

**ORDER FOR SUPPLIES OR SERVICES**

PAGE OF PAGES

1

23

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

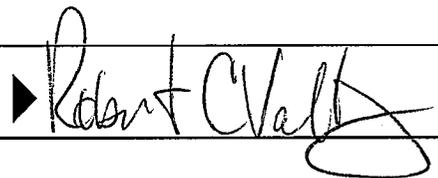
1. DATE OF ORDER 04/08/2011		2. CONTRACT NO. (If any) G10PC00057		6. SHIP TO: a. NAME OF CONSIGNEE USGS NGTOC		
3. ORDER NO. G11PD00296		4. REQUISITION/REFERENCE NO. See Schedule		b. STREET ADDRESS MS 306		
5. ISSUING OFFICE (Address correspondence to) USGS OAG Denver Acquisition Branch PO Box 25046 204 Denver Federal Center Denver CO 80225-0046				c. CITY Rolla		e. ZIP CODE 65401
7. TO: ATTN Government POC a. NAME OF CONTRACTOR WOOLPERT, INC. b. COMPANY NAME c. STREET ADDRESS 4454 IDEA CENTER BLVD.				f. SHIP VIA Best Method		
d. CITY DAYTON				e. STATE OH		f. ZIP CODE 45430-1500
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE		
11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> g. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. EMERGING SMALL BUSINESS						12. F.O.B. POINT Destination
13. PLACE OF a. INSPECTION Destination		b. ACCEPTANCE Destination		14. GOVERNMENT B/L NO. n/a		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)
16. DISCOUNT TERMS						

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Admin Office: USGS OAG Denver Acquisition Branch Team A PO Box 25046 204 Denver Federal Center Denver CO 80225-0046 Continued ...					

18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
21. MAIL INVOICE TO:						
a. NAME USGS Office of Acct & Fin. Mgt		b. STREET ADDRESS Payables, Mail Stop 270 (or P.O. Box) 12201 Sunrise Valley Drive		c. CITY Reston		17(i) GRAND TOTAL
d. STATE VA		e. ZIP CODE 20192		SEE BILLING INSTRUCTIONS ON REVERSE		

22. UNITED STATES OF AMERICA BY (Signature)



23. NAME (Typed)

Robert Valdez  
TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION**

PAGE NO

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 04/08/2011	CONTRACT NO. G10PC00057	ORDER NO. G11PD00296
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
00010	<p>Period of Performance: 04/05/2011 to 06/15/2012</p> <p>Sacramento/San Francisco Ortho - 50.67%</p> <p>Geospatial Product and Services (GPSC) - Option Year One</p> <p>The contractor shall perform this task in accordance with the attached Task Order Detail for San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades and contractor's proposal dated March 10, 2011, revised on April 1, 2011, and cost negotiations on April 5, 2011.</p> <p>This Line Item is funding approximately 50.67% of the Task Order.</p> <p>Requisition No: 0040007279</p> <p>Accounting Info: 01 Account Assignment: K G/L Account: 6100.252A0 Business Area: G000 Commitment Item: 252A00 Cost Center: GGHIEG5000 Functional Area: G50700000.J80000 Fund: 11G0804AR Fund Center: GGHIEG5000 Project/WBS: GR.11.EG50.E1C3D.00 PR Acct Assign Line: 01 Funded: [REDACTED]</p>				[REDACTED]	
00020	<p>Sacramento/San Francisco Ortho - 4.74%</p> <p>Geospatial Product and Services (GPSC) - Option Year One</p> <p>The contractor shall perform this task in accordance with the attached Task Order Detail for San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades and contractor's proposal Continued ...</p>				[REDACTED]	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))



**ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION**

PAGE NO

3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 04/08/2011	CONTRACT NO. G10PC00057	ORDER NO. G11PD00296
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
00030	<p>dated March 10, 2011, revised on April 1, 2011, and cost negotiations on April 5, 2011.</p> <p>This Line Item is funding approximately 4.74% of the Task Order.</p> <p>Requisition No: 0040008161</p> <p>Accounting Info: 01 Account Assignment: K G/L Account: 6100.252A0 Business Area: G000 Commitment Item: 252A00 Cost Center: GGHIEG5000 Functional Area: G50700000.J80000 Fund: XXXG0804XR Fund Center: GGHIEG5000 Project/WBS: GR.11.EG50.E1CCA.00 PR Acct Assign Line: 01 Funded: ██████████</p> <p>Sacramento/San Francisco Ortho - 2.81%</p> <p>Geospatial Product and Services (GPSC) - Option Year One</p> <p>The contractor shall perform this task in accordance with the attached Task Order Detail for San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades and contractor's proposal dated March 10, 2011, revised on April 1, 2011, and cost negotiations on April 5, 2011.</p> <p>This Line Item is funding approximately 2.81% of the Task Order.</p> <p>Requisition No: 0040008161</p> <p>Accounting Info: 01 Account Assignment: K G/L Account: 6100.252A0 Business Area: G000 Commitment Item: 252A00 Cost Center: GGHIEG5000 Functional Area: Continued ...</p>				██████████	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

**ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION**

PAGE NO

4

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER  
04/08/2011

CONTRACT NO.  
G10PC00057

ORDER NO.  
G11PD00296

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
00040	<p>G50700000.J80000 Fund: XXXG0804XR Fund Center: GGHIEG5000 Project/WBS: GR.11.EG50.E1CCB.00 PR Acct Assign Line: 01 Funded: [REDACTED]</p> <p>Sacramento/San Francisco Ortho - 1.63%</p> <p>Geospatial Product and Services (GPSC) - Option Year One</p> <p>The contractor shall perform this task in accordance with the attached Task Order Detail for San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades and contractor's proposal dated March 10, 2011, revised on April 1, 2011, and cost negotiations on April 5, 2011.</p> <p>This Line Item is funding approximately 1.63% of the Task Order.</p> <p>Requisition No: 0040008161</p> <p>Accounting Info: 01 Account Assignment: K G/L Account: 6100.252A0 Business Area: G000 Commitment Item: 252A00 Cost Center: GGHIEG5000 Functional Area: G50700000.J80000 Fund: XXXG0804XR Fund Center: GGHIEG5000 Project/WBS: GR.11.EG50.E1CCC.00 PR Acct Assign Line: 01 Funded: [REDACTED]</p>				[REDACTED]	
00050	<p>Sacramento/San Francisco Ortho - 4.87%</p> <p>Geospatial Product and Services (GPSC) - Option Year One</p> <p>The contractor shall perform this task in Continued ...</p>				[REDACTED]	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

**ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION**

PAGE NO

5

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DATE OF ORDER  
04/08/2011

CONTRACT NO.  
G10PC00057

ORDER NO.  
G11PD00296

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
00060	<p>accordance with the attached Task Order Detail for San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades and contractor's proposal dated March 10, 2011, revised on April 1, 2011, and cost negotiations on April 5, 2011.</p> <p>This Line Item is funding approximately 4.87% of the Task Order.</p> <p>Requisition No: 0040008161</p> <p>Accounting Info: 01 Account Assignment: K G/L Account: 6100.252A0 Business Area: G000 Commitment Item: 252A00 Cost Center: GGHIEG5000 Functional Area: G50700000.J80000 Fund: XXXG0804XR Fund Center: GGHIEG5000 Project/WBS: GR.11.EG50.E1CCD.00 PR Acct Assign Line: 01 Funded: ██████████</p> <p>Sacramento/San Francisco Ortho - 22.08%</p> <p>Geospatial Product and Services (GPSC) - Option Year, One</p> <p>The contractor shall perform this task in accordance with the attached Task Order Detail for San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades and contractor's proposal dated March 10, 2011, revised on April 1, 2011, and cost negotiations on April 5, 2011.</p> <p>This Line Item is funding approximately 22.08% of the Task Order.</p> <p>Requisition No: 0040008161</p> <p>Accounting Info: Continued ...</p>				██████████	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

**ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION**

PAGE NO

6

**IMPORTANT:** Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER  
04/08/2011

CONTRACT NO.  
G10PC00057

ORDER NO.  
G11PD00296

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
00070	<p>01 Account Assignment: K G/L Account: 6100.252A0 Business Area: G000 Commitment Item: 252A00 Cost Center: GGHIEG5000 Functional Area: G50700000.J80000 Fund: XXXG0804XR Fund Center: GGHIEG5000 Project/WBS: GR.11.EG50.E1CCE.00 PR Acct Assign Line: 01 Funded: [REDACTED]</p> <p>Sacramento/San Francisco Ortho - 13.20%</p> <p>Geospatial Product and Services (GPSC) - Option Year One</p> <p>The contractor shall perform this task in accordance with the attached Task Order Detail for San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades and contractor's proposal dated March 10, 2011, revised on April 1, 2011, and cost negotiations on April 5, 2011.</p> <p>This Line Item is funding approximately 13.20% of the Task Order.</p> <p>Requisition No: 0040008161</p> <p>Accounting Info: 01 Account Assignment: K G/L Account: 6100.252A0 Business Area: G000 Commitment Item: 252A00 Cost Center: GGHIEG5000 Functional Area: G50700000.J80000 Fund: XXXG0804XR Fund Center: GGHIEG5000 Project/WBS: GR.11.EG50.E1CCF.00 PR Acct Assign Line: 01 Funded: [REDACTED]</p> <p>Invoices may either be mailed to the address listed in Block 21 on page one; emailed to: invpay@usgs.gov; or faxed to 703-648-7687. Send only one invoice per fax Continued ...</p>				[REDACTED]	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

**ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION**

PAGE NO

7

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER  
04/08/2011

CONTRACT NO.  
G10PC00057

ORDER NO.  
G11PD00296

ITEM NO.	SUPPLIES/SERVICES	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT	QUANTITY ACCEPTED
(a)	(b)	(c)	(d)	(e)	(f)	(g)
	<p>or email, and include both sides of the invoice; if the original is double-sided.</p> <p>The total amount of award: [REDACTED] The obligation for this award is shown in box 17(i).</p>					
TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))					\$0.00	

**TASK ORDER DETAIL****USGS CONTRACT: G10PC00057****CONTRACTOR: Woolpert, Inc****TASK ORDER NUMBER: G11PD00296****TASK NAME: San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades**

The Contractor shall furnish all facilities, labor, materials, and equipment, unless specifically identified otherwise, to provide the mapping services and products in accordance with the specifications, terms, and conditions contained in Contract No. **G10PC00057**, and the following requirements specific to this Task Order, and in accordance with Contractor's proposal dated March 10, 2011, and revised proposal dated April 1, 2011 and in the amount of:

<b>Task Order Fixed Price</b>	
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**SECTION C: DESCRIPTION/SPECIFICATIONS/WORK STATEMENT.**

The following **Section C** additional requirements are applicable to this Task Order:

- C.1. **Statement of Work (SOW):** Reference C.1 of the Contract. This **San Francisco, Sacramento, Stockton, Modesto, CA 133UA 1-foot Ortho with Upgrades** Task Order shall provide high resolution 0.30m 4-band (8 bit) ortho imagery covering approximately 4,480 square miles over four 133UA California cities, as shown in Attachment A of this task order and outlined in Attachment B. In addition to the 0.30m 133UA imagery, the contractor shall provide 0.15m or 0.075m imagery over portions (upgrade areas) of the 133UA areas and nearby locales, using similar collection and production specifications as used for the 0.30m imagery. Below, a table identifies the upgrade areas. *These areas are further described and identified in Attachment A, and defined in the shape files provided in Attachment B.*

<b>City</b>	<b>Ortho</b>	<b>Projection</b>	<b>Tile size</b>	<b>Elev</b>
<b>Marin</b>	6" nc = 260 sq mi	UTM/NAD83	750M/USNG	10m NED + local
<b>Napa</b>	1' nc/cir = 637 sq mi	CA SP-zone2, ft/NAD83	5000ft/SP	10m NED + local
<b>Napa</b>	6" nc/cir = 194 sq mi	CA SP-zone2, ft/NAD83	2500ft/SP	10m NED + local
<b>Sacramento</b>	6" nc = 100 sq mi	UTM/NAD83	750M/USNG	10m NED + local
<b>Santa Rosa</b>	3" nc/cir = 46 sq mi	UTM/NAD83	375M/USNG	10m NED + local
<b>Sonoma</b>	6" nc/cir = 1600 sq mi	CA SP-zone2, ft/NAD83	2500ft/SP	10m NED + local
<b>Windsor</b>	3" nc/cir = 25 sq mi	CA SP-zone2, ft/NAD83	1250ft/SP	10m NED + local
<b>Yuba</b>	6" nc = 56 sq mi	UTM/NAD83	750M/USNG	10m NED + local

The Contractor will acquire all the cities listed above in the table, and process all the above cities with the exception of Sonoma and Windsor.

Should funds become available, a modification will be issued to fund processing for Sonoma and Windsor counties, in the amount of [REDACTED] and [REDACTED] respectively.

- C.1.a. **DATA ACQUISITION:** All data acquisition parameters for the imagery collection, processing, and delivery shall be accomplished with the following specifications. The contractor shall provide all necessary labor, equipment, material, software, and supplies to satisfactorily complete the SOW.

The contract shall deliver the specified imagery products, for the coverage area specified as described in **Attachment A** and defined by shape file in **Attachment B**.

- C.1.a.(i) **Image Acquisition:** The Contractor shall adhere to the following specifications for the acquisition and delivery of the required high resolution natural-color aerial imagery:

- C.1.a.(i)(a) **Resolution and Accuracy:** Imagery shall be 4-band natural color and CIR source imagery and shall be of sufficient resolution to support production of digital orthorectified images to a ground pixel resolution of 0.30 meters (nominal 1 foot) {or 0.15 meters (nominal 6") or 0.075 meters (nominal 3") for upgrade areas} and to the specifications contained in C.1.b below.

- C.1.a.(i)(b) **Acquisition Window:** The acceptable window for the acquisition portion of this task shall be **prior to the 2011 leaf-on season, anticipated to end on April 30, 2011.**

- C.1.a.(i)(c) **Ground Sample Density (Resolution):** Imagery shall be collected at an altitude and resolution that will produce orthorectified images of no less than 0.3 meter (nominal (1 foot) {0.15m or 0.075m for upgrade areas}).

- C.1.a.(i)(d) **Use of ABGPS/IMU:** The contractor shall acquire and deliver high resolution true-color aerial imagery controlled with airborne Global Positioning System (ABGPS) and Inertial Measurement Unit (IMU), over the project area.

- (01) **ABGPS:** Camera position (latitude, longitude, and elevation) shall be recorded at the instant of exposure with airborne GPS. Airborne GPS data shall be differentially corrected and organized as individual data sets grouped by corresponding flight line. Differentially corrected Airborne GPS positional data shall be stored on portable media, in a non-proprietary format mutually agreeable to the Government and the Contractor. The Contractor

shall produce a statistical report summarizing the results of the airborne GPS adjustment.

- (02) **IMU:** The contractor shall record the camera attitude at the instant of exposure. The IMU data shall be adjusted and organized as individual data sets grouped by corresponding film roll. The Contractor shall produce a statistical report summarizing the overall accuracy of the adjusted IMU data.

C.1.a.(i)(e) **Supplemental Ground Control Points during Collection:** Differentially corrected GPS Ground Control used to supplement the Airborne GPS positional adjustment shall be stored on portable media, in a non-proprietary format mutually agreeable to the Government and Contractor.

C.1.a.(i)(f) **Base Stations:** A minimum of two (2) base station ground control points shall be used.

C.1.a.(i)(g) **Ground Control Quality Check points:** The contractor shall collect a minimum of an additional twenty (20) Ground Control points *per individual AOI* (smaller AOI's may warrant fewer points) which will be used by the Government for validation. **It is required that the control be sent directly to the Government without being incorporated into the contractors production process.**

C.1.a.(i)(h) **Data voids:** Image collection voids are unacceptable and shall be sufficient reason for rejection of a portion of, or the entire data delivery lot or if deemed necessary, the entire project.

- (01) Image gaps between adjacent flight lines are not acceptable.
- (02) Image voids due to system malfunctions are not acceptable.
- (03) Contractor shall ensure that all parts of the project are fully covered.
- (04) No portion shall be omitted from collection and processing unless specified elsewhere in this task order.

C.1.a.(i)(i) **Flight Diagram:** The Contractor shall produce, in softcopy format, a Flight Diagram which illustrates the project area outline, flight lines, image identification, and approximate location of image centers.

C.1.a.(i)(j) **Environmental Acquisition Conditions:** Imagery shall be acquired under these conditions:

- (01) **Leaf-off:** Acquisitions for leaf-off shall be collected during the defined acquisition window in C.1.a.(i)(a) of this Task Order.

- (02) **Snow:** Acquisition shall be while no snow is on the ground.
- (03) **Flood Conditions:** Imagery shall be collected during non-flood conditions. Non-Flood conditions are defined as the rivers remaining within their channels at, or below normal levels.
- (04) **Time of Day:** Imagery shall be obtained during the period of the day when the sun angle is greater than 30-degrees and flight times shall be made to minimize shadows.

C.1.b. **DIGITAL ORTHO IMAGE PRODUCTION:** Shall be produced consistent with the following requirements

C.1.b.(i) **Aerotriangulation data:** Aerotriangulation data shall consist of a minimum of refined plate coordinates and adjusted ground coordinates. The contractor shall produce a statistical report of aerotriangulation summarizing the results of the block adjustment.

C.1.b.(ii) **Digital Orthorectified Image Datum:** Digital Orthorectified images shall be referenced to North American Datum 1983, Universal Transverse Mercator (UTM) meters, Zone 10, North American Vertical Datum of 1988 (NAVD88). Additionally, those images that fall within the upgrade areas of **Napa**, **Sonoma**, and **Windsor** shall be also delivered which are referenced to California State Plane, Zone 2, U.S. Survey feet.

C.1.b.(iii) **Digital Orthorectified Image Color:** Images shall be 4-band (8 bit).

C.1.b.(iv) **Ground Resolution:** Digital Orthorectified Image ground resolution (pixel size) shall be 0.3meter (nominal one (1) foot). The spatial resolution shall be 30 centimeter ground sample distance (GSD). Orthoimagery produced under this specification shall not be resampled from the original image, original scan or original capture, with resolution greater or less than the following numbers:

Ground Sample Distance (GSD)	Original Image Resolution	
	Maximum	Minimum
30 centimeters	15 centimeters	32 centimeters

C.1.b.(v) **Digital Orthorectified Image Horizontal Accuracy:** For 0.30 meter Ortho image horizontal positional accuracy shall not exceed 1.52-meters NSSDA 95% confidence (0.88-meters Root Mean Squared (RMSE) Error XY (0.62 meter RMSE X or Y).

- C.1.b.(vi) **Digital Orthorectified Image Horizontal Accuracy:** For 0.15 meter Ortho image horizontal positional accuracy shall not exceed 0.76-meters NSSDA 95% confidence (0.44-meters Root Mean Squared (RMSE) Error XY (0.31 meter RMSE X or Y).
- C.1.b.(vii) **Digital Orthorectified Image Horizontal Accuracy:** For 0.075 meter Ortho image horizontal positional accuracy shall not exceed 0.38-meters NSSDA 95% confidence (0.22-meters Root Mean Squared (RMSE) Error XY (0.15 meter RMSE X or Y).
- C.1.b.(viii) **MrSid Compressed Image Tiles:** MrSid compressed image shall be delivered for the 0.15m State Plane imagery only in the **Napa** 6-inch upgrade area. For **each** ortho image the contractor shall produce and deliver a corresponding MrSid Compressed Image tile with a compression ratio of 20:1. MrSid images are not to be mosaics, but to be the same extents as each delivery tile
- C.1.b.(ix) **Digital Orthorectified Image Format:** Images shall be submitted in uncompressed, untiled, ArcGIS readable, GeoTIFF file format with no internal tiling or overviews. Data shall not be compressed during **ANY PHASE** of the production process. Presence of compression artifacts will be cause for rejection. GeoTIFF files shall include the following GeoTIFF tags and keys:
- C.1.b.(ix)(a) ModelTiepointTag
  - C.1.b.(ix)(b) ModelPixelScaleTag
  - C.1.b.(ix)(c) GTModelTypeGeoKey
  - C.1.b.(ix)(d) GTRasterTypeGeoKey
  - C.1.b.(ix)(e) ProjectedCSTypeGeoKey
  - C.1.b.(ix)(f) PCSCitationGeoKey
  - C.1.b.(ix)(g) ProjLinearUnitsGeoKey
- C.1.b.(x) **Digital Orthorectified Image Tile Size:** For the 0.30m GSD UTM/NAD83 projected imagery, Orthorectified GeoTIFF files shall represent “tiles” 1500 meters X 1500 meters cut at even 1500 meter grid lines with no overedge.
- C.1.b.(x)(a) Corner coordinates shall be based on the UTM Grid and shall be evenly divisible by 1500 meters.
  - C.1.b.(x)(b) Tiles shall be accompanied by an index sheet and shape file suitable for loading into ArcGIS.
  - C.1.b.(x)(c) Index sheet shall include tile boundary and filename.
  - C.1.b.(x)(d) The Index sheet collar shall include Latitude/Longitude reference coordinates

- C.1.b.(xi)      **Digital Orthorectified Image Tile Size:** For the 0.30m GSD State Plane/UTM NAD83 projected imagery, Orthorectified GeoTIFF files shall represent “tiles” 5000 feet X 5000 feet cut at even 5000 foot grid lines with no overedge.
- C.1.b.(xi)(a)      Corner coordinates shall be based on the California State Plane coordinate system, Zone 2 and shall be evenly divisible by 5000 feet.
- C.1.b.(xi)(b)      Tiles shall be accompanied by an index sheet and shape file suitable for loading into ArcGIS.
- C.1.b.(xi)(c)      Index sheet shall include tile boundary and filename.
- C.1.b.(xi)(d)      The Index sheet collar shall include Latitude/Longitude reference coordinates
- C.1.b.(xii)      **Digital Orthorectified Image Tile Size:** For the 0.15m GSD UTM/NAD83 projected imagery, Orthorectified GeoTIFF files shall represent “tiles” 750 meters X 750 meters cut at even 750 meter grid lines with no overedge.
- C.1.b.(xii)(a)      Corner coordinates shall be based on the UTM Grid and shall be evenly divisible by 750 meters.
- C.1.b.(xii)(b)      Tiles shall be accompanied by an index sheet and shape file suitable for loading into ArcGIS.
- C.1.b.(xii)(c)      Index sheet shall include tile boundary and filename.
- C.1.b.(xii)(d)      The Index sheet collar shall include Latitude/Longitude reference coordinates
- C.1.b.(xiii)      **Digital Orthorectified Image Tile Size:** For the 0.15m GSD State Plane/UTM NAD83 projected imagery, Orthorectified GeoTIFF files shall represent “tiles” 2500 feet X 2500 feet cut at even 2500 foot grid lines with no overedge.
- C.1.b.(xiii)(a)      Corner coordinates shall be based on the California State Plane coordinate system, Zone 2 and shall be evenly divisible by 2500 feet.
- C.1.b.(xiii)(b)      Tiles shall be accompanied by an index sheet and shape file suitable for loading into ArcGIS.
- C.1.b.(xiii)(c)      Index sheet shall include tile boundary and filename.
- C.1.b.(xiii)(d)      The Index sheet collar shall include Latitude/Longitude reference coordinates

- C.1.b.(xiv) **Digital Orthorectified Image Tile Size:** For the 0.075m GSD State Plane/UTM NAD83 projected imagery, Orthorectified GeoTIFF files shall represent “tiles” 1250 feet X 1250 feet cut at even 1250 foot grid lines with no overedge.
- C.1.b.(xiv)(a) Corner coordinates shall be based on the California State Plane coordinate system, Zone 2 and shall be evenly divisible by 1250 feet.
- C.1.b.(xiv)(b) Tiles shall be accompanied by an index sheet and shape file suitable for loading into ArcGIS.
- C.1.b.(xiv)(c) Index sheet shall include tile boundary and filename.
- C.1.b.(xiv)(d) The Index sheet collar shall include Latitude/Longitude reference coordinates
- C.1.b.(xv) **Digital Orthorectified Image Tile Size:** For the 0.075m GSD UTM/NAD83 projected imagery, Orthorectified GeoTIFF files shall represent “tiles” 375 meters X 375 meters cut at even 375 meter grid lines with no overedge.
- C.1.b.(xv)(a) Corner coordinates shall be based on the UTM Grid and shall be evenly divisible by 375 meters.
- C.1.b.(xv)(b) Tiles shall be accompanied by an index sheet and shape file suitable for loading into ArcGIS.
- C.1.b.(xv)(c) Index sheet shall include tile boundary and filename.
- C.1.b.(xv)(d) The Index sheet collar shall include Latitude/Longitude reference coordinates
- C.1.b.(xvi) **Additional Digital Orthophoto characteristics:** Digital Orthophotos shall be produced with the follow characteristics
- C.1.b.(xvi)(a) Relative join (misalignment) of transportation features between adjacent image chips/tiles shall not exceed two (2) pixels.
- C.1.b.(xvi)(b) Orthophotos shall be tonally balanced to produce a uniform contrast and tone across the image tiles of the entire project.
- C.1.b.(xvi)(c) Changes in color balance across the project, if they exist, shall be gradual. Abrupt tonal variations between tiles are not acceptable.
- C.1.b.(xvi)(d) Building tilt shall be reduced so that all roads are visible.

- C.1.b.(xvi)(e) Ground features appearing in the orthophoto imagery, such as building roof tops, water towers, and radio towers, shall not be clipped at seamlines or between individual tiles.
- C.1.b.(xvi)(f) Image artifacts introduced during the scanning process and appearing in the final orthophotos are unacceptable, except for very minimal artifacts falling in non-critical coverage areas.
- C.1.b.(xvii) **Product Accuracy Information Reporting:** Product accuracy information shall be reported according to NSSDA guidelines which are available at: <http://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part3/index.html>. At a minimum, statements concerning source materials and production processes used must be provided at the project level sufficient to meet the requirement of section 3.3 of the NSSDA guidelines.
- C.1.b.(xviii) **File Naming Convention:**
- C.1.b.(xviii)(a) **UTM:** The 1500 meter x 1500 meter ortho tile file name shall be derived from the southwest corner of each tile and shall be based on the U.S. National Grid. File names will include Grid Zone Designation (GZD), 100,000 meter block designator and X and Y grid coordinates truncated to 100 meters. Supplemental instructions for naming Digital Orthorectified Image tiles are included in Attachment C, U.S. National Grid, of this task order. The same methodology applies to the 750 meter X 750 meter and 375 meter X 375 meter tiles.
- C.1.b.(xviii)(b) **State Plane:** The 5000 foot x 5000 foot ortho tile file name shall be derived from the southwest corner of each tile. The prefix shall comprise 10-digits, consisting of a 5-digit x value derived from the x grid-coordinate, truncated to 100 feet, with leading zeros as required, concatenated with a 5-digit y value derived from the y grid-coordinate truncated to 100 ft, with leading zeros as required. The same methodology applies to the 2500 foot X 2500 foot and 1250 foot X 1250 foot tiles.
- C.1.b.(xix)
- C.1.b.(xx) **Elevation data:** Any elevation data created for use in the orthorectification process shall be submitted as a deliverable in a non-proprietary format.
- C.1.b.(xxi) **Coverage Area:** Ortho tiles shall provide complete coverage to the project boundary at a minimum, as shown in Attachment A of this task order. Tiles split by project boundary shall be completed to their full tile extent. Void areas within tiles are not acceptable
- C.1.b.(xxii) **Building Lean:** Imagery shall be acquired at a density in the “high-rise” areas of the urban area such that all road networks are clearly visible and that buildings show no signs of excessive tilt or lean.

- C.1.c. **METADATA:** Project and File (tile) level metadata describing Orthoimagery production process shall be submitted as a deliverable. Metadata received from the contractor shall be subject to inspection prior to acceptance. Metadata received from Contractor shall be capable of being imported and processed by the Metadata Parser (mp) software or equivalent, free of errors. The USGS will notify the Contractor of any rejected metadata within 30 days of receipt of the metadata. The Contractor will correct and return any metadata rejected by the USGS within 15 days from the rejection notification date.
- C.1.c.(i) Federal Geographic Data Committee (FGDC) compliant metadata shall be provided in extensible markup language (.xml) format for each data type.
- C.1.c.(ii) FGDC compliant metadata for data types shall be delivered on portable media, in the file format mutually agreeable to the Government and the Contractor.
- C.1.c.(iii) This site contains the files designed to define and support production of FGDC compliant metadata: Download the following files from <ftp://ftpext.usgs.gov/pub/cr/mo/rolla/release/xmlinput/>
- C.1.c.(iii)(a) XMLInput1\_64.zip: This zip file contains an application (XMLInput) for creating and editing .xml metadata files. It is not mandatory that this software is used; but is being made available to contractor. When the zip file is unzipped, it also contains a template (133UAtemplate.xml) and a dtd (csdgm2.dtd) to help with FGDC compliance. The XMLInput.jar is the executable.
- C.1.c.(iii)(b) Help.pdf and XMLInput123.doc: User's guide for XML Input. Contractor may use this guide to install and use XMLInput.
- C.1.c.(iii)(c) metadata \_overview.doc - additional information.
- C.1.c.(iv) **Metadata Parser (MP):** This parser is a compiler that checks for syntax errors against the FGDC Content Standard for Digital Geospatial Metadata and generates output suitable for viewing in a web browser or text editor. MP may be downloaded to contractor's computer for an interactive validation of your metadata files, or accessed online for an automated validation.
- C.1.c.(iv)(a) To download mp, go to <http://geology.usgs.gov/tools/metadata/>
- C.1.c.(iv)(b) To use mp online, go to <http://geo-nsdi.er.usgs.gov/validate.php>
- C.1.c.(v) **Required Metadata fields:** FGDC compliant metadata for Ortho Imagery shall include, at a minimum:
- C.1.c.(v)(a) Date(s) of acquisition.

- C.1.c.(v)(b) Nominal Acquisition Altitude (AGL).
- C.1.c.(v)(c) How GPS coordinates were referenced.
- C.1.c.(v)(d) Maximum and mean differential baseline lengths.
- C.1.c.(v)(e) Calibration procedures.
- C.1.c.(v)(f) Processing steps.
- C.1.c.(v)(g) Accuracy
  - (01) Vertical accuracy
  - (02) Horizontal accuracy
- C.1.c.(vi) **One (1) Project Level Metadata** file shall be delivered for each product type with corresponding names.
- C.1.c.(vii) **One (1) Tile (File) Level Metadata** file shall be delivered for each file (tile) with corresponding names.
- C.1.d. **REPORTS:** The Contractor shall deliver the following report(s):
  - C.1.d.(i) A complete record of field work procedures.
  - C.1.d.(ii) Data derivation and adjustments.
  - C.1.d.(iii) Quality control procedures and results.
  - C.1.d.(iv) Reports shall be delivered in the following formats:
    - C.1.d.(iv)(a) One copy of each report is Soft Copy format in a format acceptable to the Government.
- C.1.e. **DELIVERABLES SUMMARY:**
  - C.1.e.(i) Orthorectified Imagery: Imagery shall be delivered as described in Section's C.1.a-C.1.c of this Task Order. Digital Orthorectified Images, in GeoTIFF format. Image tiles shall be accompanied by an index sheet and shape file suitable for loading into ArcGIS.
  - C.1.e.(ii) Metadata shall be FGDC compliant and shall be project and tile (file) level. Tile level metadata shall have one corresponding metadata file for each imagery tile.
  - C.1.e.(iii) Production and Project Reports as specified in C.1.d. of this Task Order

- C.1.e.(iv) The 0.30 meter GSD imagery of the four 133UA AOI's shall be placed on a separate drive for NGA. Each Upgrade area will be provided on a separate external drive for each client. A separate delivery of the entire area in UTM/NAD83 is requested for the USGS to place in the NED.
- C.1.f. **NOTIFICATION:** The Government POC named below shall be notified within 24 hours of the start of acquisition of data. Notification can be made by e-mail and is for information purposes only, not permission to proceed.
- C.1.g. **PERMITS:** The contractor shall be responsible for obtaining all permits which may be required in the performance of this task order, which shall include, but not be limited to any permits for acquisition of data in controlled or restricted airspace, and access to control points on the ground.
- C.1.h. **USE AND DISTRIBUTION RIGHTS:** All deliverable data and documentation shall be free from restrictions regarding use and distribution. Data and documentation provided under this Task Order shall be freely distributable by government agencies.
- C.1.i. **CERTIFICATIONS:** The contractor shall certify as part of its proposal that the work performed on this task order complies with Section 52.225-05 of the Federal Acquisition Regulations relating to Trade Agreements.
- C.1.j. **THE GOVERNMENT POINT-OF-CONTACT (POC) FOR THIS TASK ORDER:**
- |                                     |                                  |
|-------------------------------------|----------------------------------|
| <b>Address:</b> USGS/NGTOC          | <b>Telephone:</b> (573) 308-3587 |
| <b>ATTN:</b> Patrick Emmett, MS 666 | <b>FAX:</b> (573)-308-3810       |
| 1400 Independence Road              | <b>e-mail:</b> pemmett@usgs.gov  |
| Rolla, MO 65401                     |                                  |
- C.2. **Digital Deliverables:** Reference C.1, 3.11 of the Contract.
- C.2.a. **The Contractor shall deliver one copy** of the Ortho Image data products and documentation as specified in C.1 of this Task Order:
- C.2.b. **Format:** Data shall be delivered in the formats specified in Section C.1.b.(vi) of this Task Order.
- C.2.c. **Delivery Medium:** The digital data shall be delivered on external hard drive, i.e. (firewire, or USB2 – Less than USB2 is not acceptable).
- C.2.d. **Deliverable Validation:** Reference C.1, 3.12 of the Contract. The Government may choose to contract with a separate contractor for validation on all submitted deliverables.

**SECTION D: - PACKAGING AND MARKING**

D.1. No additional Section D requirements are applicable to this Task Order.

**SECTION E: - INSPECTION AND ACCEPTANCE** - The following Section E additional requirements are applicable to this Task Order:

E.1. **Inspection Period:** Reference E.4 GS0720 of the Contract. The inspection period begins the day after the data has been delivered. All deliverables will be validated within a thirty (30) calendar-day of the inspection period

E.2. **Inspection and Acceptance Procedures:** Reference E.5 E780 of the Contract. The Government will perform a full inspection of all deliverables in accordance with E.5 E780 of the Contract.

**SECTION F: - DELIVERIES OR PERFORMANCE** - The following Section F additional requirements are applicable to this Task Order:

F.1. **Place of Delivery:** Reference F.2 GS0904 of the Contract. Contractor shall submit all requested deliverables to the address of the POC, as shown in C.1.j of this Task Order.

F.2. **Proposed Delivery Schedule:** Reference F981 of the Contract. The Government requires the following delivery schedule:

F.2.a. **Delivery Lot One (1):** Consisting of all required imagery and ancillary products for the **San Francisco** 133UA (NGA) AOI within sixty (60) days of completion of imagery acquisition, but no later than June 30, 2011.

F.2.b. **Delivery Lot Two (2):** Consisting of all required imagery and ancillary products for the **Sacramento** 133UA (NGA) AOI within ninety (90) days of completion of imagery acquisition, but no later than July 30, 2011.

F.2.c. **Delivery Lot Three (3):** Consisting of all required imagery and ancillary products for the **Stockton and Modesto** 133UA (NGA) AOI's within one hundred-twenty (120) days of completion of imagery acquisition, but no later than August 30, 2011.

F.2.d. **Delivery Lot Four (4):** Consisting of all required imagery and ancillary products for the **Santa Rosa, Sonoma, and Windsor Upgrade** AOI's within one hundred-fifty (150) days of completion of imagery acquisition, but no later than September 30, 2011.

F.2.e. **Delivery Lot Five (5):** Consisting of all required imagery and ancillary products for the **Napa Upgrade** AOI's within one hundred-eighty (180) days of completion of imagery acquisition, but no later than October 30, 2011.

- F.2.f. **Delivery Lot Six (6):** Consisting of all required imagery and ancillary products for the **Marin, Sacramento, and Yuba Upgrade** AOI's within two hundred-ten (210) days of completion of imagery acquisition, but no later than November 30, 2011.
- F.3. **Negotiated Delivery Date(s)** for Task Order:
- F.3.a. **Delivery Lot One (1):** consisting of all required imagery and ancillary products for the San Francisco AOI will be delivered to USGS no later than July 15, 2011.
- F.3.b. **Delivery Lot Two (2):** consisting of all required imagery and ancillary products for the Sacramento AOI will be delivered to USGS no later than August 15, 2011.
- F.3.c. **Delivery Lot Three (3):** consisting of all required imagery and ancillary products for the Stockton and Modesto AOI's will be delivered to USGS no later than September 15, 2011.
- F.3.d. **Delivery Lot Four (4):** consisting of all required imagery and ancillary products for the Santa Rosa, Sonoma, and Windsor Upgrade AOI's will be delivered to USGS no later than October 15, 2011.
- F.3.e. **Delivery Lot Five (5):** consisting of all required imagery and ancillary products for the Napa Upgrade AOI's will be delivered to USGS no later than November 15, 2011.
- F.3.f. **Delivery Lot Six (6):** consisting of all required imagery and ancillary products for the Marin, Sacramento, and Yuba Upgrade AOI's will be delivered to USGS no later than December 15, 2011.
- F.4. **Nonconforming deliverables:** Nonconforming deliverables returned to contractor for rework shall be delivered in accordance with Contract clause E.6 E784. Because of the urgency and high profile of this task, nonconforming deliverables shall be corrected and returned to the USGS with 48 hours of notification of nonconformance.
- F.5. **Progress Reports:** Contractor shall submit a monthly progress report for this task order in accordance with Contract clause F.6 GS0931 and F.7 GS0938.

**SECTION G: - CONTRACT ADMINISTRATION DATA**

- G.1. No additional Section G requirements are applicable to this Task Order

**SECTION H: - SPECIAL CONTRACT REQUIREMENTS** -The following Section H additional requirements are applicable to this Task Order:

- H.1. **Applicable Regulations And Permits -- Aircraft Operations:** Reference H.22 H1344 of the contract. The contractor shall be responsible for applying for and obtaining any required permits for access, over-flight, or intrusion to restricted or

otherwise limited ground access and/or airspace, which may be included within the requirement of this task order.

H.2. **Government Furnished Property:** Reference H.12 H1480 of the contract. Existing USGS digital elevation data and/or local elevation data for project area will be supplied to the Contractor by the Government upon request.

H.3. **Return of GFP:** Reference H.12 H1480 (d) of the Contract. GFP items may be retained, destroyed, or returned to the Government at the Contractor's option upon notification of successful project completion.

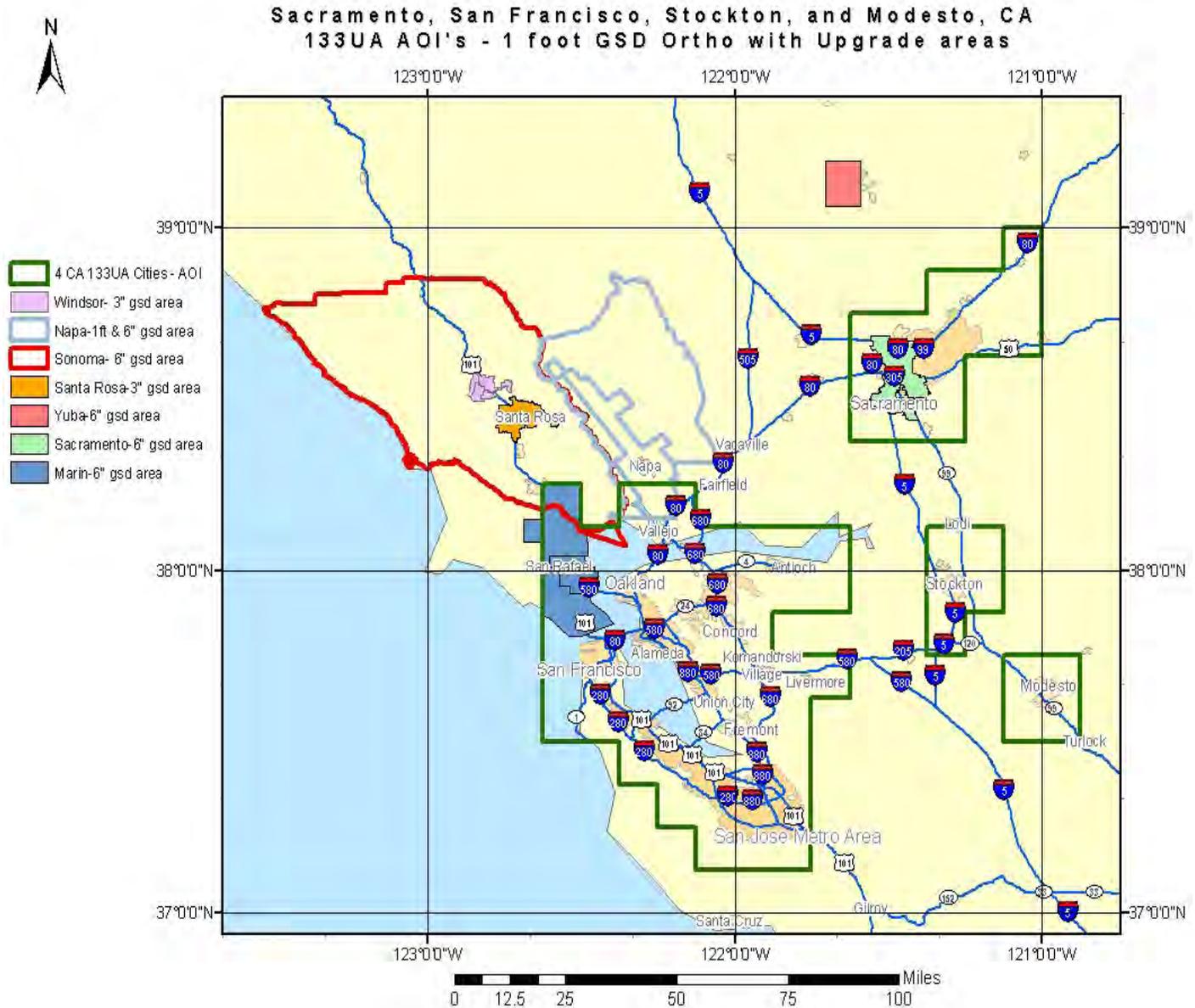
**SECTION I: - CONTRACT CLAUSES**

I.1. No additional detail is required for this Task Order.

**SECTION J: - LIST OF ATTACHMENTS TO THIS TASK ORDER**

J.1.	Attachment A -	Project Description & Diagram	1 Pages
J.2.	Attachment B -	Shape files	1 Page

**TASK ORDER -- Attachment A**  
**San Francisco, Sacramento, Stockton, Modesto CA 133UA Ortho with Upgrade areas -**  
**Project Diagram**



**END "ATTACHMENT A"**

**TASK ORDER Attachment B -  
San Francisco, Sacramento, Stockton, Modesto CA 133UA Ortho with Upgrade areas –  
Project Shape Files**

**THIS SECTION CONSISTS OF THE FOLLOWING DATA SET(S)**

**4\_CA\_133UA\_cities.zip  
Marin\_upgrade.zip  
Napa\_upgrade.zip  
Sacramento\_upgrade.zip  
SantaRosa\_upgrade.zip  
Sonoma\_upgrade.zip  
Windsor\_upgrade.zip  
Yuba\_upgrade.zip**

**END “ATTACHMENT B”**