similar to the Nantucket project. (The proposal evaluation team, at its option, may request further references to clarify specific claimed experience.) These references and project descriptions will be used to confirm and validate the responses made in the Comparative Evaluation Criteria form.
2. Documentation to support the Contractor's ability to provide the deliverables requested in accordance with the technical specifications, including resumes and past project descriptions.
3. Documentation to support that the Contractor meets the minimum requirements as specified in Minimum Evaluation Criteria.

D. Names and Resumes of Key Personnel

1. The name(s) of the individual(s) who will:
 - a) Be responsible to work with the Town's GIS project manager in coordination of this project's activities. Particular care should be made to introduce the vendor's project manager.
 - b) Be responsible for the delivery of any work product (i.e., "deliverable"), including any presentations.
2. Qualifications and work experience with comparable clients for all personnel on the prime and any sub-contractors. In particular, the Town is interested in determining if the personnel proposed for this project worked on the projects that are used as references.

E. Required Support from the Town

1. A description of any support needed from the Town, other than availability of appropriate individuals to meet with the consultant(s) for coordination purposes.



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II. PLAN FOR SERVICES

The following is a listing of text that must be included in the Plan for Services. Any proposer who does not include the requested information may be disqualified from consideration.

- A. A concise but responsive description of methods and equipment to be used, including specifics requested later in this RFP, for all tasks identified under the Description of Services, including a description of any proposed technical alternatives.
- B. List of Contractor's in-house equipment and other equipment that will be utilized for this project. The list should indicate clearly which equipment is owned and which is leased.
- C. A clear description of activities to be subcontracted, including the name and address of subcontractor.
- D. A work schedule and timeline with proposed major delivery milestones.
- E. Quality Assurance/Quality Control procedures.



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III. Price Proposal Requirements TO BE SUBMITTED IN A SEPARATE SEALED ENVELOPE

Price Submittal Form - Town of Nantucket, MA Phase 1 GIS Data Collection

Line #	40-Scale Project Item	Proposed Price
1	Image acquisition, Ground Control , FAAT, QC reports	\$
2	Savings if Tuckernuck and Muskeget are mapped to ASPRS Class 3 accuracy standards	\$

	Option 1- 100-scale Project	
1	Produce project and all deliverables to ASPRS 100-scale ASPRS Class 2 standards for 2-foot contours and 6-inch orthophotography pixels	\$
2	Savings if Tuckernuck and Muskeget are mapped to ASPRS Class 3 accuracy standards	\$



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IV. PROPOSAL EVALUATION PROCEDURE

The Chief Procurement Officer and/or its designee will evaluate proposals according to the quality requirements contained below. Submittals failing to comply with one or more of the quality requirements stated below shall be disqualified from further consideration.

Submittals that comply with the quality requirements will be further evaluated based on the comparative criteria detailed below. Each proposal will be assigned a rating for each comparative criterion and a composite rating.

A short list will be identified from the evaluation of comparative criteria and those firms may or may not be interviewed. The Town will rank these finalists. Price proposal will then be considered. The Town will negotiate a contract with the highest ranked finalist who proposes a price within the Town's budgeted amount. The Town reserves the right to reject any and all proposals if such rejection is in its best interest.

Quality Requirements

The Contractor, and pertinent subcontractors, must meet each of the following qualifications to be eligible to perform this work for the Town:

1. The Contractor, or sub-contractor must have at least 3 years experience in high-accuracy aerial mapping. This must be substantiated elsewhere in the proposal.
Yes _____ **No** _____
2. The Contractor, or sub-contractor have an ASPRS certified photogrammetrist supervise the project. This must be substantiated elsewhere in the proposal.
Yes _____ **No** _____ **Name** _____
3. The Contractor, or sub-contractor have a Massachusetts registered surveyor manage all survey tasks and deliverables.
Yes _____ **No** _____ **Name** _____
4. The Contractor must have successfully performed at least 3 projects involving 100-scale **Town, or Countywide planimetric mapping** with the delivery of photogrammetric products.
Yes _____ **No** _____

Provide here specific project names, each of which identifies a project whose references and description are provided in the "Prior Project Experience Summary" section of the proposal:

Project/Client Name Page# in proposal with Description	Project Scale	Data Delivery Format	Client and Project manager's Name	Reference Phone



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4. The Contractor must have successfully performed at least 3 projects where 4-band imagery from a digital sensor was used to create natural color and CIR orthophotography.

Yes _____

No _____

Provide here specific project names, each of which identifies a project whose references and description are provided in the "Prior Project Experience Summary" section of the proposal:

Project/Client Name Page# in proposal with Description	Color (Y/N)	Data Delivery Format	Client and Project manager's Name	Reference Phone

Comparative Criteria

HA - Highly Advantageous

A – Advantageous

NA – Not Advantageous

UA – Unacceptable

1. History of On-Time Performance

HA: All references contacted by the Town confirmed that vendor had met schedule expectations and delivered an "on-time" project.

A: One reference stated that the vendor was unable to meet the project schedule.

NA: Two references indicated that vendor had been unable to meet the project schedule.

UA: More than two references contacted by the Town confirmed that vendor had been unable to meet the project schedule.

2. Quality Assurance/Quality Control (QA/QC)

HA: The vendor clearly described QA/QC procedures that would ensure high-quality deliverables.

A: The vendor provided only a general description of the firm's QA/QC philosophy and approach.

NA: The vendor has provided only minimally acceptable QA/QC documentation.

UA: The vendor has not described the QA/QC procedures that would be used.

3. Overall Quality of the Proposal Package

HA: The vendor met all submittal requirements, filled out all forms and presented a clear and logical Plan of Services. The Plan of Services demonstrated a clear understanding of the tasks and attendant complexities and will enable the project to commence immediately. The proposal clearly defines the roles and responsibilities of all of the vendor's personnel as well as sub-contractors and the Town.

A: The vendor met all submittal requirements, filled out all forms and presented a Plan of Services. The Plan of Services demonstrated a sufficient understanding of the tasks and attendant complexities that will enable the project to commence with minimal input from the Town. The proposal basically defines the



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roles and responsibilities of all of the vendor's personnel as well as sub-contractors and the Town.

- NA: The vendor's proposal met most submittal requirements and provided a basic plan of services. Proposal disclosed only a basic understanding of the Town's objectives. Proposal was found to be general in nature and did not adequately address the roles and responsibilities of personnel and sub-contractors.
- UA: The vendor's proposal omitted certain requirements or left some forms blank. Proposal disclosed a failure to fully understand the Town's objectives. Proposal was found to be deficient in a significant fashion.

4. Overall Quality of References

- HA: All references contacted spoke favorably of the work performed by the contractor and would use them again for a similar project without hesitation.
- A: All but one contacted reference spoke favorably of the work performed by the contractor and would use them again for a similar project without hesitation.
- NA: More than one reference stated that there had been difficulties with the vendor's ability to deliver the contracted services and deliverables.
- UA: More than two references stated that there had been difficulties with the vendor's ability to deliver the contracted services and deliverables.



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V. RULE FOR AWARD.

The Town will determine the most advantageous proposal from a responsible and responsive proposer, taking into consideration price and all evaluation criteria set forth in the RFP.

VI. BASIS OF COMPENSATION.

The contract awarded will be a fixed price contract.



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CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of person signing bid or proposal

Printed Name and Title,

Name of Business

Date



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TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Federal Employer ID Number

Name of Corporation

Printed Name of President

President's Signature

Date



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PROPOSAL CHECKLIST

In order to simplify the evaluation process and obtain the maximum degree of comparison between proposals, the Town has prepared this checklist for all responders to use in compiling proposals.

- ☐ Current Certificates of Insurance.
- ☐ Non-price (technical) proposal
- ☐ Price proposal (separate from the technical proposal)
- ☐ Certificate of Non-Collusion.
- ☐ Tax Compliance Certification.
- ☐ Signed signature page of Town of Nantucket contract enclosed herein to indicate that responder is willing to enter into said contract.