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U.S. Department of the Interior
U.S. Geological Survey

USGS Geospatial Liaison Guide to the USGS Geospatial Product and Service Contracts (GPSC)

Tim Saultz
Elizabeth McCartney
Larry Moore
Eddie Schwertz

National Geospatial Technical Operations Center (Rolla)
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Version 2.0

This document is for USGS GIO personnel, USGS vendors/ contractors, and USGS business partners. It has not been reviewed for conformance with USGS editorial standards and has not been approved for formal publication. Any use of trade names is for descriptive purposes only and does not constitute endorsement by the US Government.

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Major Changes by Version

Version 1.1 (February 2007)

- State Liaison to Geospatial Liaison
- Financial Information updated

Version 1.2 (February 2007)

- Defined “reimbursable” customer clearly at the beginning and removed the “reimbursable” descriptor of customer later in the document
- Additions in 5.1.3 and 5.3.1

Version 1.3 (March 2007)

- Liaison comments incorporated
- Expanded definition of “Commercial Partnerships Team.”
- Added definition of IGCE
- Added QA/QC planning to the SOW definition.
- Clarified “Lines of Communication” figure.
- Clarified RA and TO.
- QA/QC
- SOW vs. TO and RA (diagram)

Version 1.4 (March 2007)

- Expanded definition of SOW (must define responsibilities of interested parties)
- Adde
- 5.1.2—SOW, must also define responsibilities of interested parties.
- 6—“may need separate agreement” rather than “requires separate agreement.”d NGTOC Technical Staff to definitions
- 4.1—involve NGTOC early in process if their services are being requested.
- 4.6—paragraph 2

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- Updated FIG 1 description.
- 5.1.3—Last paragraph is new and relates to “off the cuff” ballpark estimates.

Version 1.5 (April 2007)

- Minor editorial changes.
- Project Planning forms for Lidar and Ortho-Imagery added in Attachment I.

Version 2.0 (February 2008)

- Updated NGTOC II and III names
- Updated Contact List
- Updated Financial Section (From using Regional Finance POC to using the NGTOC Finance POC at Rolla)
- Added sample SOW
- Updated Technical Points of Contact
- Added new Lidar Planning Document version
- Updated Attachment G, NGTOC Information for Other Agency Purchase Orders
- Updated “Roles and Responsibilities” diagram
- Updated NGTOC Agreement Routing Sheet

Future Version

- Eric further define QA/QC process
- “Quick Start” Guide
- Define Agreements POC, Mark Gewinner’s role
- Check “definitions” vs. “responsibilities” sections for overlap
- Add brief case histories of past Task Orders

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1 Introduction

This document is a guide for USGS Geospatial Liaison (hereafter referred to as Liaisons) to State, local governments, and other organizations. It provides top-level information about procedures for making the Geospatial Product and Service Contracts (GPSC) available to other (non-USGS) federal, state and local organizations.

This paper contains no procurement-sensitive information and may be freely shared with State/local organizations. A list of Acronyms and Points of Contact can be found in Attachments A and B respectively.

2 Definitions

Contracting Officer (CO) – Though ultimately responsible for everything surrounding the GPSC, the CO is not within the scope of this document. Liaisons will normally have no contact with the CO.

Contracting Officer’s Representative (COR) – Monitors the vendor’s technical efforts to ensure that performance strictly conforms to the terms of the contract. The COR is also the primary interface between the vendor and the Contracting Officer on matters pertaining to the vendor’s technical effort. The COR is not authorized to direct the vendor to perform work beyond that described in the contract. The COR acts on behalf of the CO for day-to-day operations, and is the top-level USGS point of contact for Liaisons. The current COR is Tim Saultz (see Appendix B for full contact information).

Commercial Partnerships Team (CPT) – Organizational unit in Rolla that manages the GPSC. Product and operations experts who help prepare technical requirements, Independent Government Cost Estimates (IGCE), and provide technical guidance to Liaisons and customers.

Commercial Partnerships Team Point of Contact (CPT POC) – Members of the CPT who serve as primary sources of information about the GPSC; currently Tim Saultz, John Murphey, Debbie Cochran, Gail Dunn, Robert Kelly, and Elizabeth McCartney (see Attachment B for full contact information).

Customer or Client – Government organizations that use the GPSC to obtain geospatial data or services. The relationship between customers and the CPT is initiated, organized, and managed by the Liaison. There are two major categories of customers. The first category is reimbursable customers *outside* of the USGS. Reimbursable customers are typically State or local organizations that sign Joint Funding Agreements (JFAs) with USGS, Federal agencies that sign Interagency Agreements, or if they are military, Military Interdepartmental Purchase Agreements (MIPRs). The second category of customers is USGS organizations using the GPSC through the exchange of *appropriated funding* (SIRAD) via Changes of Allocation (COA). *NOTE: For the purposes of this document, we will focus on the **reimbursable customer only**.*

Independent Government Cost Estimate (IGCE)-A *best effort* estimate based on many hours of research by the CPT. The importance of a well defined Statement of Work (SOW) is critical in formulating the IGCE. Slight variations in the specifications of a project can result in substantial differences in the final cost of the project.

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NGTOC Finance POC- Works with Liaisons to ensure that agreement procedures and the obligation of reimbursable funds from the customer to NGTOC cost center are properly handled via an Agreement Allocation (sub-allocation) of funds to NGTOC (cost center 6103) in BASIS+. NGTOC will be the owner of the Master Agreement, responsible for entering the reimbursable agreement into BASIS+, and will also complete the USGS Reimbursable Agreement Checklist. The NGTOC Finance POC and the Liaison must ensure that the reimbursable agreement follows all USGS requirements as outlined in Chapter 4 (Types of Reimbursable Agreements) of the [U.S. Geological Survey Financial Operating Procedures Handbook and the Survey Manual](#) (SM 500.1 through SM 500.3). Once funds have been sub-allocated to the NGTOC for use on the contract, the NGTOC Finance POC will set up appropriate account number(s) that will be used on the DI-1. Task Orders cannot be assigned until the customer's funds have been allocated to NGTOC. The NGTOC Finance POC participates on the Contract/Partnerships call in order to track GPSC funds. The NGTOC Finance POC for the GPSC is currently Mark Jessip.

NGTOC Management – The management chain of the CPT. This chain is currently:

Supervisor: Bob Rinehart
GIOT Team Lead: Larry Moore
NGTOC Rolla- Center Chief: Eric Constance
NGTOC Director: Kari Craun

NGTOC Technical Staff-Provide assistance to Liaisons in the formulation of specifications for specific products and may also provide services such as evaluation of deliverables. Provide technical assistance to CPT as needed.

Reimbursable or Master Agreement: The Reimbursable Agreement is a formal document that obligates reimbursable funding for the project from the customer to the NGTOC (see Attachment C for “Steps Required to Process USGS Reimbursable Agreements”). The document entered into BASIS+ by the NGTOC Finance POC is the Master Agreement. The Master Agreement is designated as a “Reimbursable” Agreement when entered into BASIS+. The Statement of Work is referenced as an integral part of the Reimbursable Agreement. As noted in the Customer definition, the main types of Reimbursable Agreement documents are the Joint Funding Agreement (State/Local customers), the Interagency Agreement (Other Federal agencies), and Military Interdepartmental Purchase Agreements (MIPRs with Department of Defense agencies).

Statement of Work (SOW) – A description of the specific work to be performed by the vendor that clearly states the nature and requirements of the project including area of interest, product specifications, deliverables, delivery dates, and QA/QC plans. An accurate and timely SOW will help speed the contracting process and ensure the end customer receives the products they need. The first version of an SOW is normally written by the customer and/or Liaison, and is later refined into the Task Order by CPT staff, and into the Reimbursable Agreement by the Liaison and the NGTOC Finance POC. As an integral part of the Reimbursable Agreement, the SOW must also clearly define responsibilities of the various interested parties (i.e. USGS, Vendor, and Customer(s)). It is expected that the SOW document will go through much iteration before being finalized in the Reimbursable Agreement and Task Order. See Attachment J for an example.

Task Order (TO)– The document sent from the CPT to a vendor defining the work of a project. The Task Order is a formal contracting document between GPSC (NGTOC) and the vendor. The Task Order evolves *from* the SOW through a series of reviews and enhancements.

Vendor or Contractor– Private companies that have successfully bid on the GPSC advertisement, thereby winning the right to be assigned specific contract tasks. *Contact between vendors and Liaisons must always be through the CPT POCs or COR.*

3 Products and services

The following is a brief outline of the products and services within the scope of the GPSC.

1. Aerial data acquisition and off-the-shelf archived aerial imagery
Includes photography, Lidar, IFSAR, RADAR, digital multi-spectral and hyper-spectral imaging. All forms of digital sensor system technologies. Both film and digital output.
2. Survey and control services
3. Analytical aerotriangulation
4. Scanning services
All types of materials. Also includes data merging, registration, alignment, and georeferencing.
5. Orthophotography
6. Acquisition of ancillary data
Data obtained by contacting other government agencies, through library searches, database and web searches, etc.
7. Map collection and revision
Production of USGS-standard quadrangle maps and quadrangle-based digital products.
8. Product generation
Production of graphic publication separates and other hard copy products from digital files and scribed compilation manuscripts.
9. Thematic mapping
Mapping done from a variety of remotely sensed sources and existing ancillary data, including, but not limited to, land characterization, terrain modeling, plant vitality, soil moisture, thermal variance, and vegetation themes.

Other services that cannot be readily assigned to the above categories, including but not limited to custom mapping, GIS analysis, software development and support, standards development and review, quality control and assurance.

4 Roles and responsibilities

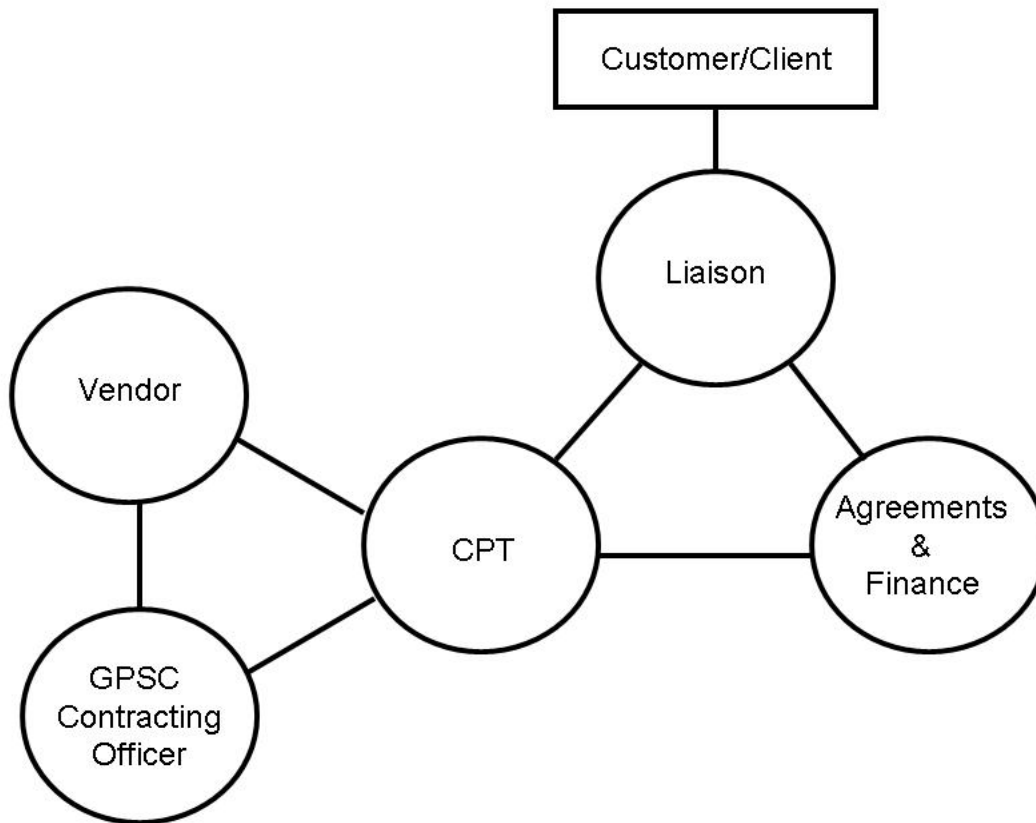


Figure 1. Lines of communication for GPSC contract work.

The absence of a direct link between two entities indicates that communication should involve a third and sometimes fourth party. For example, communication between the Customer and the CPT should include the Liaison and communication between the Customer and GPSC Vendor must *always* include the CPT and preferably the Liaison also.

The scope of this diagram is the GPSC contracting process. It does not imply (for example) that a customer organization is prohibited from calling a GPSC vendor to discuss other business not related to any task contracted through GPSC.

4.1 USGS Geospatial Liaisons

The Liaisons are the primary USGS point of contact with the customer. They have a major role in the inception of the project. Liaisons must understand both the customer's needs and the GPSC processes and services well enough to moderate and foster discussions between the customer, the CPT, NGTOC Finance POC (owner of the Reimbursable Agreement), and in some cases, the NGTOC. The Liaison is responsible for creating the first draft of a SOW and initiating the reimbursable agreement document. (refer to Attachment C for a list of the Steps Required to Process USGS Reimbursable Agreement.)

During the development of the SOW, the Liaison will work in tandem with both the CPT in the development of the Task Order and with the GPSC Finance POC in working through the agreement process. Early involvement of the CPT, the GPSC Finance POC, and if needed the NGTOC is vital to a successful and timely contracting process. The Liaison needs to work with the customer and

the GPSC Finance POC to prepare the required USGS Reimbursable Checklist (see Attachment D for an example).

4.2 GPSC Contracting Officer's Representative (COR)

The COR represents the Contracting Officer (CO) in all aspects of contract and Task Order management. The COR is also a CPT POC, but is “first among equals” within this group, and is responsible for maintaining a broad perspective of all projects in work. All communications with the CO go through the COR.

4.3 Commercial Partnerships Team Points of Contact (CPT POC)

The CPT POCs act for the COR in most routine discussions and transactions. They accept functional and technical requirements from the Liaison and customer, coordinate technical support provided by other parts of the NGTOC, prepare IGCEs, and do most of the actual work of assembling completed Task Orders, coordinating with vendors, and monitoring assigned Task Orders.

4.4 NGTOC Finance POC

The NGTOC Finance POC is responsible for ensuring the Reimbursable Agreement is in proper order, the USGS Reimbursable Checklist is completed (see Attachment D), and the Reimbursable (Master) Agreement is entered into BASIS+. The NGTOC Finance POC may also be responsible for preparing the Sub-Allocation email to move customer funds from their cost center to the NGTOC cost center (6103) via the Funding detail in BASIS+ (see Attachment F for an example). The DI-1 cannot be issued for the GPSC and negotiations with the vendor cannot commence until the reimbursable funds have been sub-allocated to NGTOC.

After funds have been sub allocated, the NGTOC Finance POC creates an NGTOC allocation agreement that is linked to the Master agreement. The NGTOC Finance POC creates the needed account(s) and ties them to the NGTOC allocation agreement. The DI-1 is created by the GPSC COR using these accounts.

4.5 National Geospatial Technical Operations Center

The NGTOC provides the environment and management infrastructure for the operation of the CPT. The NGTOC also provides technical support as needed to assist the CPT with project planning. NGTOC staffing is often not adequate to do everything requested by customers and liaisons. NGTOC management allocates resources, sets priorities for the flow of contract management work, and resolves disagreements about priorities and scope of work.

Deliverable inspection and validation of GPSC deliverables are possible roles of the NGTOC. This may involve separate agreements and negotiations between the customer/Liaison and the NGTOC. The NGTOC must be notified early in the planning process if their services will be needed.

5 Procedures

5.1 Task Order development overview

Developing and awarding a GPSC Task Order normally involves many discussions and several review cycles of the SOW. There are some hard requirements and fixed milestones in the process but between these milestones the work tends to be personal and iterative; progress is made through discussions and meetings rather than by (say) filling out forms. See Attachment H for Milestones and Checklists.

The following is an outline of the process at a high enough level of abstraction to be relevant to most cases.

5.1.1 Project concept formation

Projects typically begin with informal discussions between Liaisons and customers. Customers at this point often have an undefined requirement for data and are interested in understanding how the USGS might help them satisfy that requirement through an existing contract.

The Liaison's primary objective at this stage is to bring a reasonable level of precision to the discussion. The overall objective is to determine if a solution to the customer's problem exists between these constraints:

1. Are the customer's requirements for deliverables both technically and contractually possible?
2. Are the customer's timeline requirements feasible?
3. Can the customer's requirements be met within their budget and the contract awarded before the end of the customer's fiscal year?

In the early stages of project planning it is common for there to be a huge disconnect between the product the customer wants (or believe they want) and the amount of money they can spend. Quantifying, explaining, and then narrowing this gap is one of the most important objectives of this early planning phase. *Liaisons are encouraged to involve the CPT in the process as early as possible in order to help clarify these issues to the customer.*

NOTE: Please submit the Project Planning forms found in Attachment I when defining specifications for Lidar and/or Orthoimagery projects. MS Word versions can be downloaded from:

[LiDAR Project Planning Requirements.doc](#)

and

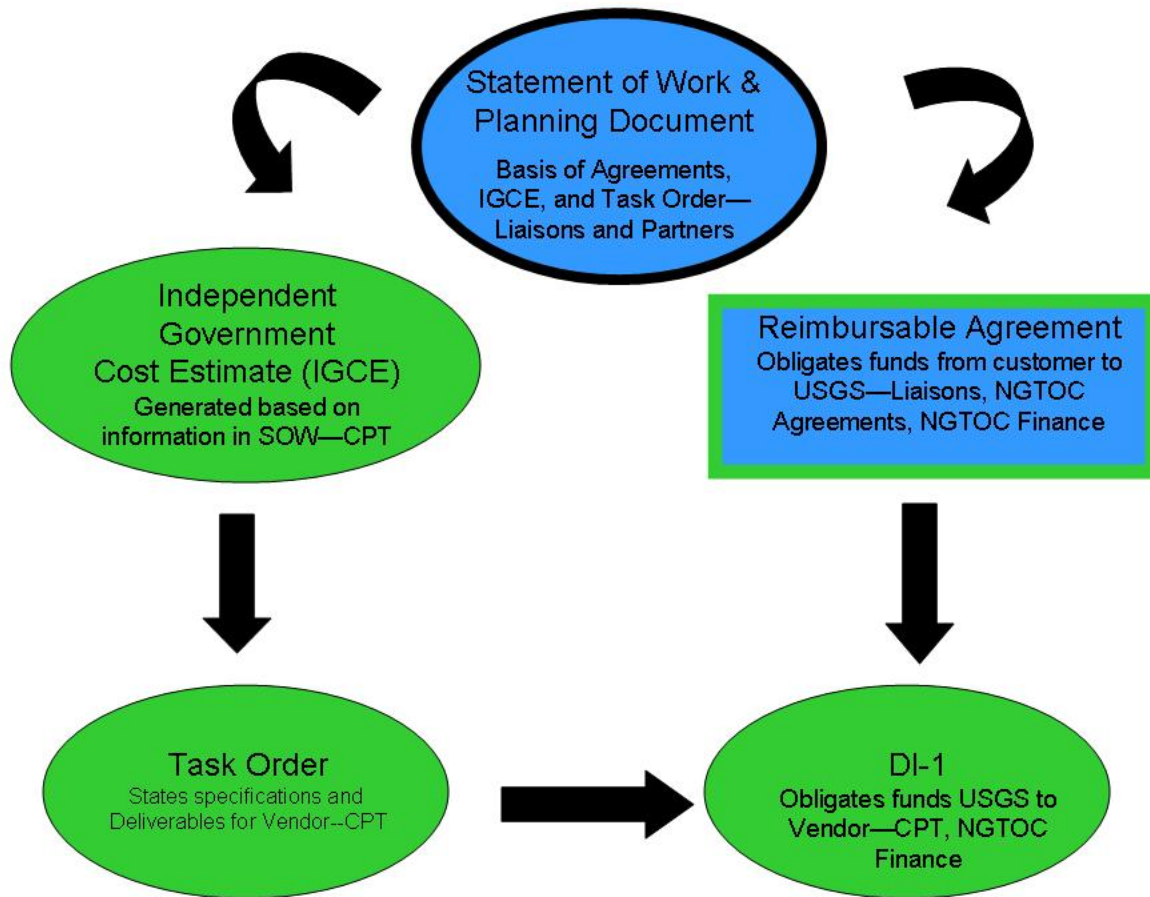
[Ortho Imagery Project Planning Requirements.doc](#)

5.1.2 Statement of Work (SOW)

When requirements have been adequately defined, the Liaison prepares a Statement of Work (SOW) attaching the appropriate Project Planning form for Lidar or Ortho-Imagery projects (See Attachment I or download MS Word version from links above). It is not uncommon for the SOW to undergo several adaptations as the Liaison moves through the planning process with the customer, CPT, Finance POC, and possibly the NGTOC. During the development of the SOW, the Liaison will work in tandem with both the CPT in the development of the Task Order, with and

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the Finance POCs in working through the Reimbursable Agreement process (Figure 2), and possibly the NGTOC if requesting services or technical expertise when defining specifications. See Attachments C, D, E, F, and G for supporting financial documentation.



The SOW describes the customer’s technical requirements, the precise geographic extent of the project area, deliverables, proposed timelines, QA/QC contingencies, and clearly defined responsibilities of the involved parties (who is responsible to deliver or produce what). The CPT depends on clear specifications in order to provide the Liaison and customer with timely and accurate cost estimates. It is the Liaison’s responsibility to make the SOW reasonable. For example, the SOW should not propose deliverables that can reasonably be predicted to be far beyond the customer’s budget, or impractical delivery schedules. This SOW should not be written in “contract-language” but in clear normal narrative format. The CPT is available to assist the Liaison with the SOW. NGTOC is also available to assist Liaisons on technical matters relating to the definition of specifications. See Attachment B for points of contact.

Liaisons should interact with vendors only through the COR at Rolla, and should counsel customers to be similarly cautious. Confidentiality of information becomes critical and near-absolute at approximately the time the first version of the SOW is drafted.

5.1.3 Independent Government Cost Estimate (IGCE)

For most customers, the question “what will it cost?” is second in importance only to the question “what can I get?” Both questions normally come up extremely early in the agreement formulation process.

The term “cost estimate” has a precise meaning in a contracting process. The release of an IGCE by the CPT is a *best effort estimate* based on many hours of research by the CPT. The importance of a well defined SOW is critical in formulating the IGCE. Slight variations in the specifications of a project can result in substantial differences in the final cost of the project. The **final** cost of the project is not determined until GPSC negotiations with the vendor have been completed. It is critically important that all participants have a common understanding of exactly what is being promised for the amount estimated. But achieving this common understanding typically takes significant time, during which the customer may not have any realistic idea of what their desired outcome could actually cost. The CPT will work toward a fair and reasonable cost for both the customer and vendor. Note: The GPSC assessment (currently 5% of the total cost) is **NOT** included in the IGCE.

The NGTOC proposes to work toward a solution to this dilemma by publishing brief case histories of past Task Orders. These narratives will be sanitized and simplified, but will allow Liaisons and customers to make reasonable inferences about the costs of common products and services.

Liaisons need to have a reasonable assurance of funding before they request an IGCE. The CPT cannot make “off the cuff” ballpark estimates. What may look like a small change in the specifications can result in a very different IGCE. Each time an IGCE is calculated, it takes additional hours and sometimes days to accomplish.

5.1.4 Draft Task Order

The CPT uses the preliminary SOW to make a **preliminary** draft Task Order from which an IGCE is developed. Liaisons and customers review and approve these documents. Once the IGCE and draft Task Order have been agreed to by the customer, the funds are obligated and DI-1 is prepared by the CPT POC. The funds for the project **must** be sub-allocated to NGTOC before the DI-1 can be prepared.

5.1.5 Obligation of Reimbursable Funds from the Customer

Before a Task Order can be sent to a vendor and negotiations can begin, funds must be formally obligated from the customer agency to the USGS. This is an extremely important task, as delays in funding allocation are often a significant bottleneck in the overall process and at times have cause aerial data acquisition to be delayed until the following flying season. The USGS cannot negotiate a Task Order until this step is completed by an appropriate exchange of official agreement paperwork and the sub-allocation of funds in BASIS+. Negotiating with the vendor earlier than this would commit the USGS to paying for the vendor’s work, which is a violation of Federal law. Once the sub-allocation of reimbursable funds has been received by NGTOC, negotiations between the CPT and vendors can begin. The Liaison should be working with the NGTOC Finance POC from the outset of the project in order to ensure the financial process runs smoothly. Documents relating to the obligation of funds, including “Steps Required to Process USGS Reimbursable Agreements,” can be found in Attachments C, D, E, F, and G.

5.1.6 Negotiations

Once the sub-allocation of funds through BASIS+ has been confirmed by the NGTOC Finance POC, negotiations between the vendor, CPT POC, COR, and CO begins. Upon completion of a successful negotiation and customer approval, a Task Order is awarded. It is common for some revision of the Task Order and project cost estimates to take place at the conclusion of the negotiations.

5.1.7 Awarding of the Task Order

The CPT and CO proceed with the award process. These steps are mostly transparent to the customer – one of the primary benefits to customers using the GPSC.

5.1.8 First deliverables, inspection and validation

Details of deliveries – schedule, media, destination, etc. – are specified in the task order. Where the products are delivered may depend on what inspection and validation procedures are desired by the customer. In most cases there will be some inspection by an independent organization to evaluate whether or not the terms of the contract have been met, and in most cases, initial deliveries will be made to the CPT to ensure that project delivery requirements are met. Deliveries that do not meet specifications may be sent back to the vendor for rework. Inspection and validation is an important and complicated subject, and is therefore discussed further in Section 6.

5.1.9 Final deliverables and sign-off

CPT POC and COR communicate with the vendor as needed to track progress. When all deliverables have been received and accepted by the customer, the COR notifies the CO, NGTOC Finance POC, and vendor. Once the vendor's invoice is received, it is reviewed for accuracy, approved by the COR, and then submitted to the NGTOC Accounting Technician for payment. The customer is normally billed quarterly by the NGTOC Finance POC based on actual expenses during the previous quarter (90 days), the type of agreement, and other arrangements as outlined in the reimbursable agreements document.

5.2 *Timelines*

The time required for the processing in Section 5.1 varies widely. In one emergency case, the CPT took an entire Lidar project, from initial concept to execution in less than 8 hours with final delivery in 10 days. Elapsed times of 3-6 months are much more normal, and times longer than a year are not unheard of.

Contracting is a bureaucratic process that requires the cooperation of many people and the coordination of many schedules. No one person can control the overall process. Early involvement of the CPT and the NGTOC Finance POCs will help to speed the process. Major influences on the timeline include:

- The initial definition of requirements. Does the customer have a clear idea of what they want, and does this line up with available funding? The definition of requirements may change depending upon the scope of the project, up until the TO is sent to contracts.
- The official transfer of funds via the sub-allocation of funds through BASIS+ at the appropriate time.

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- Previously scheduled workloads of vendors. There are relatively few flying days in a year, especially for imagery, and only so much work can be accomplished on these days. The earlier the process is begun, the earlier the project will enter the vendors work queue. Waiting until the last minute means rushed documents with possibly incomplete or incorrect specifications and delays in vendor scheduling.
- Existing obligations of Liaisons and CPT POCs.
- The relationship of desired work to the fiscal year cycles of both the Federal government and the customer organization.
- The level of post-production inspection and QA desired, and what organization will do this work.
- The number of customers and/or individual agreements that must be processed.

It is the position of NGTOC management and the CPT that awarding tasks quickly is not an inherent virtue. The desire for speed, while understandable, must always be tempered by a more fundamental requirement to provide data or services that will in fact meet the customer's needs.

5.3 *Data ownership*

The ownership of the final deliverables is specified in the Task Order. While there are exceptions, in most instances the organization that pays the bill owns the data and other deliverables.

The USGS normally has an interest in obtaining a copy of these data for inclusion in national geospatial databases. Liaisons should explore this with customers and NGTOC management and attempt to negotiate mutually satisfactory data-sharing agreements early in the planning process.

6 Evaluation of deliverables

A normal part of any contracting process is to perform some inspection or evaluation of the deliverables. Ideally, this inspection is performed by an independent party, one that is not involved in the production of the data.

The CPT recommends two avenues for evaluation of deliverables.

1. **Another GPSC vendor (not the data producer) performs the validation.** This has been done a few times, and has worked well. An advantage of this method is that the customer can specify, within very broad limits, how complete and rigorous the inspection should be. A disadvantage is that this adds additional costs. Having a vendor perform inspection and validation requires a separate Task Order, but this is transparent to the Liaison and customer. **(Important Note:** If the customer is going to pay for QA under a single agreement, he should be aware that at the point he signs the initial agreement, the QA cost is still an estimate that will be finalized prior to QA Award.)
2. **The NGTOC performs the validation.** In the past, this has been more common, but it is not necessarily a better option. It requires early contact with NGTOC to ascertain availability of resources for the project. An advantage is that the NGTOC may do the work at no cash cost in exchange for a copy of the data for inclusion in USGS national geospatial databases. A disadvantage is that NGTOC data validation capabilities are more limited than those of vendors.

Other options would include the customer doing the inspection themselves, or independently contracting with some other entity. While such options are theoretically feasible, the CPT would

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not normally recommend them. Both options tend to introduce instability into the business relationships of the major parties to the Task Order. If a vendor has no history with the GPSC or the Task Order vendor, it may be hard to achieve a reasonable common understanding of what comprises acceptable or unacceptable data.

Cases have also occurred in which a customer has wanted to use the GPSC for inspection or validation of work that was contracted through some other vehicle. This is feasible, but requires considerable advance work to make the two different contract Task Orders consistent. It is not a good idea to hastily craft a GPSC inspection and validation task for another contract that is already finalized and in work.

Finally, there is of course the option of simply accepting the deliverables without inspection. This is not recommended, for obvious reasons.

7 Emergency Operations

The GPSC can be used as a contracting vehicle for emergency data collection, for example, to fly Lidar or aerial photography in the immediate aftermath of a hurricane, tornado, or other disaster. Since this is such an important subject it is treated in a separate document, “Standard Operating Procedure for USGS Geospatial Product and Service Contracts (GPSC) Response to Emergency Requests for Imagery,” available by contacting the CPT at gpsc@usgs.gov. .

The importance of becoming familiar with these procedures **before** an actual emergency occurs cannot be overemphasized. Liaisons should be personally familiar with these procedures and work to transfer the knowledge to our data partners.

Attachment A. Acronyms

A&E	Architect and Engineering
AOI	Area of Interest
CAP-C	Commercial Airborne Product Contracts
CPT	Commercial Partnerships Team
CPT POC	Commercial Partnerships Team POC
CO	Contracting Officer
COA	Change of Allocation
COR	Contracting Officer's Representative
DI-1	Department of Interior Requisition Form
GIO	Geospatial Information Office
GIS	Geographic Information System
GPSC	Geospatial Product and Service Contracts
IA	Interagency Agreement (between Federal agencies)
IFSAR	Interferometric Synthetic Aperture Radar
IGCE	Independent Government Cost Estimate
JFA	Joint Funding Agreement (uses DOI Form 9-1366 (Oct 2005))
IPAC	Interdepartmental Payments and Collections
Lidar	Light Detecting and Ranging
MIPR	Military Interdepartmental Purchase Request (used by DOD agencies)
PAT	Planning and Analysis Team (NGTOC-Rolla)
POC	Point of Contact
QA/QC	Quality Assurance/Quality Control

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NGTOC	National Geospatial Technical Operations Center
NSDI	National Spatial Data Infrastructure
RA	Reimbursable Agreement
RFP	Request for Proposal
RGIO	Regional Geospatial Information Office
RADAR	Radio Detection and Ranging
SIRAD	Change of Appropriated Funding
SM	Survey Manual
SOW	Statement of Work
TO	Task Order
USGS	United States Geological Survey

Attachment B. Points of Contact

Tim Saultz, COR, CPT POC
USGS NGTOC
1400 Independence Rd.
MS 600
Rolla, MO 65401
Email: tsaultz@usgs.gov
Office: (573) 308-3654
Fax: (573) 308-3810

Debbie Cochran, CPT POC
USGS NGTOC
1400 Independence Rd.
MS 602
Rolla, MO 65401
Email: dcochran@usgs.gov
Office: (573) 308-3894
Fax: (573) 308-3810

John Murphey, CPT POC
USGS NGTOC
1400 Independence Rd.
MS 602
Rolla, MO 65401
Email: jmurphey@usgs.gov
Office: (573) 308-3579
Fax: (573) 308-3810

Gail Dunn, CPT POC
USGS NGTOC
1400 Independence Rd.
MS 602
Rolla, MO 65401
Email: gdunn@usgs.gov
Office: (573) 308-3756
Fax: (573) 308-3810

Robert Kelly, CPT POC
USGS NGTOC
1400 Independence Rd.
MS 602
Rolla, MO 65401
Email: ckelly@usgs.gov
Office: (573) 308-3612

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Fax: (573) 308-3810

Elizabeth McCartney, CPT POC

USGS NGTOC/SAIC
1400 Independence Rd
MS 602
Rolla, MO 65401
Email: emccartney@usgs.gov
Office: (573) 308-3696
Fax: (573) 308-3810

Mark Jessip, NGTOC Finance POC, Budget Management Officer

USGS NGTOC
1400 Independence Rd.
MS 230
Rolla, MO 65401
Email: mjessip@usgs.gov
Office: (573) 308-3706
Fax: (573) 308-3652

Deborah Prater, NGTOC Finance

USGS NGTOC
1400 Independence Rd.
MS 318
Rolla, MO 65401
Email: dprater@usgs.gov
Office: (573) 308-3643
Fax: (573) 308-3652

Mark Gewinner, NGTOC Agreements

USGS NGTOC
1400 Independence Rd.
MS 309
Rolla, MO 65401
Email: mgewinner@usgs.gov
Office: (573) 308-3636
Fax: (573) 308-3652

Eric Constance, NGTOC Center Chief

USGS NGTOC
1400 Independence Rd.
MS 317
Rolla, MO 65401
Email: econstance@usgs.gov
Office: (573) 308-3685
Fax: (573) 308-3652

USGS Geospatial Liaisons contact information can be accessed from <http://nmcatalog.usgs.gov/crreps/faces/crreps.jspx>.

Program and Technical Points of Contact

The following people can be used as initial points of contact for background and technical information. For example, it would be appropriate to contact people on these lists to get information about the differences between Lidar and IFSAR, or to learn more about how the NGTOC inspects and validates Lidar data, but these are not the people to discuss (for example) preparation of a Task Order for contracting a specific Lidar collection project.

NGTOC-Denver

Agreements	Laurie Davis
Archive/Scanning/Graphics	Chuck Matthys
Common Systems/development	Paul Wiese
GNIS/Names	Maria McCormick
Imagery/Elevation	Christine Lund
NHD	Paul Kimsey

NGTOC-Rolla

Agreements	Mark Gewinner
Archive/Scanning/Graphics	Jerry Wagner
GNIS Names	Jane Messenger
Image/Elevation	Bryon Ellingson
NHD	Russ Caton, Carl Nelson
TNM/Catalog	Larry Moore
Transp/Structures/Boundaries	Larry Moore
Standards/FGDC	Bob Rinehart

Attachment C. Steps Required to Process USGS Reimbursable Agreements.

Steps Required to Process USGS Reimbursable Agreements (02/28/2007)				
Steps	RGIO	Cost Center Signing Master Agreement	Cost Center Responsible for Actual Work	Average Time to Perform Task
Agreement discussions with reimbursable customer using USGS checklist	X			1 to 3 months per agreement
Decision on Cost Center for work/agreement owner	X	X	X	4 to 5 work days
Cost Center estimate		X	X	2 to 3 work days
Drafting agreement		X	X	4 to 5 work days
Agreement review		X	X	2 to 4 weeks per agreement
Agreement signing by both parties		X	X	4 to 5 work days
Complete NGPO Routing Sheet (attachment B to "Draft Signature Authority for NGPO Agreements dated 8/26/2005)		X	X	2 to 5 work days
Master Agreement entry into BASIS+		X		30 minutes per agreement
Agreement Allocation of Funds into BASIS+— If sub-allocating reimbursable funds to another Cost Center, the "Sub-allocation of Reimbursable Funds" e-mail form must be sent to that cost center		X		15 minutes per agreement 30 minutes per agreement allocation to another cost center
Funding Detail into BASIS+			X	10 minutes per agreement
Account creation into BASIS+			X	15 minutes per account
Tie account to fund source in BASIS+			X	15 minutes per account
Enter reimbursable agreement into ACIS		X		1 to 2 hours per agreement
Enter labor and other expenses information into BASIS+			X	1 to 2 hours for labor 15 minutes for GPSC contracts
Forward Reimbursable Agreements package to CR-BFS for approval			X	30 minutes per agreement
Monitor progress of work/contractors			X	1 hour monthly per contractor
Review contractor work and approve payments to contractors			X	30 to 60 minutes monthly per contract DI-1
Monitor 289A Billings and Collections Report			X	15 minutes per agreement

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Bill customer at least quarterly			X	1 hour per quarter per reimbursable agreement
Delivery of products/services			X	1 to 2 hours per delivery

Attachment D. Reimbursable Agreement Checklist (Sample and Example)

Customer #: _____ Agreement #: _____ Cost Center: _____

<p>Elements of Agreement: All elements on the checklist must be included in the agreement package when applicable. Indicate by N/A if the element is not applicable. Each section must be verified by initialing on the line provided. The items where a check mark exists in the Page # column are <u>mandatory</u> and the page number must be provided to identify where the element can be found in the agreement package. The agreement package consists of the signed agreement and/or modification; cover/acceptance letter, addendum, or email; completed and signed reimbursable agreement checklist; and any other supporting documentation (e.g., cost share worksheet, special rate approval).</p>		
CUSTOMER INFORMATION SECTION:		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Agreement Number/DCN	√	
2) Name of Organization/Cost Center	√	
3) Legal authority to enter into agreement (<i>Federal</i>)	√	Must be included if agreement based on customer's authority
4) TIN (<i>non-Federal, excluding foreign</i>)	√	
5) DUNS Number (<i>Federal</i>)	√	
6) Point of Contact		
7) Address		
8) Office phone, Fax and/or Email		
USGS INFORMATION SECTION:		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Organization and Cost Center	√	
2) Legal authority to enter into agreement	√	Must be in the Agreement Package
3) DUNS Number (<i>Federal agreements</i>)	√	
4) Project Chief/Principal Investigator		
5) Address		
6) Office phone, Fax, and/or Email		
7) Signatures		Is Agreement signed in accordance with Financial Delegations of Authority; for Non-Standard JFAs see SM 205.13.A
SCOPE OF WORK SECTION :		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Period of Performance	√	Start & End Date
2) Description of Services and Responsibilities		
3) Agreement Deliverables (<i>If applicable</i>)		
4) Authority to Publish	√	
5) If in-kind services provided, describe in agreement (<i>If applicable</i>)		Voucher must be sent in with agreement. If not currently available, date you plan to forward to Fiscal Services.
6) Equipment/Property requirements or restrictions (<i>If applicable</i>)		
7) Multiple Tasks (<i>If applicable</i>)		
FUNDING INFORMATION SECTION:		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Total Amount of Agreement	√	
2) Modification Number (<i>If applicable</i>)	√	
3) Amount of Modification (<i>If applicable</i>)	√	
4) Agreement Type	√	(Circle All Applicable) Fixed Price, Reimb, JFA, Coop, Other
BILLING INFORMATION SECTION :		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Billing Address/Contact /Office Phone	√	Verify address/contact in VEND table (non-Federal, excluding foreign)
2) Frequency of Billing	√	(Circle One) Monthly, Quarterly, Semi-annual, Annual
3) Federal Customer Agency Location Code	√	
4) Federal Customer Treasury Fund Account Symbol	√	
5) DOD Agreements – Include FSN and MIPR Accounting Classification	√	

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Code		
6) Mandatory Termination Clause (see attached)	√	
INTERNAL INFORMATION SECTION:		
1) FFS CUSTOMER NUMBER AND FFS AGREEMENT NUMBER (WRITE IN)		
Miscellaneous (If Applicable):		<i>If Applicable:</i>
2) Cost Share		Attach Cost Share Worksheet
3) Calculations for blended assessment rate (<i>e.g. interdisciplinary work</i>)		Copies must be filed with the agreement
4) Special Rate Approvals		Copies must be filed with the agreement
5) Cover/Acceptance Letter		Copies of Official letter to accept funds, state authority to publish, reimbursable, etc., must be filed with the agreement
6) Supports USGS Program		Write In - Program Element:
7) Cost Calculations for Direct Costs		Must be available at Cost Center
8) Cost Calculations for Indirect Costs		Must be available at Cost Center
Project Chief/Principal Investigator (<i>Name/Phone/Signature</i>)		Date
Cost Center Financial Reviewer (<i>Name/Phone/Signature</i>)		Date

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Customer #: 90016 Agreement #: HSFE0207X0027 Cost Center: 6103

Elements of Agreement: All elements on the checklist must be included in the agreement package when applicable. Indicate by N/A if the element is not applicable. Each section must be verified by initialing on the line provided. The items where a check mark exists in the Page # column are mandatory and the page number must be provided to identify where the element can be found in the agreement package. The agreement package consists of the signed agreement and/or modification; cover/acceptance letter, addendum, or email; completed and signed reimbursable agreement checklist; and any other supporting documentation (e.g., cost share worksheet, special rate approval).		
CUSTOMER INFORMATION SECTION:		
		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Agreement Number/DCN	√IAA, p1	HSFE0207X0027
2) Name of Organization/Cost Center	√IAA, p1	FEMA Region II, Department of Homeland Security (DHS)
3) Legal authority to enter into agreement (<i>Federal</i>)	√IAA, p3	Robert T. Stafford Relief & Emergency Assistance Act as amended 400 USC 5121 ...
4) TIN (<i>non-Federal, excluding foreign</i>)	√IAA, p1	521227911
5) DUNS Number (<i>Federal</i>)	√IAA, p1	037751583
6) Point of Contact		Mary Colvin, Mitigation Branch, 212-680-3622
7) Address		26 Federal Plaza, Room 1307, New York, NY 10278-0002
8) Office phone, Fax and/or Email		
USGS INFORMATION SECTION:		
		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Organization and Cost Center	√IAA, p1	USGS, National Geospatial Technical Operations Center (NGTOC III)
2) Legal authority to enter into agreement	√IAA, p1	Must be in the Agreement Package
3) DUNS Number (<i>Federal agreements</i>)	√ Here	19-596-4445
4) Project Chief/Principal Investigator		Frank J Kenney
5) Address		425 Jordan Road, Troy, New York 12180
6) Office phone, Fax, and/or Email		Phone:518-285-5619; Fax: 518-285-5601; fkenney@usgs.gov
7) Signatures Kari Craun, Date: 4/5/2007	Yes	Is Agreement signed in accordance with Financial Delegations of Authority; for Non-Standard JFAs see SM 205.13.A
SCOPE OF WORK SECTION :		
		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Period of Performance	√IAA, p1	Start Date: 4/05/2007 End Date: 12/31/2008
2) Description of Services and Responsibilities	SOW, p1	High Accuracy Bare-Earth LiDAR data
3) Agreement Deliverables (<i>If applicable</i>)	SOW, p1	Project area of 2,963 square miles
4) Authority to Publish	√ SOW, p4	l.f.
5) If in-kind services provided, describe in agreement (<i>If applicable</i>)	NA	Voucher must be sent in with agreement. If not currently available, date you plan to forward to Fiscal Services.
6) Equipment/Property requirements or restrictions (<i>If applicable</i>)	NA	
7) Multiple Tasks (<i>If applicable</i>)	NA	
FUNDING INFORMATION SECTION:		
		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Total Amount of Agreement	√IAA, p1	\$2,043,859.00
2) Modification Number (<i>If applicable</i>)	√ NA	
3) Amount of Modification (<i>If applicable</i>)	√ NA	
4) Agreement Type	Reimbursable	√IAA, p1 (Circle All Applicable) Fixed Price, Reimb, JFA, Coop, Other
BILLING INFORMATION SECTION :		
		Initials: _____
	<i>Page #</i>	<i>Comments</i>
1) Billing Address/Contact /Office Phone	√IAA, p1	See billing information above in Customer Information Section.
2) Frequency of Billing	IPAC Quarterly	√IAA, p6 (Circle One) Monthly, Quarterly, Semi-annual, Annual
3) Federal Customer Agency Location Code	√IAA, p1	7007-0002
4) Federal Customer Treasury Fund Account Symbol	√IAA, p2	2007-06-1650DR-9022--2596-D NN00116Y2007T F \$2,043,859.00
5) DOD Agreements – Include FSN and MIPR Accounting Classification Code	√ NA	
6) Mandatory Termination Clause (see attached)	√ SOW, p5	Continues on page 6.
INTERNAL INFORMATION SECTION:		
1) FFS CUSTOMER NUMBER AND FFS AGREEMENT NUMBER (WRITE IN)	90016	HSFE0207X0027
Miscellaneous (If Applicable):		<i>If Applicable:</i>
2) Cost Share	NA	Attach Cost Share Worksheet
3) Calculations for blended assessment rate (<i>e.g. interdisciplinary work</i>)	NA	Copies must be filed with the agreement
4) Special Rate Approvals	Yes	Copies must be filed with the agreement 5%, 11/30/2006

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5) Cover/Acceptance Letter	IAA 4/5/2007	Yes	Copies of Official letter to accept funds, state authority to publish, reimbursable, etc., must be filed with the agreement
6) Supports USGS Program		Yes	Write In - Program Element: 84000
7) Cost Calculations for Direct Costs		BASIS+	Must be available at Cost Center In BASIS+
8) Cost Calculations for Indirect Costs		BASIS+	Must be available at Cost Center In BASIS+
Project Chief/Principal Investigator <i>(Name/Phone/Signature)</i>			Date
Frank J Kenney/ 518-285-5619			
Cost Center Financial Reviewer <i>(Name/Phone/Signature)</i>			Date
Eddie L. Schwertz, Jr./ 573-308-3693/			

Attachment E. NGTOC Agreement Routing Sheet (12/03/2007)

The purpose of this routing sheet is to document the sequence of required processing tasks for all NGTOC-Rolla agreements or agreement modifications. This sheet should accompany the agreement and be filed with the agreement upon signature.

	<u>Date:</u>	<u>Action Completed By:</u>
1. Agreement Prepared By:	_____	_____
Type of Agreement: _____	Customer's Amount: _____	
2. Programmatic/ Technical Review: (within NGTOC)		
Agreements Liaison Routing	_____	_____
Planning & Analysis Team	_____	_____
Commercial Partnerships Team	_____	_____
GIO/RTA Personnel	_____	_____
Finance POC	_____	_____
Chief, NGTOC-Rolla	_____	_____
Agreements Liaison Final review	_____	_____
3. NGTOC Director Review:	_____	_____
4. Surname Approval :	_____	_____
(Chief NGTOC cost center or other USGS cost center chief that will perform the work)		
5. Signed Agreement received from Reimbursable partner:	_____	_____
6. ACIS No. Assigned: No. _____	_____	_____
7. USGS Checklist for Reimbursable Agreements completed:	_____	_____
8. Final copies sent to:	Financial POC _____	PAT POC _____
	Regional Liaison Office _____	NSDI Liaison _____
9. Copies sent to APS Fiscal Services: (reimbursable agreements only)		
___HQ ___ER ___CR ___WR	_____	_____
10. Copy sent to P&EC for electronic agreement archive:	_____	_____
(sent to: _____)		

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Attachment F. Sub Allocation of Funds Email (Example)

**David O
Roberts/GIO/USGS/DOI**

01/19/2007 07:36 AM

Suballocation of NGA funds to
NGTOC

Eddie,

I have entered FY07 NGA MIPR NPM8G16305GS25 for \$4.6 million into BASIS+ and sub-allocated funds in the amount of \$238,822.50 to 6103 NGTOC NPM8G16305GS25N for the urban area orthoimagery projects listed below for the GPSC. An assessment of 5% is included in this total. Attached is the checklist memo. I will FAX you the NGA MIPR and checklist. If you have any question on this MIPR, please contact me. Thank you,

Charleston, SC	\$ 99,487.50	USGS will commit \$ 99,487.50 from contract funds
Tulsa, OK	\$139,335.00	USGS will commit \$139,335.00 from contract funds

Total including 5% assessment \$238,822.50 amount of this sub-allocation



NGA FY07 MIPR NG new checklist memo.doc

Dave Roberts, USGS National Orthoimagery Program Coordinator
Geographic Information Integration & Analysis - National Geospatial Programs Office
U. S. Geological Survey - 511 National Center - 12201 Sunrise Valley Drive - Reston, VA 20192
Phone: 703-648-4730 - Fax: 703-648-4722 - Email: drobert1@usgs.gov

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Attachment G. NGTOC Information for Other Agency Purchase Orders or Agreements

National Geospatial Technical Operations Center (NGTOC)
Information for Other Agency Purchase Orders or Agreements (12/3/2007)

Authorized Person to Sign/Accept Purchase Order:

Eric Constance, NGTOC-Rolla Center Chief
U. S. Geological Survey
National Geospatial Technical Operations Center
1400 Independence Road, MS 300
Rolla, MO 65401

Phone: (573) 308-3685
Fax: (573) 308-3652

Financial Point of Contact:

Mark Jessip
U. S. Geological Survey
National Geospatial Technical Operations Center-Rolla
1400 Independence Road, MS 317
Rolla, MO 65401

Phone: (573) 308-3706
Fax: (573) 308-3652

Accounting Information:

USGS ALC: 1408-0001

NGTOC DUNS No: 19-596-4445

USGS Employer/Tax ID Number: 53-0196958

USGS Appropriation Code/Symbol (for collection): 148084 (14y0804 where y = current fiscal year)

Should you have additional questions, please call Mark Jessip at (573) 308-3706.

NGTOC will need the ALC and Fiscal Station Number (FSN) from military organizations. We also need the DUNS number for other Federal agencies.

Attachment H Milestones and checklists

State Liaison checklist (pre-award)

_____ Define project parameters and expectations with customer (use Project Planning document, Attachment I, if appropriate).

_____ Initiate Contact with the GPSC COR and CPT.

_____ Initiate Contact with NGTOC Finance POC.

_____ Determine product specifications (product type, ground resolution, processing level, accuracy levels, sun angle, leaf-off, CIR, natural color, features, stereo models, format, etc.).

_____ Clearly define area of interest (AOI) using a shapefile or geographic boundary.

_____ Explore and discuss QA/QC options with customer:

1. Customer QA/QC
2. Vendor QA/QC (can be included in task)
3. USGS QA/QC (separate agreement must be reached with NGTOC Rolla or Denver.)

_____ Explore funding considerations with customer including funding source, assessments, and partnerships.

_____ Prepare financial documentation working with the GPSC Finance POC.

_____ Prepare and submit SOW to GPSC COR, include AOI shapefile, bounding coordinates, list of counties, or similar description of study area, and Project Planning forms (attachment I) where appropriate.

_____ Once the Independent Government Cost Estimate (IGCE) and draft Task Order are received from GPSC COR and CPT POC, discuss and finalize documents with customer.

_____ Upon customer approval of IGCE and SOW, finalize and submit Reimbursable Agreements to the NGTOC Finance POC.

GPSC COR and CPT POC checklist (pre-award)

_____ After initial contact from Liaison, contact CO and NGTOC Finance POC and advise them of possible new tasking.

_____ Assist Liaison with questions regarding SOW.

_____ Once SOW is received from the Liaison the GPSC COR will determine the appropriate contract vehicle (A&E, Best Value, CAP-C).

_____ The CPT POC will prepare the Independent Government Cost Estimate (IGCE) using the SOW.

_____ The IGCE and draft SOW are submitted to the customer via the Liaison for review and approval.

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_____ Once the Reimbursable Agreements are in place and confirmed by the NGTOC Finance POC, the DI-1 is prepared and signed by NGTOC officials.

_____ Submit Task Order, DI-1, and supporting financial documentation to the CO at Central Regional Services, Acquisitions and Grants Branch.

TASK ORDER MILESTONES

Request for Proposal (RFP) prepared by the CO and sent to Vendor.

Vendor submits Technical & Cost Proposal.

GPSC COR, CPT POC, and CO review Technical & Cost proposal. (Technical Proposal and overall cost is shared with customer and Liaison).

Negotiations are held between vendor and the government represented by the CO, GPSC COR, and CPT POC.

After successful negotiations, the Task Order is awarded to the vendor.

Vendor begins works and submits monthly progress reports.

CPT POC monitors deliverables and monthly report schedules.

CPT POC keeps GPSC COR, NGTOC Finance POC, Liaison, and customer apprised of progress, developments, delays, or work quality.

GPSC COR keeps CO informed. Contract modifications, if needed are recommended by GPSC COR and completed by CO.

Deliverables are reviewed according to terms agreed to in the Task Order.

CPT POC advises GPSC COR of deliverable review and recommends acceptance or rework of deliverable.

POST AWARD MILESTONES

GPSC COR prepares follow-up documentation

Once all deliverables have been delivered and accepted, GPSC COR notifies CO, Liaison, Customer, NGTOC Finance POC, and vendor.

Once the vendor's invoice is received, it is reviewed for accuracy, approved by the CO and then submitted to the NGTOC accounting tech, Christina Ragan for payment.

Approximately 60 to 90 days after the conclusion of the mission, the customer is billed via IPAC by NGTOC Finance POC.

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Attachment I Project Planning Forms

LIDAR PROJECT PLANNING REQUIREMENTS

Submit only ONE COMPLETE REQUIREMENT per Form

Project Title: _____		Primary Contact (Liaison): _____	
Funding Sources: (Check all that apply)		<input type="checkbox"/> - USGS : <input type="checkbox"/> - Other Federal : <input type="checkbox"/> - State Government : <input type="checkbox"/> - Local Government : <input type="checkbox"/> - Other (explain) _____	
Partner Agency Financial Point of Contact (Name, address, phone, and e-mail -Include all if more than one agency is involved) _____			
<input type="checkbox"/> - Project Foot Print (shapefile) Included : If Not – Why Not and when will it be provided : _____ Shape file parameters (REQUIRED): Datum - _____ : Projection - _____ Shape files must be provided by partner before an estimate of project will be provided.			
Date Estimate is required: _____ (Allow a minimum of 1 week for estimate from time of supplying all information. Allow more time for more complex tasks.)			
Date Project is expected to start: _____ (Allow a minimum of 3 weeks from funding becoming available to NGTOC.)			
Date FUNDING is expected to be available and all documents signed : _____			
VARIABLY SPACED LIDAR PRODUCTS			
Nominal Point Spacing (NPS)		<input type="checkbox"/> - 0.5 meter NPS <input type="checkbox"/> - 1.0 meter NPS : <input type="checkbox"/> - 2.0 meter NPS : Other: _____ USGS Lidar Base Specification v12/v13 is 2.0 meter NPS	
Collection Conditions		<input type="checkbox"/> - Leaf Off : <input type="checkbox"/> - Snow Free : <input type="checkbox"/> - Normal Water: <input type="checkbox"/> - Low Tide (significant additional cost) : Other Conditions - _____	
Accuracy Required In Open Terrain ASPRS Class 1 unless specified otherwise		Vertical <input type="checkbox"/> - 9cm (required for 1' contours) : <input type="checkbox"/> - 15cm : <input type="checkbox"/> - 18cm (required for 2' contours) : Other - _____ (Explain _____) Horizontal – Not Applicable to lidar data Note: 9cm vRMES requires very dense point spacing, up to 55% overlap, and lower flight height – all contributing factors in increased cost.	
Point Cloud Data		<input type="checkbox"/> - Full Point Cloud : <input type="checkbox"/> - First Return : <input type="checkbox"/> - Last Return <input type="checkbox"/> - Bare Earth : Number of Returns Required - _____ <input type="checkbox"/> - Manmade Structures Surface : <input type="checkbox"/> - Vegetation Canopy ASPRS Classifications Required - _____ (default is v12/v13 spec)	
Datum (select one each)		Vertical : <input type="checkbox"/> - NGVD 29 : <input type="checkbox"/> - NAVD 88 (default) : Other - _____ Horizontal : <input type="checkbox"/> - NAD 27 : <input type="checkbox"/> - NAD 83 (default)	
Coordinate System (select one) Coordinate system and units must agree		<input type="checkbox"/> - Geographic : <input type="checkbox"/> -UTM (Zone) _____ (meters) <input type="checkbox"/> - State Plane (Zone) _____ (feet, with few exceptions) <input type="checkbox"/> - Other (Provide Specifics _____)	
Units	Vertical	Meters - <input type="checkbox"/> to _____ decimal places (meters is default for UTM) Feet - <input type="checkbox"/> to _____ decimal places (feet is default for State Plane)	
	Horizontal	Meters - <input type="checkbox"/> to _____ decimal places (meters is default for UTM) Feet - <input type="checkbox"/> to _____ decimal places (feet is default for State Plane)	
Mass Points Tile Size		<input type="checkbox"/> -1500m x 1500m : <input type="checkbox"/> - 2000m x 2000m) : Other - _____ <input type="checkbox"/> - 1mile x 1mile : <input type="checkbox"/> - 2mile x 2mile : Other - _____ <input type="checkbox"/> - Tiles filled to tile edge? : <input type="checkbox"/> - Filled to Project shape file?	
Metadata Required		<input type="checkbox"/> - Project Level : <input type="checkbox"/> - File (tile) Level (Note: Tile level is relatively expensive and is duplicate information of Project Level information with exception of coordinates)	

ADDITIONAL PROCESSING REQUIRED
(extra cost for each)

Break Lines	<input type="checkbox"/> - No : <input type="checkbox"/> - Yes (compiled from Intensity images – Required if Hydro Enforcement is required)
Surface Model	<input type="checkbox"/> - DSM ; <input type="checkbox"/> - DTM/DEM <input type="checkbox"/> - 1.0-m : <input type="checkbox"/> - 5.0-m : <input type="checkbox"/> - 10.0-m : Other _____ : Hydro Enforced? <input type="checkbox"/>
Contours	<input type="checkbox"/> - 1.0' : <input type="checkbox"/> - 2.0' : <input type="checkbox"/> - 4.0' : <input type="checkbox"/> - 1m : Other - (there may be additional cost of units (ft / meters) are different than source data)
Intensity Image	<input type="checkbox"/> - No : <input type="checkbox"/> - Yes (will match Bare Earth tile size – Required for Break Lines. Intensity images will be Grey Scale GeoTiff.)
Other	State other requirement(s) not listed above: _____

FORMAT AND DELIVERABLES

Tile Sizes	<u>Mass Points</u> : (See above) <u>DEM</u> : <input type="checkbox"/> - Match VS data : <input type="checkbox"/> - USGS QQ : <input type="checkbox"/> - USGS Quad : Other - _____ <u>Break Lines</u> : <input type="checkbox"/> - Match VS data : <input type="checkbox"/> - USGS QQ : <input type="checkbox"/> - USGS Quad : Other - _____ <u>Contours</u> : <input type="checkbox"/> - Match VS data : <input type="checkbox"/> - USGS QQ : <input type="checkbox"/> - USGS Quad : Other - _____
Formats	<u>Mass Points</u> : <input type="checkbox"/> - ASCII x,y,x,i : <input type="checkbox"/> - LAS 1.2/1.3 : <input type="checkbox"/> - TIN : <input type="checkbox"/> - Arc Shape <u>DEM</u> : <input type="checkbox"/> - USGS DEM : <input type="checkbox"/> - ESRI Float Grid : <input type="checkbox"/> - ESRI Integer Grid : Other - _____ <u>Break Lines</u> : <input type="checkbox"/> - Arc Shape : <input type="checkbox"/> - CAD DWG file : Other - _____ <u>Contours</u> : <input type="checkbox"/> - Arc Shape : <input type="checkbox"/> - CAD DWG file: Other - _____
Delivery Media	DVD - <input type="checkbox"/> : Firewire (external hard drive) - <input type="checkbox"/> : Other - _____
Delivery of Final Data	(Include Partner Name, Address, Phone #, and e-mail): _____

QA/QC

Who will do QA/QC	Note: It is the responsibility of the liaisons to arrange or secure Quality Assessment. In cases where QA will be done via contract the Commercial Partnership Team will supply a cost estimate and will pick the QA Contractor.
NGTOC	<input type="checkbox"/> - Liaison will contact NGTOC Chief for separate QA agreement
Via Contract	<input type="checkbox"/> - Available for additional cost

Other Requirements not listed above : _____

<http://thor-f5.er.usgs.gov/GPSC/LiDAR Project Planning Requirements V2.1.doc>

ORTHO IMAGERY PROJECT PLANNING REQUIREMENTS

Submit only **ONE COMPLETE REQUIREMENT** per Form

Project Title:		Primary Contact (Liaison):	
Funding Sources: (Check all that apply)	USGS - <input type="checkbox"/> : Other Federal - <input type="checkbox"/> : State Government - <input type="checkbox"/> : Local Government - <input type="checkbox"/> : Other (explain) - <input type="checkbox"/>		
Partner Agency Financial Point of Contact (Name, address, phone, and e-mail -Include all if more than one agency is involved)			
Project Foot Print (shapefile) Included : <input type="checkbox"/> If Not – Why Not and when will it be provided : Shape file parameters: Datum - : Projection - Shape files must be provided by partner before an estimate of project will be provided.			
Date Estimate is required: (Allow a minimum of 1 week for estimate from time of supplying all information. Allow more time for more complex tasks.)			
Date Project is expected to start: (Allow a minimum of 3 weeks from funding becoming available to NGTOC.) Date FUNDING is expected to be available and all documents signed :			

ACQUISITION REQUIREMENTS

Imagery Source: (Check all that apply)	FILM - <input type="checkbox"/> : DMC - <input type="checkbox"/> : ADS40 - <input type="checkbox"/> : Other (explain) - Color - <input type="checkbox"/> : B&W (Panchromatic) - <input type="checkbox"/> : CIR - <input type="checkbox"/> Is a specific Flight Height Required - <input type="checkbox"/> : What Flight Height? -
Acquisition Conditions:	Leaf Off - <input type="checkbox"/> : Snow Free - <input type="checkbox"/> : Normal Water - <input type="checkbox"/> : Sun Angle - : Other Conditions -

ORTHO PRODUCTION

Ortho Requirements: (Check all that apply)	GSD (resolution): 6in - <input type="checkbox"/> : 1ft - <input type="checkbox"/> : 1/2 m - <input type="checkbox"/> : 1m - <input type="checkbox"/> : Other - Georectified - <input type="checkbox"/> : Orthorectified - <input type="checkbox"/> : - Unrectified - <input type="checkbox"/> 8 bit <input type="checkbox"/> : 12 bit <input type="checkbox"/> : other <input type="checkbox"/> explain
Datum:	UTM - <input type="checkbox"/> (zone) : State Plane : <input type="checkbox"/> (zone) ; Other: NOTE: UTM coordinates will be meters – State Plane coordinates will be Feet
Tiling Scheme:	133UA (1500x1500m) - <input type="checkbox"/> : Quarter-Quad <input type="checkbox"/> - : Quarter- Quarter- Quad - <input type="checkbox"/> : Other Grid size x in feet <input type="checkbox"/> ; or meters <input type="checkbox"/> ; Over-edge Required - <input type="checkbox"/> : How much? Should tiles be filled to tile edge? <input type="checkbox"/> Or to project shape file? <input type="checkbox"/>
Metadata Required:	Project Level - <input type="checkbox"/> and/or File (tile) Level - <input type="checkbox"/>
Delivery Media:	CD-ROM - <input type="checkbox"/> : DVD - <input type="checkbox"/> : Firewire (external hard drive) - <input type="checkbox"/>
Who Deliver To:	(Include Name, Address, Phone #, and e-mail):

QA/QC

Who will do QA/QC	Note: It is the responsibility of the liaisons to arrange or secure Quality Assessment. In cases where QA will be done via contract the Commercial Partnership Team will supply a cost estimate.
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Partner	<input type="checkbox"/> - Partner agrees to 100% responsibility for QA to contract specifications within contractual time frame					
NGTOC	<input type="checkbox"/> - Liaison will contact NGTOC Chief for separate QA agreement					
Via Contract	<input type="checkbox"/> - Available for additional cost if NGTOC capacity is not available					
Other Requirements not list above: <input type="checkbox"/> : EXPLAIN -						
<u>NOTICE</u> This document is meant to be a “living” document. Additional requirements of modifications to this document may be requested via the Commercial Partnership Team						

http://thor-f5.er.usgs.gov/GPSC/Ortho_Imagery_Project_Planning_Requirements_4_11_2007.doc

Attachment J Sample SOW

**PROJECT DESCRIPTION
FOR THE ACQUISITION OF DIGITAL ELEVATION DATA
BETWEEN
USGS, National Geospatial Program Office
AND
EFFINGHAM COUNTY, GA., BOARD OF COMMISSIONERS**

DECEMBER 11, 2007

Effingham County, Ga. High-resolution elevation acquisition proposal.

Purpose:

This acquisition is for current LiDAR derived high-resolution elevation data for the full extent of Effingham County Ga., an area of approximately 483 sq. miles. Effingham is a second-tier coastal county of Georgia within the 50-mile Atlantic coastal priority area as defined by the National Geospatial-Intelligence Agency (NGA). This project also supports the National Spatial Data Infrastructure (NSDI) and will advance USGS efforts related to Geospatial One-Stop and *The National Map*.

Background:

OMB Circular A-16 “Coordination of Geographic Information and Related Spatial Data Activities” provides for improvements in coordination and use of spatial data. Spatial data refers to information about places or geography, and has traditionally been shown on maps. This Circular describes the effective and economical use and management of spatial data assets in the digital environment for the benefit of the government and the nation. The Circular affirms and describes the National Spatial Data Infrastructure (NSDI).

The NSDI supports and advances the building of a Global Spatial Data Infrastructure, consistent with national security, national defense, national intelligence, and international trade requirements. The components of the NSDI are data themes, metadata, the National Spatial Data Clearinghouse, standards, and partnerships.

The National Map is a consistent framework for geographic knowledge needed by the Nation. It provides public access to high-quality, geospatial data and information from multiple partners to help support decision-making by resource managers and the public. *The National Map* is the product of a consortium of Federal, State, and local partners who provide geospatial data to enhance America's ability to access, integrate, and apply geospatial data at global, national, and local scales.

A cooperative relationship between Federal, State, and local geospatial data producing agencies is essential for the development of the National Spatial Data Infrastructure (NSDI) and successful

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implementation of *The National Map*. The highest priority activity for *The National Map* is the collection of high resolution framework data, which includes current elevation data covering the coastal priority areas as identified by the NGA. This Cooperative Agreement between the USGS and the Effingham County Board of Commissioners will result in meeting the need for current high-resolution digital elevation data over the Effingham Co. Ga., will effectively distribute the burden of production costs, and will eliminate duplication of effort between parties.

Scope of Work:

This is an acquisition through the USGS Geospatial Product and Service Contract (GPSC). The Effingham County Ga. Board of Commissioners, Geographic Information Systems (GIS) department, requests the assistance of the U.S. Geological Survey in the acquisition of high-resolution LiDAR derived elevation data for the county. Effingham Co., with an estimated 2007 population of 48,000 is a second-tier coastal county, lying within the 50-mile coastal zone of Georgia with a land area of approximately 483 sq. miles (Attachment A.). Adjacent to and inland from Chatham Co. and Savannah Ga. and bordering South Carolina along the Savannah River, Effingham is experiencing rapid urban development expanding from the Savannah Ga. metropolitan region.

The Federal Emergency Management Agency (FEMA) has required the County to update their flood-plain mapping. The County wishes to obtain the best elevation data possible to be used in this effort. In addition, due to the location within the 50-mile coastal buffer zone, it would be financially advantageous to leverage this effort to acquire data for the entire county in anticipation of edge-matching future acquisitions in the remaining Ga. coastal zone counties; including neighboring Chatham, during the next 2-3 years. In order to meet the goals and demands of the FEMA project and obtain the best possible data, the LiDAR acquisition would need to take place in the leaf-off winter season of 2008, preferably sometime from January to March, 2008. Due to the low relief, proximity of the Atlantic Ocean, and influence of tidal effects, elevation data is needed sufficient to generate 1 ft. contours (Appendix 1, LIDAR Requirements).

Effingham County has allocated significant funding for this effort, however, in order to take advantage of the opportunity for acquiring elevation over the entire county and then provide the data for inclusion into the USGS elevation framework for The National Map, additional funding and support from the USGS would be needed. This data would then be available for inclusion in the anticipated future elevation acquisitions along the entire Georgia coast and would be within the public domain. To facilitate data discovery and comply with NSDI mandates, all elevation data produced as a result of this acquisition will have associated FGDC-compliant metadata. Effingham County GIS has been a supportive and eager partner for geospatial activities in Coastal Georgia and a strong advocate of the NSDI and data sharing.

LiDAR Specifications (also refer to Appendix 1):

Area of Coverage:	Entire area of the County (see Attachment A).
Total project area:	Approximately 483 mi ² .
Data Acquisition Date:	January 1, 2008 to March 1, 2008
Projection:	State Plane, Ga. East

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Units: Feet
Horizontal Datum: NAD83
Vertical Datum: NAVD88
Elevation Resolution: 0.7 meter
Vertical Accuracy: 9cm
Format: Raw and processed point cloud=LAS/ESRI GRID, 1 meter
1ft. contours with breaklines, shapefile format.
Delivery Media: DVD or external hard-drive

Deliverables:

The USGS will provide Effingham Co. GIS:

- 1) One copy of raw and processed bare earth LiDAR elevation point cloud data.
- 2) One copy of the LiDAR bare earth elevation data formatted to 1-meter post spaced grid.
- 3) Contours at one-foot interval derived from processed bare earth LiDAR with breaklines
- 4) Elevation data project index in shapefile format with extent of project area and relative position of elevation tiles and tile names.
- 5) Associated FGDC-compliant elevation metadata.

Deliver Data to:

Kresha Jones-Aycock
Effingham County Board of Commissioners
GIS Department
601 North Laurel St.
Springfield, Ga. 31329-0307
kjones@effinghamcounty.org

Data Delivery from:

Keith W. McFadden
U.S. Geological Survey
3039 Amwiler Rd. Suite 130
Atlanta, Ga. 30360
keithmc@usgs.gov

Financial Arrangements:

Contacts:

U.S. Geological Survey

-DRAFT-

Keith W. McFadden
3039 Amwiler Rd. Suite 130
Atlanta, Ga. 30360
770-903-9150
keithmc@usgs.gov

Effingham County GIS
Kresha Jones-Aycock
GIS Department
601 North Laurel St.
Springfield, Ga. 31329-0307
(912) 754-2105 ext. 4503
kjones@effinghamcounty.org

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Appendix 1. LiDAR Planning Requirements

LIDAR PROJECT PLANNING REQUIREMENTS Submit only <u>ONE COMPLETE REQUIREMENT</u> per Form	
Project Title: Effingham Co. LIDAR	Primary Contact (Liaison): Keith W. McFadden
Funding Sources: (Check all that apply)	USGS - <input checked="" type="checkbox"/> : Other Federal - <input type="checkbox"/> : State Government - <input type="checkbox"/> : Local Government - <input type="checkbox"/> <input checked="" type="checkbox"/> : Other (explain) - <input type="checkbox"/>
Partner Agency Financial Point of Contact (Name, address, phone, and e-mail -Include all if more than one agency is involved) Kresha Jones-Aycock (kjones@EffinghamCounty.org) Effingham County Board of Commissioners GIS Department 601 North Laurel Street Springfield, GA 31329-0307	
Project Foot Print (shapefile) Included : <input checked="" type="checkbox"/> If Not – Why Not and when will it be provided : Shape file parameters: Datum – NAD83 : Projection - Albers Shape files must be provided by partner before an estimate of project will be provided.	
Date Estimate is required: (Allow a minimum of 1 week for estimate from time of supplying all information. Allow more time for more complex tasks.)	
Date Project is expected to start: (Allow a minimum of 3 weeks from funding becoming available to NGTOC.) Date FUNDING is expected to be available and all documents signed :	
VARIABLY SPACED LIDAR PRODUCTS	
Ground Sample Distance	0.7-meter - <input checked="" type="checkbox"/> : 1.0-meter - <input type="checkbox"/> : 1.4-meter - <input type="checkbox"/> : Other:
Collection Conditions	Leaf Off - <input checked="" type="checkbox"/> : Snow Free - <input checked="" type="checkbox"/> : Normal Water - <input checked="" type="checkbox"/> : Other Conditions -
Accuracy Required (Bare Earth)	<u>Vertical</u> : 15cm VRMSE - <input type="checkbox"/> : 18cm VRMSE - <input type="checkbox"/> : Other – 9cm <u>Horizontal</u> : 1 meter RMS @ 95% confidence level - <input checked="" type="checkbox"/> : Other -
Products (Mass Points)	First Return - <input type="checkbox"/> : Last Return - <input type="checkbox"/> : Bare Earth - <input checked="" type="checkbox"/> : No. Returns Required -
Datum (select one each)	<u>Vertical</u> : NGVD 29 - <input type="checkbox"/> : NAVD 88 (default) - <input checked="" type="checkbox"/> : Other - <u>Horizontal</u> : NAD 27 - <input type="checkbox"/> : NAD 83 (default) - <input checked="" type="checkbox"/>
Coordinate System (select one)	Geographic: <input type="checkbox"/> : UTM: <input type="checkbox"/> - (Zone) State Plane: <input checked="" type="checkbox"/> - (Zone) Ga. East
Units	Meters - <input type="checkbox"/> to decimal places (meters is default for UTM) Feet - <input checked="" type="checkbox"/> to decimal places (feet is default for State Plane)

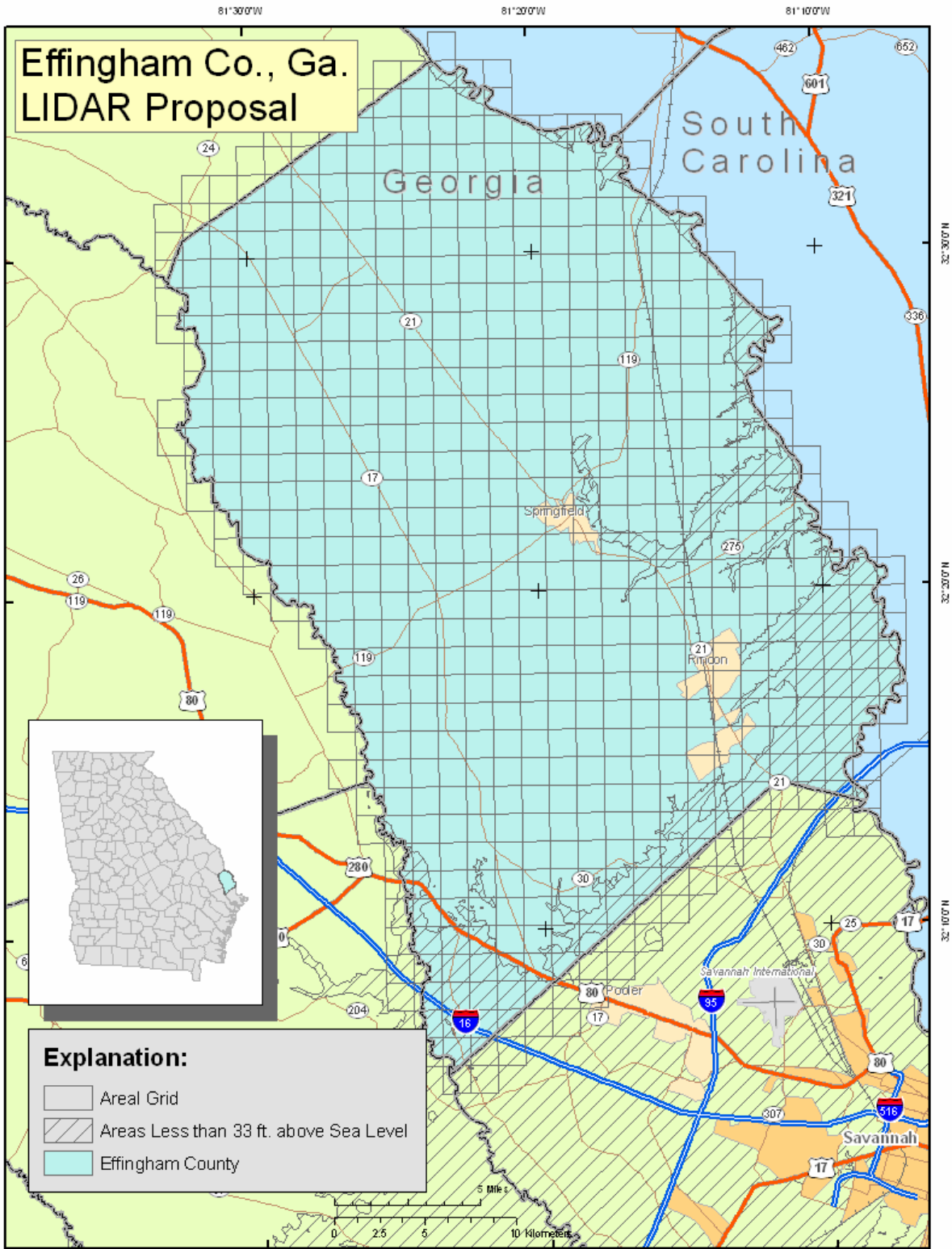
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Tile Size	1500m x 1500m - <input type="checkbox"/> : 2000m x 2000m - <input type="checkbox"/> (default meters) : Other - 1mile x 1mile - <input type="checkbox"/> : 2mile x 2mile - <input type="checkbox"/> (default feet) : Other -
Metadata Required	Project Level - <input checked="" type="checkbox"/> and/or File (tile) Level - <input type="checkbox"/>
SECONDARY PRODUCTS (extra cost for each)	
Break Lines	No - <input type="checkbox"/> : Yes - <input checked="" type="checkbox"/> (normally compiled from Intensity images)
DEM	1.0m - <input checked="" type="checkbox"/> : 5.0m - <input type="checkbox"/> : 10.0m - <input type="checkbox"/> : Other : Hydro Enforced? <input type="checkbox"/>
Contours	0.5' - <input type="checkbox"/> : 1.0' - <input checked="" type="checkbox"/> : 2.0' - <input type="checkbox"/> : 4.0' - <input type="checkbox"/> : 1m - <input type="checkbox"/> : Other -
Intensity Image	No - <input type="checkbox"/> : Yes - <input checked="" type="checkbox"/> (will match Bare Earth tile size – Required for Break Lines)
Other	State other requirement(s) not listed above:
FORMAT AND DELIVERABLES	
Tile Sizes	<u>Mass Points</u> : (See above) <u>DEM</u> : Match VS data - <input checked="" type="checkbox"/> : USGS QQ - <input type="checkbox"/> : USGS Quad - <input type="checkbox"/> : Other - <u>Break Lines</u> : Match VS data - <input checked="" type="checkbox"/> : USGS QQ - <input type="checkbox"/> : USGS Quad - <input type="checkbox"/> : Other - <u>Contours</u> : Match VS data - <input checked="" type="checkbox"/> : USGS QQ - <input type="checkbox"/> : USGS Quad - <input type="checkbox"/> : Other -
Formats	<u>Mass Points</u> : ASCII x,y,x,i format - <input type="checkbox"/> : LAS format - <input checked="" type="checkbox"/> : TIN - <input type="checkbox"/> : ArcShape - <input type="checkbox"/> <u>DEM</u> : USGS DEM - <input type="checkbox"/> : ESRI Float Grid - <input type="checkbox"/> : ESRI Integer Grid - <input checked="" type="checkbox"/> - Other - <u>Break Lines</u> : Arc Shape - <input checked="" type="checkbox"/> : Other - <u>Contours</u> : Arc Shape - <input checked="" type="checkbox"/> : USGS DLG-O - <input type="checkbox"/> : Other -
Delivery Media	CD-ROM - <input type="checkbox"/> : DVD - <input type="checkbox"/> : Firewire (external hard drive) - <input checked="" type="checkbox"/> : Other -
Who Deliver To	(Include Name, Address, Phone #, and e-mail): Keith W. McFadden (keithmc@usgs.gov) 3039 Amwiler Rd. Suite 130 Atlanta, Ga. 30360
QA/QC	
Who will do QA/QC	Note: It is the responsibility of the liaisons to arrange or secure Quality Assessment. In cases where QA will be done via contract the Commercial Partnership Team will supply a cost estimate.
Partner	<input type="checkbox"/> - Partner agrees to 100% responsibility for QA to contract specifications within contractual time frame

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NGTOC	<input type="checkbox"/> - Liaison will contact NGTOC Chief for separate QA agreement					
Via Contract	<input checked="" type="checkbox"/> - Available for additional cost if NGTOC capacity is not available					
Other Requirements not list above: <input type="checkbox"/> : EXPLAIN -						
<p><u>NOTICE</u> This document is meant to be a “living” document. Additional requirements of modifications to this document may be requested via the Commercial Partnership Team</p>						

Effingham Co., Ga. LIDAR Proposal



Attachment A. -- Map of Acquisition area.