

# REQUEST FOR QUOTATION

SOLICITATION NUMBER: USDA-FS-6-06  
DIGITAL AERIAL PHOTOGRAPHY SERVICES  
for Chugach National Forest, Alaska  
Quotation Due Date: August 25, 2006



U.S. DEPARTMENT OF AGRICULTURE  
FARM SERVICE AGENCY  
AERIAL PHOTOGRAPHY FIELD OFFICE

## NOTICE TO PROSPECTIVE OFFERORS :

OFFERORS ARE CAUTIONED TO NOTE THE FOLLOWING SPECIAL CONTRACT REQUIREMENTS:

The following information must be submitted with any price quotation: Aircraft and camera(s) proposed for use, incomplete contracts, technical capability statement, and past performance (see Section A). All digital cameras/sensors must be approved in accordance with Section A-5.

All imagery must be acquired with a digital mapping camera with radiometric resolution of no less than 12-bits per channel. Spatial resolution must be 30cm or better. See Section B, Paragraph 1.3

Optional item: The Government will accept proposals to upgrade the normal 3-band RGB imagery to a 4-band RGB/IR. See Section B-2.

**This solicitation is totally set-aside for small business concerns. See FAR Clause 52.219-06, Notice of Total Small Business Set-Aside (July 1996).**

**The complete text of any or all clauses referenced herein may be obtained by submitting a request, identifying this solicitation number, to the Contracting Officer, USDA, FSA, Aerial Photography Field Office, 2222 West 2300 South, Salt Lake City, Utah 84119-2020. Complete copies of the FAR in loose-leaf or CFR form may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402.**

<b>REQUEST FOR QUOTATION (THIS IS NOT AN ORDER)</b>		THIS RFQ <input type="checkbox"/> IS <input type="checkbox"/> IS NOT A SMALL BUSINESS SET-ASIDE		PAGE OF PAGES
1. REQUEST NO.	2. DATE ISSUED	3. REQUISITION/PURCHASE REQUEST NO.	4. CERT. FOR NAT. DEF. UNDER BDSA REG. 2 AND/OR DMS REG. 1	RATING
5a. ISSUED BY			6. DELIVER BY (Date)	
5b. FOR INFORMATION CALL (NO COLLECT CALLS)			7. DELIVERY	
NAME		TELEPHONE NUMBER		<input type="checkbox"/> FOB DESTINATION <input type="checkbox"/> OTHER (See Schedule)
		AREA CODE	NUMBER	9. DESTINATION
8. TO:			a. NAME OF CONSIGNEE	
a. NAME		b. COMPANY		b. STREET ADDRESS
c. STREET ADDRESS				c. CITY
d. CITY		e. STATE	f. ZIP CODE	d. STATE e. ZIP CODE
10. PLEASE FURNISH QUOTATIONS TO THE ISSUING OFFICE IN BLOCK 5a ON OR BEFORE CLOSE OF BUSINESS (Date)		IMPORTANT: This is a request for information, and quotations furnished are not officers. If you are unable to quote, please so indicate on this form and return it to the address in Block 5a. This request does not commit the Government to pay any costs incurred in the preparation of the submission of this quotation or to contract for supplies or service. Supplies are of domestic origin unless otherwise indicated by quoter. Any representations and/or certifications attached to this Request for Quotation must be completed by the quoter.		

**11. SCHEDULE (Include applicable Federal, State and local taxes)**

ITEM NO.	SUPPLIES/ SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
(a)	(b)	(c)	(d)	(e)	(f)

12. DISCOUNT FOR PROMPT PAYMENT	a. 10 CALENDAR DAYS (%)	b. 20 CALENDAR DAYS (%)	c. 30 CALENDAR DAYS (%)	d. CALENDAR DAYS	
				NUMBER	PERCENTAGE

NOTE: Additional provisions and representations  are  are not attached.

13. NAME AND ADDRESS OF QUOTER			14. SIGNATURE OF PERSON AUTHORIZED TO SIGN QUOTATION		15. DATE OF QUOTATION	
a. NAME OF QUOTER			16. SIGNER		b. TELEPHONE	
b. STREET ADDRESS						
c. COUNTY			a. NAME (Type or print)		AREA CODE	
d. CITY		e. STATE	f. ZIP CODE	c. TITLE (Type or print)		NUMBER

NOTE: THIS SECTION MUST ACCOMPANY ANY QUOTATION SUBMITTED.

**SECTION A**

**REQUIRED STATEMENTS OF OFFERORS**

**A-1 AIRCRAFT TO BE USED IN COMPLETION OF ITEM(S) IN THIS CONTRACT**

<b>AIRCRAFT</b>			
<b>Make/Model</b>	<b>Registration Number</b>	<b>Operating Ceiling</b>	<b>Bidder Owned* (check appropriate block)</b>
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
* If the aircraft is/are not offeror owned, a written statement of availability from the owner of the aircraft must be enclosed. See Section C-2.			

**A-2 CAMERA(S) TO BE USED IN COMPLETION OF ITEM(S) IN THIS CONTRACT**

<b>DIGITAL CAMERA/SENSOR(S)</b>		
<b>Make/Model</b>	<b>Serial Number(s)</b>	<b>Bidder Owned* (check appropriate box)</b>
		<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No
NOTE: Any proposed digital sensor system must be a large-format precision mapping grade camera and have Contracting Officer approval before being use on any USDA project. * If the camera(s) is/are not offeror owned, a written statement of availability from the owner(s) of the camera(s) must be enclosed. See Section C-2.		

**A-3 INCOMPLETE CONTRACTS AS OF DATE OF OFFER**

<b>INCOMPLETE CONTRACTS</b>		
<b>Remaining Linear Miles</b>	<b>Summer</b>	<b>Winter</b>
U.S. Government Contracts:		
All Other Contracts:		

A-4 TECHNICAL CAPABILITY STATEMENT

A brief statement regarding the offeror’s technical capability to successfully perform this contract must be submitted with offer.

A-5 DIGITAL SENSOR APPROVAL REQUIREMENTS

Each offeror shall submit with the offer, (1) a report of calibration (typically from the camera manufacturer), (2) sample digital imagery at the required ground resolution, (3) digital sensor documentation from the camera/sensor proposed for use. Please refer to Section B for digital camera/sensor approval requirements.

A-6 PAST PERFORMANCE REFERENCES

If no previous contracts have been held by the offeror with the USDA Aerial Photography Field Office, list at least two (2) references, with which the offeror has held similar contracts. If possible, one reference should be within the Federal government. Please list company or agency name, address, name of person to contact, and telephone number in the space below.

<b>REFERENCES</b>	
Company or agency name, Address, Contact, and Telephone number	Company or agency name, Address, Contact, and Telephone number
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

## SECTION B

## PROJECT SERVICES AND REQUIREMENTS

B-1 PROJECT ITEM 1: CHUGACH NATIONAL FOREST, ALASKA

Furnish digital aerial photographic services and related supplies in accordance with the requirements, specifications, terms, conditions specified herein.

CHUGACH NATIONAL FOREST, ALASKA		
LINE ITEM	PROJECT CODE	SQUARE MILES
Chugach National Forest	610040A	1,016

1.1 Materials To Be Delivered:

- (a) Natural color, uncompressed digital image tiles
- (b) AGPS/IMU data
- (c) Progress reports
- (d) Project data files

1.2 Intended Use of Photography: Resource and multi-use management activities.1.3 Project Requirements:

- (a) Spatial Resolution: 30 cm (1 ft) ground sampling distance (GSD) or better.
- (b) Radiometric Resolution: All imagery shall be a 16-bit RGB natural color image (image must be collect at a minimum of 12-bits per channel).
- (b) Approximate Photographic Period: May 15, 2007 through August 15, 2007.
- (c) Minimum Sun Angle: 40 Degrees
- (d) Footprint overlaps:
  - 1. Endlap: Optimum 62%, Minimum 57%, Maximum 67%
  - 2. Sidelap: Optimum 30%, Minimum 15%, Maximum 45%

1.4 Government Furnished Property: The Government will furnish the item(s) of property listed below as GFP to the Contractor:

- (a) ESRI® shapefile of the project area.

**B-2 OPTION ITEM 2: 4-BAND IMAGERY**

The Government will accept price proposals on an optional award for 4-Band Imagery (RBG and IR channels). The Contracting Officer may exercise the option by notice to the Contractor within 30 days of the contract award.

<b>CHUGACH NATIONAL FOREST, ALASKA</b>	
OPTION ITEM	SQUARE MILES
4-Band Imagery	1,016

- 2.1 Materials To Be Delivered. 4-band (RGB and IR) digital full resolution image tiles (if option is exercise, the 4-band imagery shall be delivered in place of the RGB imagery required under Item 1 with no other change to Item 1 requirements).

**B-3 ADMINISTRATIVE REQUIREMENTS**

**3.1 Evaluation of Offers**

- (a) Offers shall be evaluated according to the following criteria including all supporting information furnished by the offeror with their quotation. The following evaluation criteria are listed in descending order of importance.

- 1. Price
- 2. Technical Capability
- 3. Past Performance

Technical capability and past performance, when combined, are more important when compared to price.

- (b) The Government reserves the right to make an award to other than the lowest priced offeror, or other than the highest technically rated offeror, when the perceived benefits and tradeoffs provide the Government the greatest value.

The Government will award a contract resulting from this solicitation to that responsive and responsible offeror whose offer represents the greatest value and is determined to be in the best interest and the most advantageous to the Government, price and other factors considered.

- 3.2 Priorities for Photographing Project Areas: The Contracting Officer may direct by written order certain projects or areas listed under an item to be photographed in a priority order, weather and ground conditions permitting. All reasonable effort will be directed toward providing a schedule of operations favorable to both the Government and Contractor.

### 3.3 Contract Extensions

- (a) **Photographic Season Extension:** The Government reserves the right to extend the photographic season of this contract beyond the approximate photographic period indicated in Section B. A lower minimum sun angle requirement may be necessary to allow the season extension. The Government may extend the season of this contract, at no increase in price, by written notice to the contractor at any time prior to the end of the photographic season.
- (b) **Extension of the Term of the Contract:**

IT IS THE EXPRESSED INTENT OF THE GOVERNMENT TO HAVE ALL PHOTOGRAPHY REQUIRED UNDER THIS CONTRACT COMPLETED WITHIN THE PHOTOGRAPHIC PERIOD SPECIFIED.

The Government reserves the right to extend the term of the contract if all photography under the contract has not been secured within the photographic period, through no fault of the Contractor. The Government may extend the term of this contract, at no increase in price, by written notice to the Contractor within six (6) months after the photographic season has ended. The Contracting Officer may exercise this option twice.

- 3.4 **Ownership of Photographic Materials:** All original photographic materials shall become the property of the Government upon formal acceptance. No duplicates or reproductions shall be made prior to inspection by the Government unless specified in the contract or authorized by the Contracting Officer.
- 3.5 **Wage Determination:** The Wage Determination applicable to any contract resulting from this solicitation is determined by the location of the Contractor's establishment. Wage Determination Number 1995-222, Revision 19, Dated July 7, 2005, will be applicable for contractors nationwide. (See Exhibit 5.)
- 3.6 **Industry Small Business Standard:** The small business industry size standard for the type of services covered by this procurement, under NAICS code 541922, is the average annual receipts of the concern and its affiliates for the preceding three (3) years not in excess of \$6.0 million.
- 3.7 **Invoices:** Contractor invoices shall be submitted in an original and two copies to the Contracting Officer designated in this contract or on the delivery order to receive invoices. To constitute a proper invoice, the invoice must include the following information and/or attached documentation:
1. Name of the business concern and invoice date.
  2. Contract number, or other authorization for delivery of property or services.
  3. Description, price, and quantity of services actually delivered or rendered.
  4. Shipping and payment terms.
  5. Name (where practicable), title, phone number, and complete mailing address of responsible official to whom payment is to be sent.

Notice of an apparent error, defect, or impropriety in an invoice will be given to the Contractor within 7 days of receipt of an invoice and suitably documented.

- 3.8 Non-Discrimination Statement: The U.S. Department of Agriculture (USDA) prohibits discrimination in all its program and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of Discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW., Washington, DC 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.



## SECTION C

## DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C-1 SCOPE OF CONTRACT

The general scope of this contract is to procure precise vertical digital aerial photography for one or more of the following purposes; natural resource inventory, stereomodel compilation, analytical aerotriangulation, orthophotography, and extraction of data by means of photogrammetric measurements. See Section B for the specific intended use of photography and project requirements.

- 1.1 Introduction. The Contractor is responsible for furnishing aerial photographic services and related supplies and materials in accordance with requirements, specifications, terms and conditions specified herein.
- (a) Technical Requirements and Specifications. The technical requirements and specifications of this contract are described in this section and defines the essential elements in securing high quality digital aerial photography. Any deviation from the specifications stated herein may cause increased time and effort in using the photography as intended.
  - (b) Delivery and Performance. All contract materials shall be shipped within the time limits and to the place of delivery specified on the resulting delivery/purchase order. Performance of the contract shall be authorized and monitored by the Contracting Officer and/or the Contracting Officer's Representative.
  - (c) Quality Control. Quality control shall be exercised by the Contractor continuously throughout the performance of this contract. Procedures shall be established to assure that all aerial photographic materials are delivered in accordance with the delivery schedule and at the required level of accuracy and quality. The Contractor shall acquire immediate reflights of any photography where coverage or image quality fails to meet minimum requirements of the contract specifications. Any marginal photography submitted for inspection which does not meet minimum requirements shall have the deficiency legibly handwritten in grease pencil on the inspection prints.
  - (d) Contract Material Inspection. All materials specified in Section B will be inspected to determine conformance to all contract requirements and specifications. Inspections shall be performed at the APFO facility in Salt Lake City, Utah. If inspection of materials reveals marginal deficiencies, a review by the user agency may be performed to determine if deficiencies may cause increased time and effort in using the photography as intended. If any of the services do not conform with the contract requirements, the Government may require the Contractor to perform the services again in conformity with contract requirements, at no increase in contract amount. When the defects in services cannot be corrected by re-performance, the Government may:
    - 1. Require the Contractor to take necessary action to ensure that future performance conforms to contract requirements and
    - 2. Reduce the contract price to reflect the reduced value of services performed. The Government will make every effort to inspect all material specified within 30 calendar

days after they are received at the point designated. Should the inspection procedure be delayed longer than 30 days, the Contractor will be notified on the reason(s) for delay and given the estimated completion date. Contract materials will be inspected in the order of their receipt, unless otherwise prioritized by the Government.

- 1.2 Location of Work. The project name(s), location, size, and configuration of area to be photographed are described in Section B and shown on project map(s) in Exhibit 1.
- 1.3 Labor and Materials. The Contractor shall furnish all materials, equipment, transportation, superintendence, and labor as required herein. The Contractor shall execute and furnish the aerial photographic services for the project specified and shall deliver to the USDA all materials called for Section B.

## C-2 EQUIPMENT REQUIREMENTS

Any equipment (aircraft and cameras, in addition to those submitted at the time of offer) proposed to be used by the Contractor must be approved for use by the Contracting Officer. If the aircraft and camera proposed for use are not owned by the Contractor, a written statement of availability from the owner of the equipment shall be furnished to the Contracting Officer.

- 2.1 Precision Aerial Mapping Camera/Sensor. Only approved digital camera systems which meet the requirements of these specifications, and as determined by appropriate camera/sensor system documentation, certification, and sample imagery submitted, shall be used on this contract. Tested and calibrated precision digital cameras for taking digital imagery are required and must meet the following specifications:
  - (a) General: The camera/sensor shall be a geometrically stable and calibrated system suitable to use for photogrammetric mapping capable of meeting the minimum specified criteria. Systems must be compatible with precision stereoscopic mapping instruments and with analytical mensuration procedures used in photogrammetric surveys and in preparing accurate topographic maps.
  - (b) Field of View: The sensor shall have a high sufficient resolution and large enough Field of View (FOV) to provide the required Ground Sample Distance (GSD) and stereo coverage to meeting the project requirements of Section B.
  - (c) Radiometry: The digital imaging system shall acquire panchromatic, visible (RGB), Color Infrared (G, R, IR), or individual-band multi-spectral imagery depending on the project requirements of Section B.
  - (d) Bit Depth: The sensor shall capture a minimum of 12-bits per color channel.
  - (e) Automatic Exposure Control: An automatic exposure control device is permitted, but a manual override capability is required for some types of terrain to achieve proper exposure.
  - (f) Maintenance: The contractor shall perform all maintenance on the digital camera/sensor in accordance with the manufacturer's recommended and established procedures. The

contractor shall maintain a complete history of all maintenance done to the system and have it available for Government inspection. The contractor shall provide certification that the system has been maintained, preventive maintenance and calibration performed, to the manufacturers requirements

- (g) Acquisition of the digital imagery may be from airborne or space borne platforms capable of meeting minimum specified criteria.

## 2.2 Aircraft

- (a) FAA Certification: All aircraft used in the performance of the work under this contract shall be maintained and operated in accordance with all regulations required by the U.S. Department of Transportation, Federal Aviation Administration (FAA). Aircraft operated in the acquisition of digital aerial photography under this contract shall be FAA certified to a service ceiling with operating load (crew, camera, film, oxygen, and other required equipment) of not less than the highest altitude required to acquire the imagery.
- (b) Positive-Control Airspace: When the flight plan and location of any item in the proposed coverage fall within positive-control airspace, the aircraft must contain the appropriate equipment to operate in such positive-control areas within the purview of the Federal Aviation Regulations.
- (c) Aircraft Configuration: The design of the aircraft shall be such that when the camera is mounted with all its parts within the outer structure, an unobstructed field of view is obtained. The field of view shall be shielded from the exhaust gases, oil, effluence, and air turbulence. Glass, plastic, or other window material shall not be interposed between the camera and the ground to be photographed unless authorized by the Contracting Officer.

## 2.3 Global Positioning System/ Inertial Measurement Unit:

- (a) Carrier-phase airborne multi-channel kinematic Global Positioning System (GPS) shall be acquired and used along with Inertial Measurement Unit (IMU) measurements in processing trajectories. The performance specification for post-processed positioning solution accuracy shall be no worse than 1 m (3.3 ft) relative to the National Spatial Reference Frame.
- (b) The GPS antenna shall be an FAA-approved antenna suitable for geodetic quality carrier-phase multi-channel reception and installed in accordance with FAA airframe modification requirements. Antenna should be located in a location near the camera to minimize lever arm lengths, and also in a location to provide optimal GPS signal quality and continuous reception in an appropriate, unobstructed location on the plane.
- (c) The IMU shall be capable of determining the absolute orientation (roll, pitch, and yaw) and meet or exceed manufacturer's specifications.

### C-3 FLIGHT PLANNING

- 3.1 Flight Planning. The Contractor shall provide flight planning necessary to acquire precision, high quality digital imagery for the project area defined in Section B, which shall include at a minimum, flight altitude determinations and overlap stereoscopic coverage. For a general representation of project area coverage, see Exhibit 1, Project Maps.
- (a) Project Area Coverage. The beginning and ending image tiles of each flight line must be exposed on, or outside of, the project area. When the flight line runs parallel to the project boundary, the coverage required at the boundary line is the same as the minimum sidelap requirement for an adjacent flight.
  - (b) Flight Breaks. Where a break in the flight line occurs, planned or unplanned, the terminal image tiles of any new flight segment shall begin and end one image tiles beyond the center point of the original flight segment terminal image tiles. Uninterrupted stereoscopic coverage is required at all flight breaks.
  - (c) Reflight Photography. Reflights for digital aerial photography shall be centered over the plotted flight line with no less than the one image tiles overlap specified above for flight breaks. All flight segments shall consist of no less than three (3) image tiles in length.

### C-4 IMAGERY ACQUISITION REQUIREMENTS

- 4.1 Coverage Requirements. Stereoscopic coverage of successive and adjacent overlaps of image tiles shall be obtained by the Contractor as indicated in Section B.
- 4.2 Photographic Conditions. Imagery shall be acquired when skies are clear, free from smoke or excessive haze, and well-defined images can be resolved. Images with greater than ten percent (10%) cloud cover or cloud shadows will not be acceptable. The ground shall be free from standing water (other than natural or man-made ponds and lakes), flood waters from streams which have overflowed their banks, and wet ground which obscures field, soil or crop lines.
- 4.3 Photographic Periods. Photography shall be undertaken only during that portion of the day when the sun angle exceeds the minimum specified in Section B. Photographic operations shall be limited to the dates specified in Section B or as otherwise provided in writing by the Contracting Officer as stated under Section F-5. Sun angle charts may be downloaded from the Government's website ([http://www.apfo.usda.gov/data\\_reports/sunang2006.xls](http://www.apfo.usda.gov/data_reports/sunang2006.xls)).
- 4.4 Flight Requirements. The Contractor shall obtain precise vertical digital aerial photography in accordance with the following technical requirements:
- (a) Overlap. Endlap (overlap in the line of flight) and sidelap (overlap between adjacent flights) shall be expressed in percentages of total image area stated in Section B-1.4(c). Percentages shall specify minimum, optimum, and maximum values for this spacing.

- (b) Crab. Any series of two or more images crabbed in excess of five degrees (5°) as measured between images in line and between adjoining lines may cause rejection of any or all of that particular flight line.
- (c) Tilt. It is desired that image tiles be made when the optical axis of the camera/sensor is in a vertical position. The Contractor shall not acquire imagery when the tilt (departure from the vertical) of any image tiles exceeding four degrees (4°) or relative tilt between any two successive image tiles exceeding six degrees (6°). Tilt shall not average more than 2 degrees in any 16 km (10 mile) section of a flight line and shall not average more than 1 degree for the entire project.

4.5 GPS/IMU Collection: The Contractor shall collect, compile and submit the raw and processed GPS/IMU data.

4.6 Malfunctions: The Contracting Officer shall be notified of all camera/sensor malfunctions within one working day. A malfunction is defined as a failure anywhere in the digital sensor system that causes an interruption of the normal operations of the system. Also, any malfunctions of the GPS or Inertial Measurement Unit (IMU) collection systems shall be recorded and reported within one working day.

#### C-5 IMAGE TILE REQUIREMENTS

5.1 File Format. Image files shall be submitted in accordance with the Baseline Tagged Image Format Files (TIFF) 6.0 file format as defined in the TIFF 6.0 Specifications (TIFF Specification Revision 6 dated June 3, 1992 (Adobe Systems Inc.)). All baseline TIFF 6.0 files shall store data as sixteen (16) bits per sample full color images as defined in the specification using the "little-endian" byte order and shall only contain one image file directory (IFD). All TIFF files submitted shall be readable by older applications that assume TIFF 5.0 or an earlier version of the specification. TIFFs that use designated "Extended TIFF 6.0 file" features shall not be acceptable. Features designated as "not recommended for general data interchange" are considered extensions to the Baseline TIFF 6.0 specification, and will not be acceptable. This includes TIFFs that use one of the major new extensions such as "tiled images". In the TIFF 6.0 specification, the term "tag" refers only to the identifying number, the term "field" refers to the entire field, including the value. Tags that are defined by the TIFF specification are called public tags and shall not be modified outside of the parameters given in the latest TIFF specification. Tags numbered 32,768 or higher, sometimes called private tags, are reserved and shall not be acceptable. Enumeration constants numbered 32,768 or higher are reserved and shall not be acceptable. Do not choose your own tag numbers; use only those specified in the Baseline TIFF 6.0 Specification for RGB Full Color images. Tags numbered in the "reusable" 65,000-65,535 range shall not be acceptable.

5.2 Radiometric Correction: The Contractor shall radiometric correct all imagery to remove any atmospheric conditions, such as color temperatures.

5.3 Required TIFF Tags. All image files shall have the following required tags:

TAG NAME	DESCRIPTION
ImageDescription tag (270.d, 10e.h)	The ImageDescription tag shall contain the program name. For example, under the contract the tag will read: “USDA-FSA-APFO”
DocumentName tag (269.d, 10d.h)	The DocumentName tag shall have the following form: <project code> <flight line> <exposure> where: < project code > is the project code (i.e, 610040A) < flight line > is the flight line number < exposure > is the exposure number within the flight line

### 5.3 Delivery

- (a) Naming Convention. All project data files named using the convention shown in Exhibit 2, File Naming Convention.
- (b) Delivery Media. The delivery media for the image files shall be External Combo USB2.0/IEEE1394 (Firewire) hard drives. All external hard drives shall be “Combo” style drives, capable of both USB2.0 and IEEE1394 (Firewire) connections. The drives shall be formatted using Microsoft’s NTFS file system. The drives shall become property of the USDA and shall not be returned to the contractor. Each drive shall have a label attached identifying the project contained on the drive in accordance with Section J, Exhibit 3, External Combo USB2.0/IEEE1394 (Firewire) Hard Drive Label.

## C-6 GPS/IMU DATA FILES

- 6.1 GPS/IMU Data: The Contractor shall post-process GPS/IMU data collected. The Contractor shall submit both the raw and processed data. The processed data shall be projected in UTN Zone 6, NAD 83 and be compatible with Leica Photogrammetry Suite (LPS).
- 6.2 GPS Points – Submit an organized list of all GPS points used for the project as base stations, ground control, and check points. Indicate which GPS points are extant ground control points and which stations are newly positioned relative to the National Spatial Reference System
- 6.3 Supplemental Ground Control: Differentially corrected GPS Ground Control used to supplement the Airborne GPS positional data adjustment shall be delivered in a non-proprietary format mutually agreeable to the Government and Contractor.
- 6.4 Delivery

- (a) **Naming Convention.** All project data files named using the convention shown in Exhibit 2, File Naming Convention.
- (b) **Media.** All project data files shall be delivered on compact disks (CDs) using archival media, 700 Megabytes (80-minute) per disk CD-R, hybrid ISO 9660 Mode 1 format using level 2 interchange with Rockridge and Joliet extensions. The format of the CD will allow long file names up to 64 characters in length, and will be readable by both Windows and UNIX systems where the file names will appear the same on both systems. The Contractor must insure that each and every copy session has been properly closed. No multi-session enabled CDs shall be acceptable. The CD media shall have a label attached identifying the digital contents of the CD in accordance with Exhibit 2, Figures 1 (thermal printed CDs are acceptable). All CD media shall be packaged in standard single CD jewel cases (5-5/8" x 4-15/16" x 3/8") with a clear front cover. The CD label should be readable without opening the case or removing the CD from the case. "Slim" or other non-standard sized jewel cases will not be accepted.

## C-7 PROJECT DATA FILES

- 7.1 **Production Process.** The Contractor shall create brief descriptions of the digital image processing system which shall include a narrative explanation of the process steps taken from acquisition to tile delivery.
- 7.2 **Project Description File:** The Contractor shall create a project description file for each project item under the contract. The file(s) shall be provided in ASCII comma delimited text format. A comma delimited header line shall precede the data in each file as shown in the example below. The project description shall contain, at a minimum, the following data:

Project Name (name as appears in Section B)  
 Solicitation Number (i.e., USDA-FS-6-06)  
 Ground Sample Distance in centimeters  
 Calibrated Lens Focal Length in millimeters  
 Color Type (Grayscale, Natural Color, or CIR.)  
 Coordinate System Datum  
 Date Photo-Center Data File was created (in YYYYMMDD format)  
 Camera and Model Number: "Free text with quotations" (50 characters max)

### **Example:**

```
project,solno,gsd,footprint,clf,color,datum,date,camera
Chugach National Forest AK,USDA-FS-6-06,30,153,Natural Color, NAD83,08162007, "Leica
ADS40"
```

- 7.3 **Photo-Center Data File Description:** The Contractor shall create a digital photo-center data file, which contains data on all images acquired, for each project item under the contract. The file(s) shall be provided in ASCII comma delimited text format. A comma delimited header line shall precede the data in each file as shown in the example below. The latitude/longitude coordinates shall be expressed in decimal degrees with five (5) decimal places of precision (44.71936, -116.41498), formatted to NAD83 datum, and be accurate within 2 meters (6.6 feet) of the true

photo center location. Longitude must be expressed as negative space for western hemisphere. The photo-center data shall include the following attributes:

<u>DESCRIPTION</u>	<u>MAX NUMBER OF CHARACTERS IN FIELD</u>
Project Code	7
Flight Line Number	3*
Exposure Number	3*
Samples (number of columns)	4
Lines (number of rows)	4
Date of Exposure (YYYYMMDD)	8
Camera Serial Number	20
Latitude Coordinate (DD.DDDDD)	8
Longitude Coordinate (-DDD.DDDDD)	10
Flight Altitude in meters at camera (MMMMM.MM; MSL)	8

\*Roll and flight line numbers should be padded with leading zeros as necessary.

**Example:**

projcode,lineno,expno,date,camera,lat,long,alt  
 610040A,012,022,4147,2304,20070820,12345678,44.71936,-116.41498,7048.63

7.4 Camera Calibration Reports: The Contractor shall provide a digital copy of the digital all camera calibration reports in a Adobe® Portable Document Format (PDF) for all camera used under the contract. Camera systems that use multiple sensors and have separate calibration reports for each sensor shall be combined into a single “multi report” file. Reports shall use the camera serial number as a naming convention.

7.5 Delivery

(a) Naming Convention. All project data files named using the convention shown in Exhibit 2, File Naming Convention.

(b) Media. All project data files shall be delivered on compact disks (CDs). See paragraph 6.3 for media requirements.

C-8 PROJECT MANAGEMENT

The Contractor shall establish and maintain a project management system with a designated project manager for this effort. Project management consists of those activities required to plan, manage, administer, and control efforts to accomplish the objective of the contract. The project manager will serve as the primary point of contact for the Contractor’s activity with the Government. The project manager’s name and contact information shall be identified, in writing, to the Contracting Officer within 20 days of contract award.

8.1 Progress Reports: A Progress Report is required for each day progress is made in acquiring project photography. Reports shall be transmitted by e-mail following each day of progress. E-



mail address will be provided at contract award. See Exhibit 3, Progress Report for required syntax.

#### C-9 QUALITY CONTROL

Quality control shall be exercised by the Contractor continuously throughout the performance of the contract. Procedures shall be established to assure that all contract materials are delivered in accordance with the delivery schedule and at the required level of accuracy and quality. The Contractor shall inspect and constantly monitor the image quality and coverage, and shall undertake immediate reflights of any imagery where the quality fails to meet minimum requirements of the contract specifications. Any marginal imagery submitted for inspection which does not meet minimum requirements may be rejected. The marginal imagery may be accepted, at the Government's convenience, but shall be subject to a price reduction based on the diminished usability of the product. The nature and urgency of this project may require the Government to make equitable financial adjustments for materials deemed rejectable or where product use is adversely impacted.

## LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

<u>EXHIBIT</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
Exhibit 1	Project Map	18
Exhibit 2	File Naming Convention	19
Exhibit 3	Progress Report (2 pages).	20-21
Exhibit 5	Wage Determination: Nationwide: Number 1995-0222, Revision 19, Dated July 7, 2005 (3 pages).	22-24
Exhibit 6	Labeling Requirements (2 pages).	25-26
Exhibit 7	Glossary and Definitions (1 page).	27
Exhibit 8	Sample TIFF Outputs	28

EXHIBIT 1  
PROJECT MAP

CHUGACH NATIONAL FOREST, ALASKA

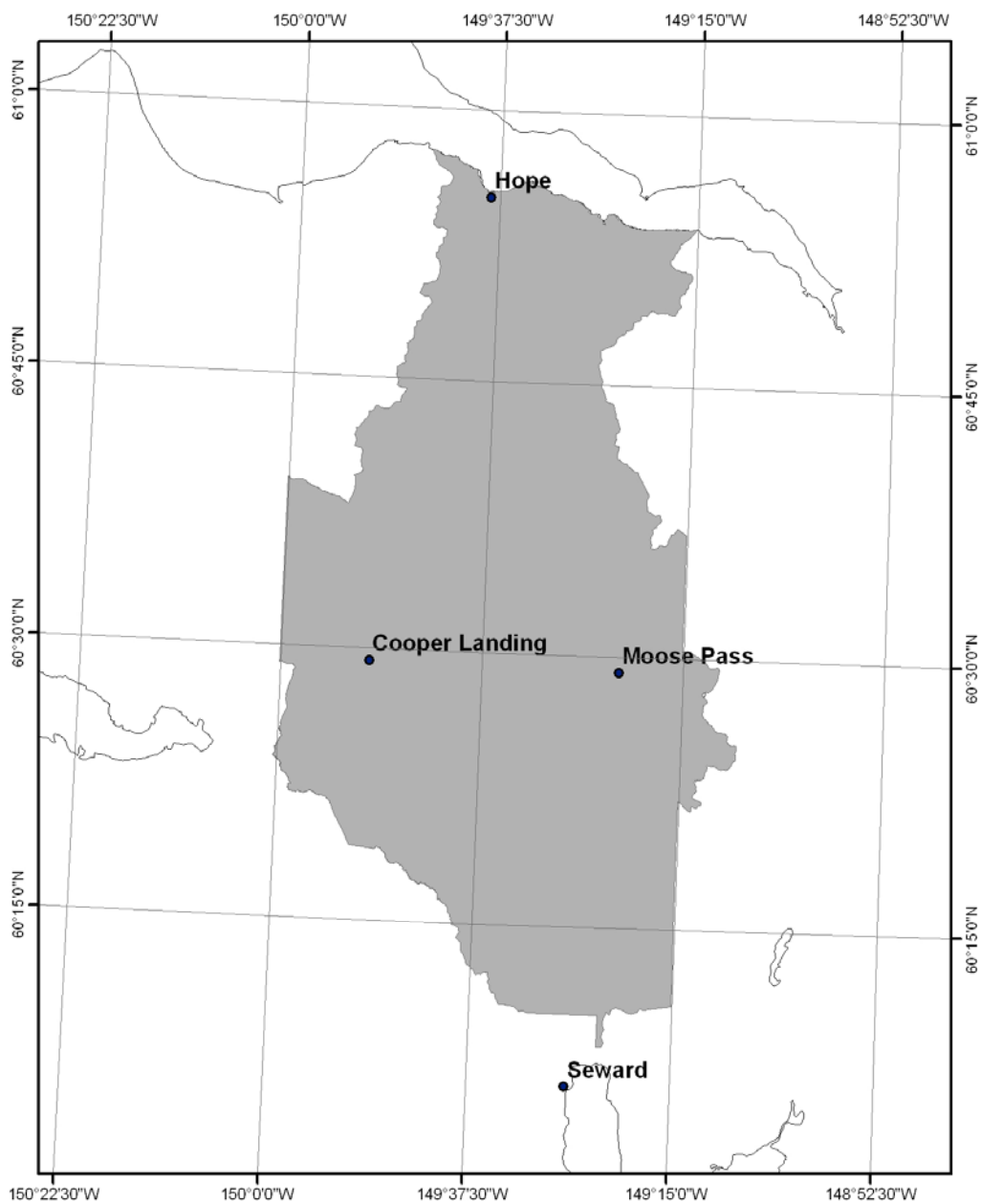


EXHIBIT 2  
FILE NAMING CONVENTION

**Project Data Files:**

File Name:<type>\_<solno>.txt

type - file type (must be “process” “project” “photo” “raw-gps” or “processed-gps”)  
solno - contract solicitation number

**Example:** project\_6-06.txt  
raw-gps\_6-06.txt

**Full-resolution Image Tiles:**

File Name:<project>\_<line>\_<exp>\_<yyyymmdd>.tif

project – project code  
line – flight line number\*  
exp – exposure number\*  
yyyymmdd - date of acquisition

\* must be padded with leading zeros

**Example:** 610040A\_001\_0001\_20070721.tif

## EXHIBIT 3

## PROGRESS REPORT FORMAT

**Syntax:**

HEADER ITEMS: field-name “:”[field-body][CRFL]

BODY ITEMS: body item [CRFL]

**Header Items:**

All four header items are required to be submitted in each and every submittal.

<u>DESCRIPTION</u>	<u>KEYWORD</u>	<u>FORMAT</u>
Contractor Name	CONTRACTOR	Alphanumeric
Contract Award Number	CONTRACT	Numeric (N-YY)
Award Item	ITEM	Numeric (N)
Date Flown	DATE	Date (YYYYMMDD)

**Body Items:**

All data elements are required for each line of data submitted. Data elements are to be separated by 5 ASCII decimal 32 (white space). Acquisition and rejected exposure stations can be submitted as separate reports or as a combined report.

<u>DESCRIPTION</u>	<u>KEYWORD</u>	<u>FORMAT</u>
Latitude	N/A	DD.DDDDD
Longitude	N/A	-DDD.DDDDD
Status	N/A	Char(1)*

## \* Status Field:

A - Indicates the Exposure Station has been collected

R – Indicates the contractor has rejected a previously acquired Exposure Station

When an exposure station is rejected the exposure station will appear in a later report marked with an “R”. Each report submitted should include only one status indicator for a particular exposure station.

## EXHIBIT 3

## PROGRESS REPORT CONVENTION (CON'T)

## Sample:

CONTRACTOR: Acme Photography  
CONTRACT: 6-06  
ITEM: 1  
DATE: 07/30/2007

42.99972 -106.33611 A  
42.99972 -106.34167 A  
42.99972 -106.34722 A

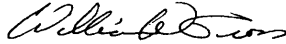
## Notes:

- 1) Text is case insensitive.
- 2) Header fields are not required to occur in any particular order.
- 3) Body items must occur after the headers.
- 4) Each header item must be on a single line (no "folding").
- 5) Keywords may not contain spaces and must be followed immediately by a colon.
- 6) The header items and body items may be separated by a NULL line (a blank line with a carriage return/line-feed (CRFL)(ASCII 13 and 10).
- 7) Body items can only contain one x,y data pair per line and must be terminated by a carriage-return/line-feed.
- 8) Contract number must be transmitted without the prefix (i.e., USDA-FS-6-06 should be sent as 6-06).
- 9) Date must be transmitted as MM/DD/YYYY.
- 10) Latitude and longitude must be expressed in decimal degrees and separated by a comma.
- 11) No e-mail attachments.

**EXHIBIT 4  
WAGE DETERMINATION**

REGISTER OF WAGE DETERMINATIONS UNDER  
THE SERVICE CONTRACT ACT  
By direction of the Secretary of Labor

U.S. DEPARTMENT OF LABOR  
EMPLOYMENT STANDARDS ADMINISTRATION  
WAGE AND HOUR DIVISION  
WASHINGTON, D.C. 20210



William W. Gross                      Division of  
Director                                      Wage Determinations

Wage Determination No.: 1995-0222  
Revision No.: 19  
Date of Last Revision: 07/07/2005

Nationwide: Applicable in the continental U.S. Alaska, Puerto Rico, Hawaii and Virgin Islands.

**\*\* Fringe Benefits Required Follow the Occupational Listing \*\***

Employed on U.S. Government contracts for aerial photograher, aerial seeding, aerial spraying, transportation of personnel and cargo, fire reconnaissance, administrative flying, fire detection, air taxi mail service, and other flying services.

CODE	OCCUPATION TITLE	MINIMUM WAGE RATE
	Aerial Photographer	11.39
	First Officer (Co-Pilot)	20.77
31010	Airplane Pilot	22.81

EXCEPT SCHEDULED AIRLINE TRANSPORTATION AND LARGE MULTI-ENGINE AIRCRAFT SUCH AS THE B-727, DC-8, AND THE DC-9.

**ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:**

**HEALTH & WELFARE:** \$2.87 an hour or \$114.80 a week or \$497.47 a month

**VACATION:** 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

**HOLIDAYS:** A minimum of ten paid holidays per year: New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

**VACATION (Hawaii):** 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 10 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

**HEALTH & WELFARE (Hawaii):** \$1.29 an hour for all employees on whose behalf the contractor provides health care benefits pursuant to the Hawaii prepaid Health Care Act. For those employees who are not receiving health care benefits mandated by the Hawaii prepaid Health Care Act, the new health and welfare benefit rate will be \$2.87. For information regarding the Hawaii prepaid Health Care Act, please contact the Hawaii Employers Council.

**HAZARDOUS PAY DIFFERENTIAL:** An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordinance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordance, explosives, and pyrotechnic compositions such as lead azide, black powder

**EXHIBIT 4**  
**WAGE DETERMINATION (Con't)**

WAGE DETERMINATION NO.: 1995-0222 (Rev. 19)

ISSUE DATE: 07/07/2005

in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)} When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

- 1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).
- 2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.
- 3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).
- 4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.
- 5) The contracting officer transmits the Wage and Hour decision to the contractor.
- 6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

\*\* OCCUPATIONS NOT INCLUDED IN THE SCA DIRECTORY OF OCCUPATIONS \*\*

**Aerial Photographer**

The aerial photographer must be skilled in reading flight maps, capable of assisting the pilot to adhere to flight lines, be able to level and operate a cartographic camera and its auxiliary equipment mounted in the aircraft so that the photographs that are taken will have the required forward lap and side lap for use in photogrammetric mapping equipment, and possess a working knowledge of aerial films and camera filters to insure proper exposure of the films.

**First Officer (Co-Pilot)**

Is second in command of commercial airplane and its crew while transporting passengers, mail, or other cargo on scheduled or nonscheduled flights. Assists or relieves an airline captain in operating the controls of an airplane; monitoring flight and engine instruments; and maintaining air-to-ground communications.



EXHIBIT 4  
WAGE DETERMINATION (Con't)

WAGE DETERMINATION NO.: 1995-0222 (Rev. 19)

ISSUE DATE: 07/07/2005

and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordnance, (or employees possibly adjacent to) explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordnance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for ordnance, explosives, and incendiary material differential pay.

**\*\* UNIFORM ALLOWANCE \*\***

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of \$3.35 per week (or \$.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

**\*\* NOTES APPLYING TO THIS WAGE DETERMINATION \*\***

Under the policy and guidance contained in All Agency Memorandum No. 159, the Wage and Hour Division does not recognize, for section 4(c) purposes, prospective wage rates and fringe benefit provisions that are effective only upon such contingencies as "approval of Wage and Hour, issuance of a wage determination, incorporation of the wage determination in the contract, adjusting the contract price, etc." (The relevant CBA section) in the collective bargaining agreement between (the parties) contains contingency language that Wage and Hour does not recognize as reflecting "arm's length negotiation" under section 4(c) of the Act and 29 C.F.R. 5.11(a) of the regulations. This wage determination therefore reflects the actual CBA wage rates and fringe benefits paid under the predecessor contract.

**Source of Occupational Title and Descriptions:**

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by the Third Supplement, dated March 1997, unless otherwise indicated. This publication may be obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of specific job descriptions may also be obtained from the appropriate contracting officer.

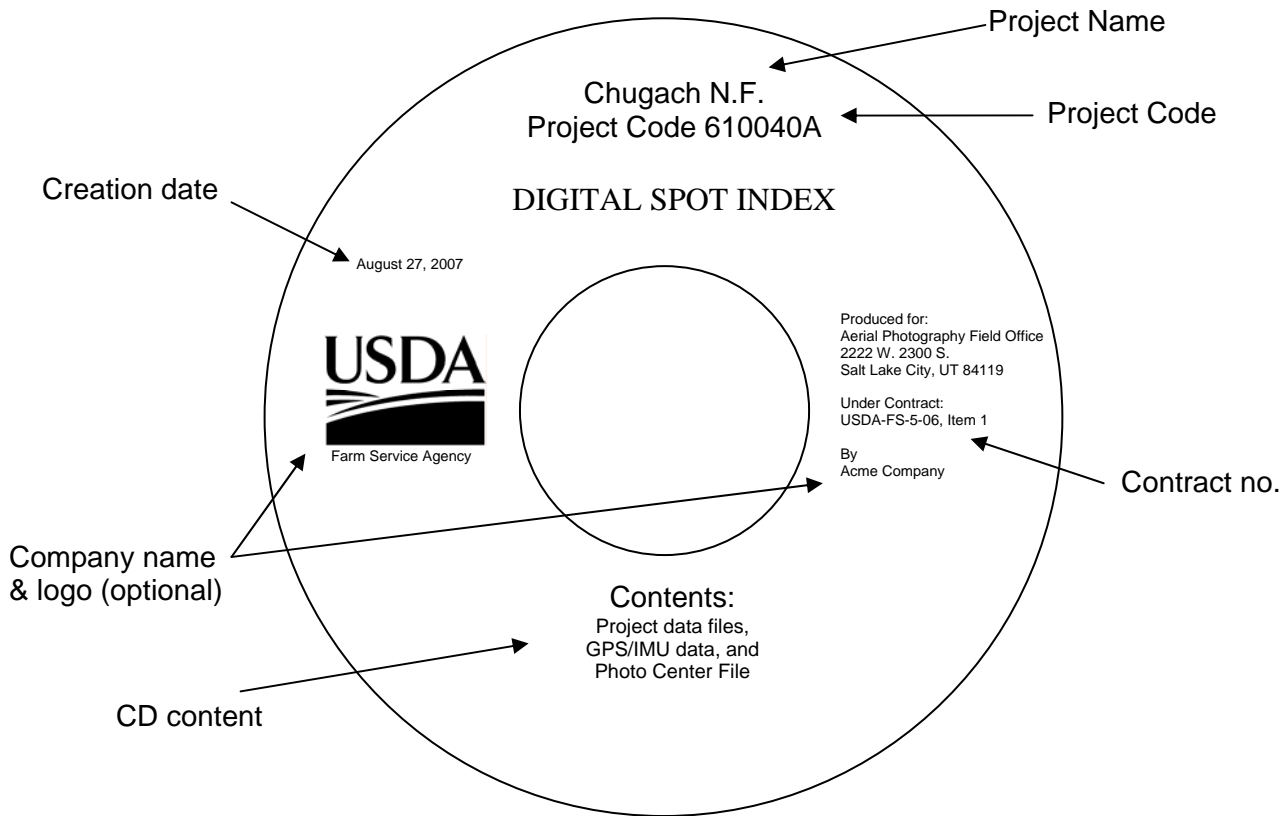
**REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE (Standard Form 1444 (SF 1444))**

**Conformance Process:**

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed

EXHIBIT 5  
Figure 1

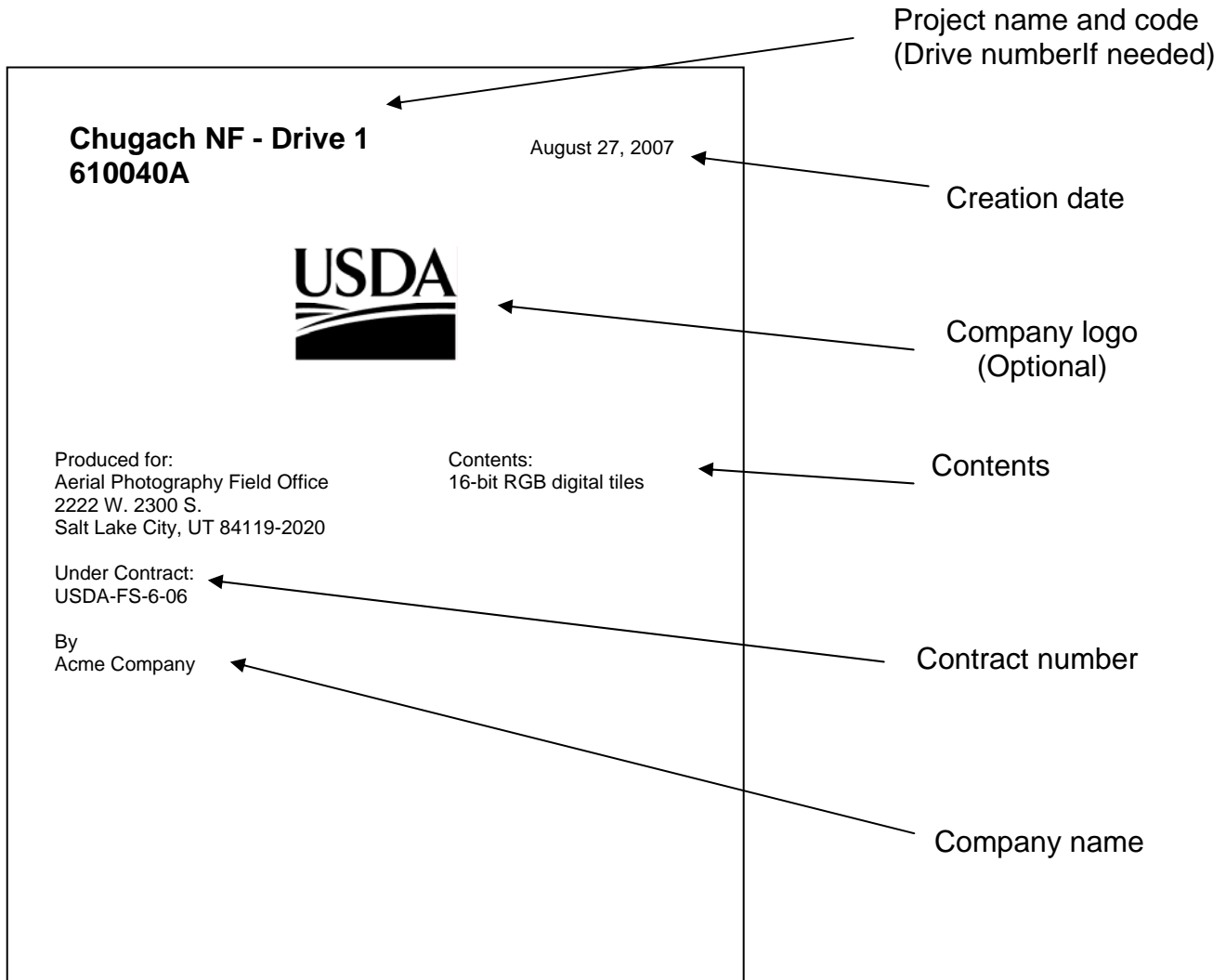
CD-ROM LABELING REQUIREMENTS



ELEMENT	EXAMPLE
CD content	Project data files, GPS/IMU data, and photo center file
Company name & logo	Acme Company
Contract number	USDA-FS-6-06
Creation date	August 27, 2007
Project Name & code	Chugach N.F. Project Code 610040A

EXHIBIT 5  
Figure 2

HARD DRIVE LABEL REQUIREMENTS



Label should be sized to fit the drive as needed: Approximately 3 1/2" X 4 1/2"

## EXHIBIT 6

## GLOSSARY AND DEFINITIONS

**Aerial Photography:** Aerial photographs that has been taken with specialized, high-quality, large format cameras that point down vertically from the aircraft to the ground below

**Camera System:** The combination of lens, cone, magazine(s), and camera filter(s) which have been calibrated as an integral unit.

**Contracting Officer's Technical Representative (COTR):** A person assigned to a contract who has the responsibility of providing technical information such as site ground and weather conditions.

**Contracting Officer's Representative (COR):** A person assigned to a contract who is responsible for specific technical and administrative duties related to that contract.

**Ground Control Point:** Points of accurately known geographic location used to register imagery and other coverage data to ground position.

**Ground Sample Distance(GSD):** The area on the ground represented by each pixel.

**Line Item:** A separable area or unit within a project item that has separate linear miles. All line items within a project item shall be awarded to only one offeror.

**Metadata:** Metadata provides information about the content and origins of a particular set of data.

**Original Photography:** All aerial photography, as secured by the Contractor, prior to its inspection by the USDA, including any reflights made at the discretion of the Contractor.

**PDOP:** Position Dilution of Precision is the measure of the geometrical strength of the GPS satellite configuration.

**Project Item:** An area or areas described in the Schedule for which award shall be made to one offeror.

**Reflight Photography:** Photography reflown to replace original photography rejected by USDA.

**Remake Materials:** Any contract materials, other than the original aerial film, ordered remade by USDA.

**Stereomodel:** The area covered by the conjugate images of three successive overlapping exposures.

## EXHIBIT 6

## SAMPLE TIFF OUTPUTS

The following table summarizes the TIFF 6.0 requirements. The values in the table are consistent with the TIFF 6.0 standards, but there are less options than are allowed by TIFF. Additional guidelines and requirements for the values of tags are detailed in the body of this standard. Additional public tags may be used at the data producer's option, providing they do not conflict with the required tags. TIFF tags required by baseline TIFF:

List 1, Tag Listings

<u>TagName</u>	<u>Decimal</u>	<u>Hex</u>	<u>Type</u>	<u>Value</u>
ImageWidth	256	100	SHORT or LONG	
ImageLength	257	101	SHORT or LONG	
BitsPerSample	258	102	SHORT	8,8,8
Compression	259	103	SHORT	1
PhotometricInterpretation	262	106	SHORT	2
Orientation	274	112	SHORT	1
StripOffsets	273	111	SHORT or LONG	
SamplesPerPixel	277	115	SHORT or LONG	3
RowsPerStrip	278	116	SHORT or LONG	1
StripByteCounts	279	117	LONG or SHORT	

List 2, "tiffinfo" Output

This listing is an output of the libtiff utility program "tiffinfo".

```
TIFF Directory at offset 0x2370bc4
Image Width: 3247 Image Length: 3815
Resolution: 200, 200 (unitless)
Bits/Sample: 8
Compression Scheme: none
Photometric Interpretation: RGB color
Document Name: <project code> <flight line> <exposure>
Image Description: "610040A 001 0001"
Samples/Pixel: 3
Rows/Strip: 1
Planar Configuration: single image plane
```