

City of Culver City, California
City Council Agenda Item Report

Meeting Date: 11/10/08		Item Number: <u>C-7</u>	
AGENDA ITEM: Approval of an Agreement with the County of Los Angeles to Obtain Citywide Aerial Photography and Related Imagery Products.			
Contact Person/Dept.: Michele Williams		Phone Number: 310.253.5959	
Fiscal Impact: Yes ☒ No ☐		General Fund: Yes ☒ No ☐	
Public Hearing: ☐		Action Item: ☐	Attachments: ☒
Public Notification: Master E-Mail Notification List (11/05/08)			
Department Approval: John Richo (10/30/08)		City Attorney Approval: Carol Schwab (by H. Baker) (11/05/08)	
Chief Financial Officer Approval: Jeff Muir (by M. Noller) (11/03/08)		City Manager Approval: Jerry B. Fulwood (11/05/08)	
<u>RECOMMENDATION:</u> Staff recommends the City Council approve an agreement with the County of Los Angeles to obtain aerial photography and related imagery products through the Los Angeles Region Imagery Acquisition Consortium (LAR-IAC) Program. <u>BACKGROUND:</u> The City's Geographic Information Systems (GIS) program manages and publishes multiple data layers of location-based information which is used by staff and the public. One of the most critical layers is aerial orthophotography. This digital imagery serves as an important base and is often used to build and derive other GIS data layers. Aerial orthophotography is used as an analysis tool and is also used to verify and assess city infrastructure. The City had been in the practice of updating the aerials every 3 years. This was a very costly endeavor as the City contracted independently with vendors to fly, photograph and process aerials within the city boundary and surrounding areas. In an effort to reduce costs, the Chief Information Officer (CIO) of Culver City and the CIO of Santa Monica met to discuss cost sharing initiatives for aerial acquisition. A meeting was also held with the Westside cities (Beverly Hills, Culver City, Santa Monica, and West Hollywood) to begin identifying timeframes and data specifications. Subsequently, a meeting was held with Jon Fullinwider (LA County CIO) to discuss forming a county-wide consortium. The County later formed the Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC) program.			

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In November 2005, City Council authorized participation in the first LAR-IAC project. Participation in the LAR-IAC program has resulted in significant cost savings as approximately 28 other public agencies within LA County collaborated to obtain aerial photography.

DISCUSSION:

The imagery deliverables from LAR-IAC 1 were provided in February 2007 and included the following:

Digital Imagery – Digital technology was used to capture the aerial photography. This provided improved quality and accuracy as opposed to scanned film. The resolution of the imagery was 4 inch pixels.

Oblique Aerial Imagery – Oblique imagery is aerial photography that is taken at an angle rather than the traditional straight down view. It is more intuitive and useful in situations where additional information is required. Analysis can be performed to calculate length, distance, height, acreage, and other measurements.

LiDAR (Digital Terrain Model) – Light Detection and Ranging (LiDAR) technology is universally used as a tool to measure elevation change. The LiDAR collection system uses a powerful laser sensor mounted on the underside of an aircraft to emit infrared laser light that measures the distance to the ground. LiDAR technology can be used as a source for highly accurate digital elevation models and digital terrain models (DEM/DTM) to create precise elevation contours and to enhance orthoimagery. The data can be used for enhanced 3-D visualization, disaster management purposes, and mapping applications (i.e. flood mapping, drainage of streams, water contamination, etc.)

Infrared Imagery – Infrared film is sensitive to green, red, and near-infrared portions of the color spectrum. The colors on the imagery show information about vegetation health, water content, and other information not visible to the natural eye. Infrared imagery can be used to assess soil moisture, seepage patterns, differentiating tree species, and areas of “stressed” vegetation.

The County through the LAR-IAC program has committed to re-flying the area and providing updated aerial orthophotography and oblique aerial imagery every two years. The LiDAR and infrared imagery products will be updated every four years.

LAR-IAC 2 will provide digital orthophotography, aerial oblique imagery, and digital elevation models for areas of significant change. Additionally, participating agencies

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will have the option to obtain building footprints for buildings larger than 400 square feet. The building footprint layer will greatly enhance the City's GIS data inventory. This will provide an outline drawing of structures which can assist in emergency response incidents and provide a tool for structural/building analysis.

The acquisition cost for these aerial products is greatly reduced through the consortium as the cost is shared among the participating entities. The City's expenditure for imagery from the LAR-IAC 1 deliverable was \$23,479. The cost for the deliverables under LAR-IAC 2 will not exceed \$24,500.

Staff recommends continued participation in the imagery acquisition consortium through the County of Los Angeles. The data deliverable provided from this agreement in 2007 was of high quality. Staff has also played an active role in providing additional enhancements which have been incorporated as specifications for the next data acquisition.

FISCAL ANALYSIS:

The proposed agreement with Los Angeles County to obtain aerial imagery products through the Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC) Program would result in an expenditure not to exceed \$24,500. Sufficient funds have been allocated in the following accounts for this effort:

CIP Aerial Acquisition (42000456.619800) - \$16,780
IT Software Maintenance (10124100.600200) - \$ 7,720

ATTACHMENTS:

1. Participant Agreement for LAR-IAC 2 from the County of Los Angeles

MOTION:

That the City Council:

- 1) Approve an agreement with the County of Los Angeles to obtain aerial imagery products through the Los Angeles Region Imagery Acquisition Consortium (LAR-IAC 2) Program resulting in an expenditure not to exceed \$24,500;
- 2) Authorize the City Attorney to review/prepare the necessary documents; and,

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- 3) Authorize the City Manager to execute such documents on behalf of the City.