



# Staff Report

## City of Manhattan Beach

**TO:** Honorable Mayor Ward and Members of the City Council

**THROUGH:** Geoff Dolan, City Manager

**FROM:** Neil C. Miller, Director of Public Works  
Bonnie K. Shrewsbury, GIS Analyst

**DATE:** June 20, 2006

**SUBJECT:** Authorization of the Memorandum Of Understanding for Participation in the Los Angeles Region - Imagery Acquisition Consortium (LAR-IAC) in the amount not to exceed \$23,000.

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**RECOMMENDATION:**

Staff recommends that the City Council:

- Approve the Memorandum of Understanding with the Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC) in the amount not to exceed \$23,000.
- Authorize the City Manager to execute the agreement after approval as to form by the City Attorney.

**FISCAL IMPLICATION:**

The cost of Manhattan Beach’s participation in the LAR-IAC is not to exceed \$23,000. Budgeted Funds are available for this purchase.

**BACKGROUND:**

One of the City’s most critical GIS layers is aerial orthophotography. It not only provides an important base upon which to build other GIS layers, it is also an important analysis tool and illustration resource in reports, displays, and presentations. It can also help staff to answer questions from their desktop, thereby saving them a trip out to the location.

The City’s existing aerial photography was flown in March 2002. A significant amount of change has taken place in the last four years, including the Metlox development, the Police & Fire Facility, as well as many smaller commercial and residential projects. The absence of these developments in the existing aerial photography increasingly limits their usefulness as a planning and research tool. In addition, features for these new developments, such as building footprints and infrastructure, are missing from the GIS, thereby limiting its analytical and cartographic accuracy as well.

**DISCUSSION:**

The Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC) is a cooperative

partnership with Los Angeles County and at least twenty-eight other public agencies within the LA County region. As a member of this consortium, the city would obtain the following products:

- high resolution color digital aerial photography
- high resolution aerial oblique photography
- two-foot elevation contours
- LiDAR digital terrain model
- infra-red photography

This data has already been captured (January 2006), and all of the products are received as a bundle. There is no option for selecting to receive only specific products and not others.

The county-wide project will cost a total of \$5.5 million, to which Los Angeles County is contributing more than \$3 million of County funding. Many small, medium and large cities, including Los Angeles, Long Beach, Santa Monica, and many South Bay cities, are joining the consortium. The price that each city will pay is calculated according to a formula based on both population and area. The total price for Manhattan Beach is \$23,000. It is estimated that this cost for all of the imagery products is 30-40% less than we, as an individual city, would spend for even a single product of comparable quality and accuracy.

The following table illustrates the additional value and benefits of the Los Angeles County Imagery Acquisition Consortium project compared to the city's current aerial imagery:

	<b>LA County Imagery Acquisition Consortium</b>	<b>Current Aerial Imagery</b>
<b>Date Flown</b>	January 2006	March 2002
<b>Imagery Resolution</b>	4 Inch Pixels	6 Inch Pixels
<b>Imagery Type</b>	Color	Black & white
<b>Project Extent</b>	5 miles beyond the City boundary	200 feet beyond the City boundary (approximately)
<b>Additional Deliverables</b>	<ul style="list-style-type: none"> <li>▪ Oblique Aerial Imagery</li> <li>▪ LiDAR (Digital Terrain Model)</li> <li>▪ 2 foot elevation contours</li> <li>▪ Infrared Imagery</li> </ul>	None

This project would replace the existing black and white aerial photography with color photography. Color offers many advantages for the users, especially when distinguishing and locating small features such as fire hydrants, manhole covers, and curb lines. In addition, this project would provide higher resolution photography (4-inch pixels), making all features appear sharper. This

will allow recognition of features previously unobtainable from the existing 6-inch-pixel aerial photos (see Attachment A).

‘Oblique’ simply means that the aerial images were taken at an angle (see Attachments B and C). This type of image is far more intuitive and useful in many situations where more information is needed than can be seen by looking at a traditional aerial photograph that is straight down. Obliques are a revolutionary way to use aerial imaging that was unheard of just a few years ago. The following are just some examples of how this imagery could be quite useful:

Law Enforcement:

- Traffic control analysis, evacuation planning, and routing
- Identify staging and surveillance areas
- Photo documentation for search warrant applications

Fire Department:

- Preplan responses for major structures and facilities
- Inspect structural composition, roof layout, and access points
- View each address from multiple angles for entry and escape points
- Measure height, length, and width of buildings

Planning, Engineering, Transportation and Utilities:

- View neighborhoods for growth and traffic flow analysis
- Inspect and pre-plan new developments before sending out crews
- View adjoining properties for impacts
- Conduct vulnerability analysis and threat assessments of public utilities

The elevation contours and Digital Terrain Model (DTM) will enable more powerful analyses, such as:

- Three-dimensional visualization
- Viewshed / visibility / line-of-sight analyses
- Hydrologic runoff & flood modeling

Lastly, this data will be consistent throughout the County (i.e., in the same coordinate system, referenced to the same parcel base), thereby facilitating a better working relationship amongst the various agencies.

**CONCLUSION:**

This is an unprecedented opportunity to join a project that will give the city more imagery products at a lower cost, higher quality, and larger coverage area than the city could obtain on its own. Therefore, staff recommends that the City Council approve the Memorandum of Understanding with the Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC) in the amount not to exceed \$23,000.

- Attachments:
- A. Aerial Imagery Comparison
  - B. Sample Community Oblique
  - C. Sample Neighborhood Oblique
  - D. Memorandum of Understanding

# Aerial Imagery Comparison



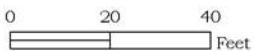
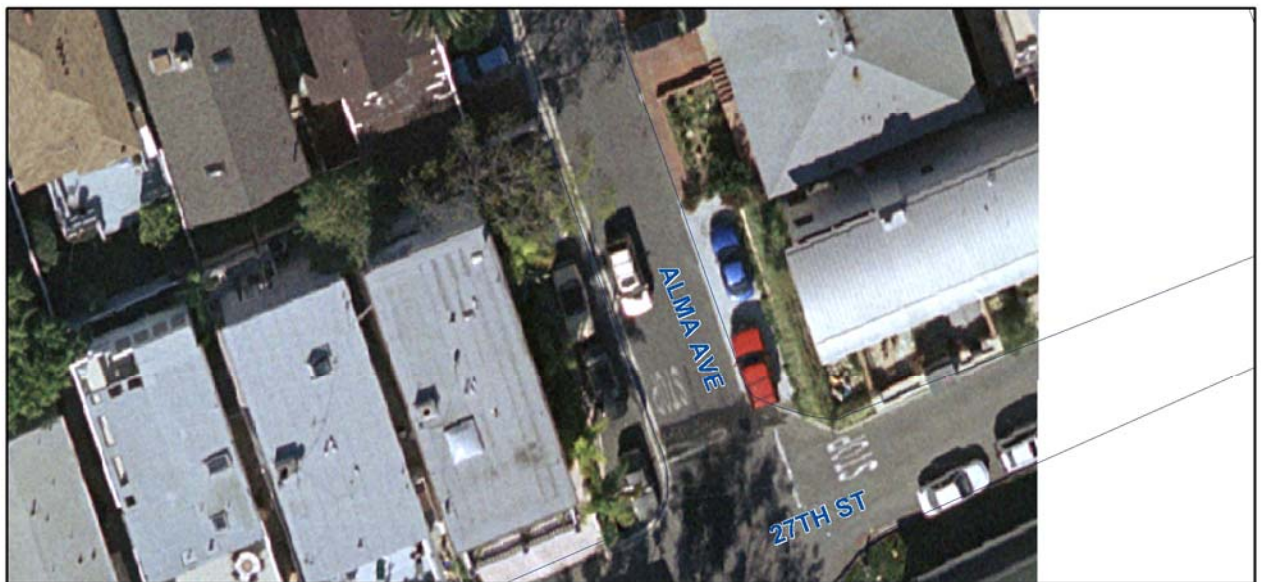
existing  
6-inch pixel  
black & white



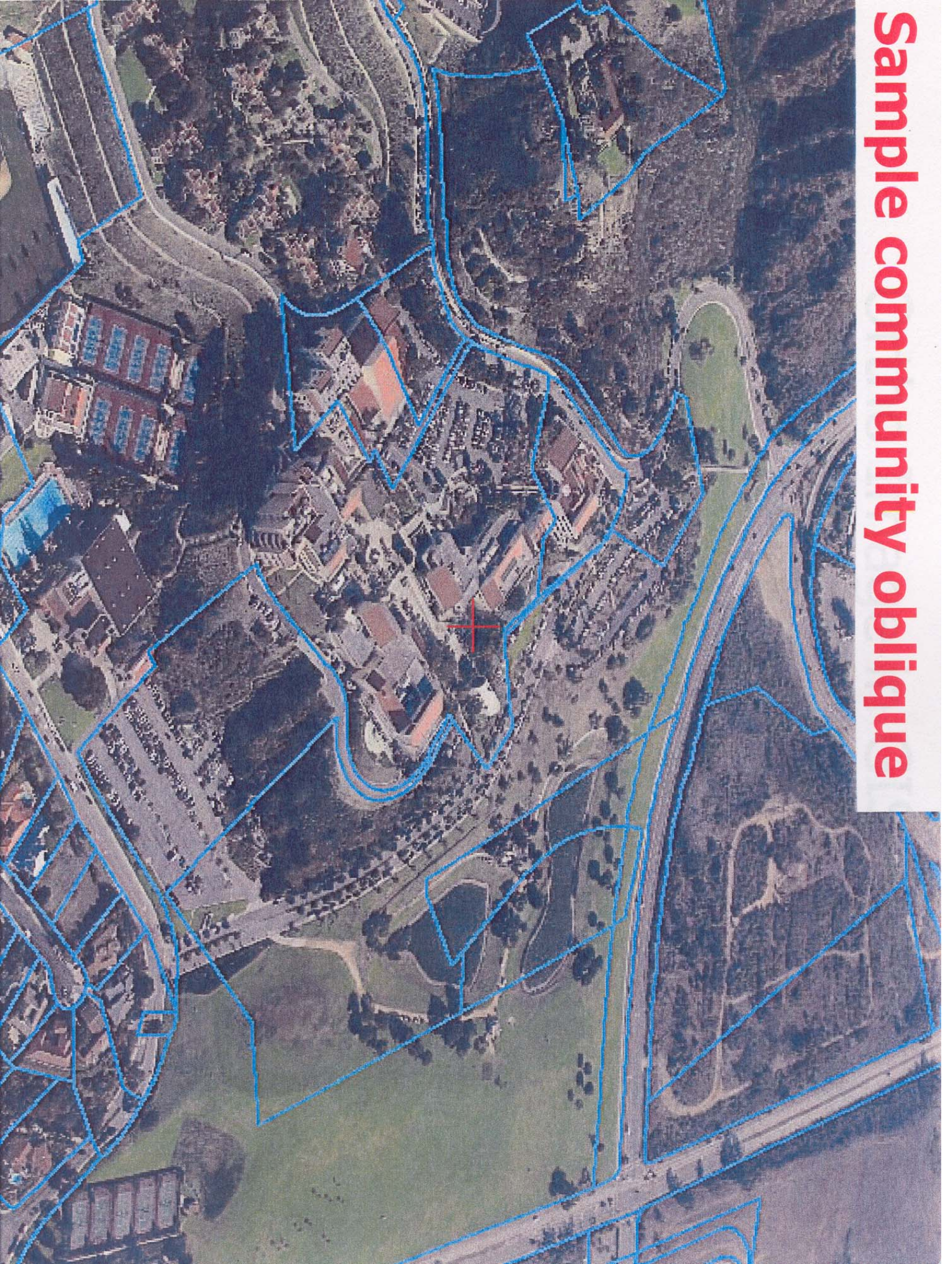
existing  
1-foot pixel  
color



proposed  
4" pixel  
color



# Sample community oblique



# Sample neighborhood oblique



**MEMORANDUM OF UNDERSTANDING FOR THE  
LOS ANGELES REGION IMAGERY ACQUISITION CONSORTIUM (LAR-IAC) PROGRAM  
BY AND BETWEEN  
THE COUNTY OF LOS ANGELES AND PARTICIPATING ENTITIES**

This Memorandum of Understanding ("Agreement") is made and entered into effective as of June 20, 2006, by and among the County of Los Angeles, a political subdivision of the State of California ("County"), and the California cities, special districts and agencies set forth on Exhibit "A" attached to this Memorandum of Understanding and incorporated herein by this reference (such entities are hereinafter referred to collectively as the "Participating Entities" and each individually as a "Participating Entity"). The County and the Participating Entities are hereinafter referred to collectively as the "Parties" and each individually as a "Party."

WHEREAS, the County has planned to acquire new digital terrain data sets and update its digital orthogonal and oblique aerial imagery in the winter of 2005/2006 (such acquisition, the "Project");

WHEREAS, the County has become aware that various Participating Entities have similar projects currently underway or plan to undertake similar projects in the near future;

WHEREAS, in order to avoid the duplication of efforts and cost by the County and the Participating Entities in connection with the Project, the Parties desire to pool their resources to collectively undertake the Project upon the terms and conditions set forth herein below.

NOW, THEREFORE, in consideration of the mutual covenants herein set forth and the mutual benefits to be derived therefrom, the Parties agree as follows:

1. Purpose.

The purpose of this Agreement is to provide a vehicle for the collective undertaking of the Project by the Parties. The Project shall focus on the acquisition of certain aerial imagery digital data (the "Digital Data") which may include, but shall not be limited to, geodetic points (including triangulation), digital terrain datasets, 2 foot elevation contours, 4 inch pixel resolution color orthogonal imagery, color oblique imagery and

near-infrared imagery. It is the intent of the Parties that Digital Data shall be acquired under this Agreement for all areas covered by the jurisdictions of the Parties.

2. Responsibilities of the County.

The County shall be responsible for the following:

A. Identify and provide specifications for the following types of Digital Data (or their derivatives):

- i. Geodetic Control and Pre-marking
- ii. Aerial Triangulation
- iii. Digital Terrain Datasets (DSM, DTM and DEM)
- iv. Contours with Two (2) Foot Interval
- v. Color Orthogonal Imagery with Four (4) Inch Pixel Resolution
- vi. Color Orthogonal Imagery with One (1) Foot Pixel Resolution (only for national forest lands)
- vii. Color Oblique imagery (community and neighborhood shots)
- viii. Near-infrared imagery
- ix. Elevation Contours with Five (5) Foot Interval (only for national forest lands)
- x. Quality Control Reports

B. Develop all necessary procurement documents (the "Procurement Documents") for necessary services to be provided by one or more qualified contractors in connection with the acquisition and administration of the Digital Data.

C. With the cooperation of the Participating Entities, select the most qualified contractor or contractors to provide the necessary services in connection with the acquisition and administration of the Digital Data and manage the entire acquisition and administration process.

D. With the assistance of one or more selected contractors, provide quality control ("QC") for all Digital Data delivered under this Agreement.

E. Arrange for the delivery of the Digital Data (or portions thereof) to the Participating Entities as the Parties shall further determine.

F. Provide monthly reports to the Participating Entities on the status of the Project.



3. Responsibilities of the Participating Entities.

The Participating Entities shall be responsible for the following:

- A. Where feasible, participate in the selection of a contractor or contractors to provide services in connection with the Project.
- B. Where feasible, participate in the preparation of all documentation required for the Project; including review, comment and revision of documents prepared by the County in connection with the acquisition and administration of the Digital Data, including, but not limited to, the Procurement Documents.
- C. Where feasible, participate in identifying and providing technical specifications for the Digital Data (or their derivatives).
- D. Where feasible, provide currently available geodetic points (with necessary standards and accuracy) for County's QC process.

4. Mutual Responsibilities.

The Parties hereto shall be mutually responsible for the following:

- A. Finance the acquisition and administration of the Digital Data, including, but not limited to, costs related to QC and distribution thereof. The total cost of such acquisition and administration (the "Total Cost") shall be allocated among the Parties. The portion of the Total Cost allocated to a Party hereunder shall be hereinafter referred to as such Party's "Maximum Contribution." The Maximum Contribution of a Participating Entity hereunder shall be the amount set forth in that certain letter of intent (the "Letter of Intent") attached hereto as Exhibit "B". Each Participating Entity will transfer its Maximum Contribution to a special trust account to be established by the County for this purpose (the "Trust Account") and as further described in Paragraph 5 of this Agreement.
- B. In the event that the Project is terminated for any reason before the execution of any contract with a contractor for the provision of goods and/or services in connection with the Project, each Participating Entity shall be refunded its Maximum Contribution (or such portion of the Maximum Contribution as shall have been paid to the County by such Participating Entity) in its entirety.

5. Payment of Maximum Contribution; Administration of Trust Account.

A. A Participating Entity shall have the following options in paying its Maximum Contribution to County hereunder:

- i. The Participating Entity may elect to pay its Maximum Contribution to County in its entirety upon execution of this Agreement.
- ii. The Participating Entity may elect to pay its Maximum Contribution to County as follows: (a) twenty percent (20%) by October, 2005; (b) forty percent (40%) by April, 2006; and (c) forty percent (40%) upon delivery of Digital Data, but in any event no later than September, 2006.

B. The Trust Account to be established by County under this Agreement shall be subject to the following:

- i. All funds held in the Trust Account shall be used solely for the payment of qualified contractors selected by County to provide goods and services in connection with the Project, including, but not limited to, the performance of re-flights for the purpose of updating the Digital Data.
- ii. Any funds held in the Trust Account not expended upon the completion of the Project or the termination of this Agreement shall be held, administered and distributed as shall be determined by each Participating Entity based on their prorated share of the total Consortium Program Cost.

6. General Terms and Conditions.

A. This Agreement shall take effect as of June 20, 2006 and shall remain in effect through September 30, 2007.

B. The term of this Agreement may be extended by the mutual written agreement of the Parties.

C. Any royalties or other payments received by County from any third party as compensation for the use of or access to the Digital Data (or any portion thereof) shall be deposited into and administered as part of the Trust Account.

D. It is the intention of the Parties that each Participating Entity shall receive with the delivery of the Digital Data an unlimited perpetual license to use the Digital Data in its own operations, with an unlimited number of seats; including, but not limited to, intranet applications, copying and printing.

E. Each Participating Entity shall have the right to transfer the Digital Data to any of its subcontractors or consultants on projects which are outsourced from its own operations. In this connection, each Participating Entity shall require each subcontractor or consultant to whom the Digital Data is transferred to execute a written acknowledgement and agreement to abide by the terms of such Participating Entity's license to use the Digital Data. Such acknowledgement and agreement shall be in a form to be determined and mutually agreed to by the Parties.

F. Each Participating Entity will have a license to publish orthogonal imagery, contours and digital terrain datasets on its internet web sites with a maximum resolution of one (1) foot for orthogonal imagery.

G. Notwithstanding any provision of this Agreement to the contrary, a Participating Entity will not have the right to sell, resell or otherwise transfer its license to use the Digital Data to any other person or entity.

H. This Agreement may be amended or modified by County based on theater collaboration and consultation with the Participating Entities.

I. Nothing in this Agreement shall be construed to give any person or entity, other than the Parties hereto, any legal or equitable right, remedy or claim under or in respect to this Agreement or any provision herein contained. This Agreement and the provisions hereof are intended to be and are for the sole and exclusive benefit of the Parties hereto.

J. No Party may terminate its participation under this Agreement after an execution of contract(s) for acquisition of Digital Data without the prior written consent of County.

K. Any other California city, special district or agency may become a Participating Entity under this Agreement if (i) the participation of such entity is approved by a majority vote of the Participating Entities, (ii) such entity executes this Agreement, and (iii) such entity makes its Maximum Contribution to County as provided for under this Agreement. Any such contribution shall be deposited into the Trust Account and administered in accordance with subparagraph 5.B of this Agreement.

L. This Agreement may be executed in counterparts and the signed counterparts shall constitute a single instrument. The signatories to this Agreement represent that they have the authority to bind their respective Party to this Agreement.

IN WITNESS WHEREOF, the Parties have executed this Memorandum of Understanding for the Los Angeles Region Image Acquisition Consortium Program on the date first indicated above.

[SIGNATURES OF PARTIES TO BE SET FORTH BELOW – Exhibit A]

**MEMORANDUM OF UNDERSTANDING FOR THE  
LOS ANGELES REGION IMAGERY ACQUISITION CONSORTIUM (LAR-IAC) PROGRAM  
BY AND BETWEEN  
THE COUNTY OF LOS ANGELES AND PARTICIPATING ENTITIES**

**EXHIBIT A**

**IN WITNESS THEREOF**, the parties hereto have executed this Agreement on the day and year first shown above.

By \_\_\_\_\_

Geoff Dolan, City Manager  
CITY OF MANHATTAN BEACH

ATTEST:

\_\_\_\_\_  
City Clerk

APPROVED AS TO FORM:

\_\_\_\_\_  
City Attorney



# City of Manhattan Beach

## Public Works Department

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Phone: (310) 802-5300  
FAX: (310) 802-5301  
TDD: (310) 546-3501

May 19, 2005

Jon Fullinwider, CIO  
County of Los Angeles  
500 W. Temple St., Suite 493  
Los Angeles, CA 90012

Dear Mr. Fullinwider:

It is the intent of the City of Manhattan Beach to participate in the Los Angeles Region Imagery Acquisition Consortium for the purpose of acquiring 4-inch color orthophotos, digital terrain model (DTM) with 2-foot contours, 4-inch color oblique photos and, if possible, infrared imagery. We understand that the expected cost will not exceed \$23,000. Please note that the final commitment is contingent upon approval by the City Council.

If you have any questions regarding our intent, please contact Bonnie Shrewsbury, GIS Analyst, at 310-802-5360.

Sincerely,

Neil Miller  
Director of Public Works