



Merrick & Company
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February 23, 2009

Mr. Alan Hobscheid
GIS Manager
Cook County Department of GIS
George W. Dunne Cook County Office Building
69 West Washington Street
Room 2700
Chicago, Illinois 60602

RE: Synopsis of the Contract for the 2009 Aerial Imagery Mission

Dear Mr. Hobscheid:

It is a pleasure to provide Cook County (County) with a brief summary outlining the scope of services Merrick & Company (Merrick) will provide in regards to the 2009 Aerial Imagery Mission project. The following services and associated lump sum fees will be performed:

Contract Purpose

The County requires the acquisition of 4-band digital imagery at a pixel resolution of six-inch (6"), and the creation of subsequent ortho imagery deliverables. The intent is for the aerial imagery to be acquired in Spring 2009. The ortho imagery products developed from the aerial imagery will update the County's enterprise Geographical Information System (GIS), and will support various applications within the County's and/or region's GIS. The project area is approximately 4,146 square miles (approximately 4,160 square miles with a 300-foot buffer), and includes all or portions of eight (8) counties in northeast Illinois. These 8 counties include Cook, Lake, McHenry, DuPage, Will, Kane, Kendall, and Grundy. It is anticipated that a total of 18,905 rectangular tiles formatted to 2,500' x 2,500' will be required to encompass the 4,160 square mile project area.

Contract Summary

To meet the purpose and requirements of the contract, Merrick has presented a technical process to perform the following:

- Perform photo-identifiable GPS checkpoint survey
- Acquire and post-process Digital Mapping Camera (DMC) 4-band aerial imagery
- Perform Analytical Triangulation (AT)
- Prepare Digital Elevation Model (DEM) from existing source(s)
- Rectify and mosaic 4-band digital ortho imagery
- Prepare and deliver 4-band and black and white (panchromatic) digital orthophotography
 - Includes true ortho rectification for the "special consideration" area
- Prepare and deliver FGDC compliant metadata

An Employee-Owned Corporation

■ **Engineering** ■ **Architecture** ■ **Information Systems** ■ **Design-Build**

- Prepare and deliver preliminary and final version 9.2 geodatabase design documentation

MJ Harden of Mission, KS is supporting Merrick with the DMC image acquisition, post-processing, AT, and true ortho rectification and mosaicking tasks. MJ Harden has the resources and experience to ensure completing all required tasks – especially the critical task of image acquisition.

To accomplish the photo-identifiable GPS survey tasks, Merrick has added **American Surveying & Engineering, P.C.** (ASE) of Chicago, IL to our team. ASE is a certified Minority Business Enterprise (MBE). Merrick and ASE have extensive experience working together on many similar projects over the past ten-years, including previous contracts with the County. Additionally, ASE will employ Mr. Mike Hoather to review and comment on the metadata. Mr. Hoather was the foremost author for the metadata documents Merrick submitted for the 2003 and 2005 contracts / deliverables.

Merrick has solicited **Pinnacle Mapping Technologies, Inc.** (PMT) of Indianapolis, IN to assist with the image edit and QC tasks in regards to the ortho imagery products. PMT is a certified Women Business Enterprise (WBE). Similar to ASE, Merrick and PMT have extensive experience working together on previous contracts with the County.

Contract Deliverables

Merrick proposes the following deliverables to be provided to the County for this project, and that the County will maintain sole ownership of such:

Ground Control Products

- ASCII Coordinate listing of all existing and new (temporary) GPS checkpoints.
- Geodatabase point feature class of the checkpoints.
- Final control / GPS report including narrative, field notes, sketches, etc. (hard copy and digital [soft] copy of the report).
- FGDC compliant metadata in HTML, XML and TXT formats.

Aerial Imagery Products

- Preliminary flight line / control diagram(s).
 - One (1) set of original, unprocessed DMC images.*
 - Geodatabase line feature class of the flight lines.
 - Geodatabase point feature class of the photocenters.
 - Valid USGS Camera Calibration Report(s).
 - FGDC compliant metadata in HTML, XML and TXT formats.
- * Unprocessed DMC imagery is not in GeoTIFF format.

Analytical Aerotriangulation (AT) Products

- AT results report and computations (include ABGPS derived photocenters, IMU and ground control coordinates).
- Geodatabase polygon feature class of the stereo-model limits.
- FGDC compliant metadata in HTML, XML and TXT formats (i.e., stereo-models).

DEM Products

- Geodatabase point feature class of the DEM used in support of the ortho rectification.
- FGDC compliant metadata in HTML, XML and TXT formats.

Digital Ortho Imagery Products

- 1 set of half-foot (0.5') / six-inch (6") pixel resolution uncompressed 4-band stack (R,G,B,IR), 32-bit digital orthophotography in GeoTIFF format (.tif).
- 1 set of half-foot (0.5') / six-inch (6") pixel resolution panchromatic digital orthophotography in GeoTIFF format (.tif).
- FGDC compliant metadata in HTML, XML and TXT formats.

Geodatabase Design

- Preliminary and final version 9.2 geodatabase design documentation in PDF format.

Cook County Support / Assistance / Responsibility

- Assistance with TRACON Coordination.
- Provide the existing DEM compiled by the USGS (Aero Metric) from its 2008 flight
- Dedicating the appropriate project management resources to this project.
- Access to existing Cook County materials and/or data.
- Assistance with ESRI shapefiles of the project boundary(s) and various tile layouts with attributes.
- Timely and thorough review, feedback, and acceptance of deliverable products.

Contract Timeframe

Merrick is proposing an approximate four hundred (400) calendar day production / delivery schedule for producing the required deliverables. The anticipated detailed proposed schedule is as follows:

<u>Task Name</u>	<u>Start</u>	<u>Finish</u>
Phase One: Project Initiation		
Survey Tasks - American Surveying & Engineering, P.C.		
Photo-id Ground Control - Field Work	4/6/2009	5/1/2009
Photo-id Ground Control - Office Work	5/4/2009	5/29/2009
DMC Imagery - MJ Harden		
Acquisition	4/6/2009	5/15/2009
Analytical Aerotriangulation	5/18/2009	6/26/2009
Phase Two: Pilot Project		
DEM Development	6/29/2009	7/3/2009
Ortho Rectification and Mosaicking	7/6/2009	7/17/2009
QC	7/20/2009	7/24/2009
Submit Pilot Project to County		7/24/2009
Pilot Project Review at Cook County	7/27/2009	8/7/2009
Pilot Project Review Meeting		8/7/2009*
Phase Three: Countywide Production		
DEM Development	8/10/2009	3/5/2010
Ortho Rectification and Mosaicking	9/7/2009	4/2/2010

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QC	10/5/2009	4/30/2010
Incremental Deliveries to Cook County (to be determined)	10/30/2009	5/14/2010
Review at Cook County	11/2/2009	6/11/2010

*Tentative Date

Contract Cost

<u>Task</u>	<u>Lump Sum Fee</u>
Ground Control	\$ 103,860.42
Aerial Source Imagery and Aerotriangulation	\$ 521,553.24
Orthorectified Imagery, DEM	\$ 591,470.43
Geodatabase Design	\$ 8,493.83
Metadata	\$ 5,369.13
Administrative (Project Management)	
Including, if any, site visits, data handling, overhead, etc.	<u>\$ 50,160.69</u>
Grand Total	<u>\$1,280,907.74</u>

Merrick would invoice Cook County on a monthly basis based on a percent complete for each required task. Enclosed is a cash flow matrix developed to illustrate the anticipated invoice dates and amounts that can be expected for the duration of the contract.

Should have any questions, please feel free to contact me at 303-353-3903. I can also be e-mailed at doug.jacoby@merrick.com.

Sincerely,

Merrick & Company



Doug Jacoby, CMS, GISP
Director of Projects / Project Manager

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