



BOB WISE
GOVERNOR

STATE OF WEST VIRGINIA
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON STREET, EAST
P. O. BOX 50130
CHARLESTON, WEST VIRGINIA 25305-0130

GREGORY A. BURTON
CABINET SECRETARY

DAVID TINCHER
DIRECTOR

Dear Vendor:

Enclosed is the bid package you requested. We appreciate your interest in participating in the competitive bid process in order for the State of West Virginia to receive the highest quality goods and/or services at the lowest possible cost.

If you have any questions concerning bid specifications or the bid process, please feel free to contact the buyer handling this Request for Quotation. The buyer's name and telephone number are located in the upper right-hand corner of the Request for Quotation.

It is the vendor's responsibility to make sure that the original bid is received in the State Purchasing Division and an exact duplicate bid is received in the State Auditor's Office prior to the established bid opening date and time. We have enclosed pre-addressed labels for your convenience. Please complete the required information on the label and mail your bids in **separate envelopes** to the respective offices.

Again, thank you for participating in the State of West Virginia's bid process.

Sincerely,

A handwritten signature in black ink, appearing to read "David Tincher", written over a large, stylized flourish.

David Tincher, Director, CPPO
State Purchasing Division

DT/j

Enclosure



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street, East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFO NUMBER
SAM0301

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
RON PRICE
304-558-0492

RFQ COPY

TYPE NAME/ADDRESS HERE

VENDOR

SHIP TO

WV STATEWIDE ADDRESSING
 AND MAPPING BOARD
 GREENBROOKE BLDG SUITE 201A
 1124 SMITH STREET
 CHARLESTON, WV
 25301 304-558-4218

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
07/14/2003				

BID OPENING DATE: **08/20/2003** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-07		
<p>CONSULTING SERVICES</p> <p>EXPRESSION OF INTEREST FOR CONSULTING SERVICES TO BE UTILIZED IN THE PREPARATION OF ADVANCED TECHNICAL SERVICES FOR STATEWIDE ENHANCED 9-1-1 AND RURAL ADDRESSING PURPOSES PER WV CODE SECTION 24-E.</p> <p>ADDITIONAL INFORMATION IS ATTACHED</p> <p>A MANDATORY PRE-BID CONFERENCE WILL BE HELD ON 8/6/03 AT 10:00 AM AT THE VERIZON HEADQUARTERS BUILDING LOCATED AT 1500 MACCORKLE AVENUE SE, CHARLESTON, WV. ALL INTERESTED FIRMS MUST ATTEND THE PRE-BID. FAILURE TO ATTEND THE MANDATORY PRE-BID CONFERENCE SHALL AUTOMATICALLY RESULT IN DISQUALIFICATION. NO ONE PERSON CAN REPRESENT MORE THAN ONE FIRM.</p> <p>***** THIS IS THE END OF RFQ. SAM0301 ***** TOTAL</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ. INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED "VENDOR"

**GENERAL TERMS & CONDITIONS
(REQUEST FOR QUOTATION) RFQ AND (REQUEST FOR PROPOSAL) RFP**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$45 fee.
5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from Federal and State taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this contract is automatically null and void, and is terminated without further order.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
 2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
 3. Complete all sections of the quotation form.
 4. Unit prices shall prevail in case of discrepancy.
 5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
- DUPLICATE BIDS:** All quotations must be delivered by the bidder to the respective offices listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

ORIGINAL SIGNED BID TO:

Department of Administration
Purchasing Division
2019 Washington Street, East
Post Office Box 50130
Charleston, WV 25305-0130

DUPLICATE BID TO:

State Auditor's Office
Bid Observer
Building 1, Room W114
1900 Kanawha Boulevard, East
Charleston, WV 25305-0230

SOLICITATION OF EXPRESSIONS OF INTEREST

EOI # SAM-0301

West Virginia Statewide Addressing and Mapping Board (SAMB)

7/14/2003

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PART I. TECHNICAL REQUIREMENTS

1.1 OVERVIEW

Pursuant to *West Virginia Code Section 5G-1-1, et seq.*, the Acquisition and Contract Administration Section of the Purchasing Division (State), on behalf of the West Virginia Statewide Addressing and Mapping Board (“Board” or “SAMB” below) is soliciting Expressions of Interest (EOI) in establishing a contract through negotiations with a qualified engineering Vendor or Vendor team with high-level capabilities to support statewide 9-1-1 addressing and database development and otherwise to support the West Virginia Statewide Addressing and Mapping Project (WVSAMP or SAMP).

The West Virginia Legislature created the West Virginia Statewide Addressing and Mapping Board in the 2001 session (Senate Bill 460, codified as *W. Va. Code Section 24E-1-1 et seq.*). The Statewide Addressing and Mapping Board is charged with developing an integrated addressing and photogrammetric base mapping system for the entire State of West Virginia. The system includes aerial photography for the development of digital maps and a computerized Geographic Information System (GIS) that will interface with and contribute to the needs of the following: county and municipal Enhanced 9-1-1 services, state and local government agencies, telephone companies, United States Postal Service (USPS), and utility systems, with a special focus on public safety and emergency response. The entire project undertaken by the Board is referred to herein as the “Project,” or as the West Virginia Statewide Addressing and Mapping Project (WVSAMP or SAMP).

In February 2003, after a competitive EOI process, the SAMB awarded a contract to BAE SYSTEMS ADR, Inc. (BAE) to develop statewide digital orthoimagery created from ground controlled aerial photography. The digital orthoimagery is of two-foot ground resolution in 24-bit true color and was collected during the late winter/early spring of 2003. The contract also required developing planimetric layers at the scale of 1 inch to 400 feet (1:4800), conforming to the positional accuracy standards established by the American Society of Photogrammetry and Remote Sensing (ASPRS) for 1 inch to 400 feet (1:4800) scale maps. The planimetric layers include: road centerlines, major driveway centerlines, railroad centerlines, overpasses, bridges and tunnels, building points, major structure polygons, hydrography, and dams and spillways. The images will be delivered in TIFF format, while

all planimetric data will be delivered in ESRI shapefile format with limited attribution. Initial delivery of imagery and planimetric data is expected to begin in late summer 2003. Specific information on the planimetric data delivery requirements are found in Attachment A.

The intent of this Solicitation of expressions of interest is to develop a comprehensive set of support services for all participating counties and municipalities to complete statewide 9-1-1 city-type addressing and development of related telephone company databases. These services include, but are not limited to, formatting and attributing spatial planimetric data, creating 9-1-1 addresses, linking old-to-new addresses, developing address conversion materials for the USPS, developing MSAG files, providing materials for updating telephone subscriber addresses with local telephone exchange carriers, and creating tabular and spatial Emergency Service Zone files. The delivery of these services shall require the Vendor to work in close cooperation with the assigned county or municipal staff, the SAMB and SAMB Project Manager (Michael Baker Jr., Inc.) to complete required tasks defined by the SAMB. In addition, the Vendor shall be required within six months of the date of contract award to recommend systems and implement procedures on the state-provided system to immediately begin to maintain the spatial data and associated attributes.

The SAMB intends to select a Vendor who can assure the delivery of a variety of goods and services to the SAMB, to West Virginia counties and municipalities, and to other state, local and regional agencies. The Vendor shall be required to work closely with local Addressing Coordinators, the SAMB, SAMB Project Manager and stakeholders throughout the project to ensure that local needs are being met. The SAMB is seeking a Vendor who is willing to assume responsibility for providing these goods and services in a timeframe which enables the SAMB to meet its statutory goal of completing statewide addressing and mapping by April 1, 2007. This shall require the Vendor to complete its work by January 1, 2007.

A contract to support the West Virginia Statewide Addressing and Mapping Program will be awarded for statewide 9-1-1 addressing and database development in the fall of 2003. At the State's discretion, extensions or modifications to the initial contract may be considered for subsequent years.

It is imperative that the SAMP be completed as soon as possible. As a result, SAMB and its Project Manager have set forth their own specific ideas on performance, data, concepts, and approaches, as incorporated in this document. Vendors are not limited to those ideas, but are encouraged to submit their own ideas on performance, data, concepts, and approaches. The qualifications of each Vendor, however, will be determined based not only on that Vendor's experience, but also on how well the Vendor's response demonstrates that the Vendor has a grasp of the project being undertaken by SAMB and how well the Vendor's vision of the project integrates into and dovetails with SAMB's vision.

1.2 BACKGROUND INFORMATION

The State of West Virginia is a mostly rural state encompassing 24,000 square miles with a population of approximately 1,800,000. The state has 55 counties and 234 incorporated municipalities, the latter of which account for one-third of the state's population but only 433 square miles of its land area. The remaining two-thirds of the state's residents live in hundreds of unincorporated places and use rural route box numbers or post office box numbers for addresses. The 2000 Census identified 736,481 households and 844,623 housing units in West Virginia.

Enhanced 9-1-1 service has been deployed, or is in the process of being deployed, in all 55 counties. Fifty-three counties have a centralized PSAP. Two counties share a PSAP with a neighboring county. Currently there is one municipal PSAP, however a limited number of municipalities serve as a dispatch center. The West Virginia State Police maintain their own dispatch centers in certain counties for the answering of their seven digit emergency number, and at times some receive transferred 9-1-1 calls from the county and municipal PSAPs.

The state has eight incumbent local exchange carriers (ILECs) and 19 certificated competitive local exchange carriers (CLECs) actively operating, with approximately 908,000 subscriber access lines. Only two ILECs maintain 9-1-1 databases, Verizon, which has approximately 89 percent of the state's access lines, and Frontier Communications, which has its databases currently maintained by ALLTEL but is planning to assume direct responsibility in the near future. There is a very small number of MSAGs that have been created to date. Verizon has three, with an additional five in process of being created. All other systems use routing based on TAR codes rather than address. The estimated number

of current ALI records with Verizon is 750,000, though not all of these are considered locatable addresses. Similar information from Frontier Communications is not available.

The state has a number of active public safety and emergency response agencies. Estimated numbers for these agencies are:

- Municipal police departments = 219
- Career and volunteer fire departments = 435
- EMS/rescue/ambulance (public and private) services = 210
- County sheriff offices = 55
- State Police detachments = 65

Several counties have either completed 9-1-1 city-type addressing or in the process of doing so through their own efforts or in conjunction with a private addressing contractor. Most of these addresses were created using NENA standards or some variation thereof. Most, if not all, of the municipalities have created city-type addresses, though the standards used for address creation in these areas are unknown. A current status estimate of addressing activities by county, including population, number of telephone access lines, and other information, is found in Attachment B.

The USPS delivers mail to approximately 899,265 postal customers in West Virginia. Two USPS Addressing Management Systems (AMS) Offices serve the state. The office in Charleston covers all counties except Brooke, Hancock, Marshall, and Ohio, which are in the northern panhandle of the state. The AMS office in Pittsburgh, Pennsylvania serves these latter four counties. A breakdown by five-digit ZIP code on the number of city delivery addresses, rural route and highway contract box addresses, and post office boxes is found in Attachment C.

Based on information provided by the USPS, statewide estimates on the number of addresses by type are:

- Number of city delivery addresses = 493,047
- Number of rural route or highway contract box addresses = 171,046
- Number of post office boxes = 234,172

In addition to the number of rural route and highway contract boxes requiring city-type addresses to be created, it is estimated that approximately 214,000 of the post office boxes represent structures requiring the creation a city-type address for Enhanced 9-1-1 service. The estimated total of new city-type addresses is, therefore, 386,000. Beyond this, it is estimated that 40,000 to 50,000 existing city-type addresses statewide may need to be corrected to eliminate confusing or ambiguous addresses that cause problems for emergency response or postal delivery. The estimated number of five-digit ZIP codes requiring an Address Conversion Package is between 300 to 400.

The West Virginia Division of Highway estimates there are approximately 38,000 miles of roads in the state, of which 2,136 miles are city streets. There are 6,110 road names in the state highway system, with an additional 1,158 roads without names. Some of these roads without names are U.S. and state signed roads.

The Vendor shall be responsible for making its own estimates as to the level of work involved.

1.3 SCOPE OF WORK

The SAMB intends to select a qualified engineering Vendor who can assure the delivery of a variety of goods and services to the SAMB, to West Virginia counties and municipalities, and to other state, local and regional agencies. The Vendor shall be required to work closely with local Addressing Coordinators, the SAMB, SAMB Project Manager, and other stakeholders throughout the project to ensure that local needs are being met. The SAMB is seeking a Vendor who is willing to assume responsibility for providing these goods and services in a timeframe, which enables the SAMB to meet its statutory goal of statewide, addressing and mapping by April 1, 2007. This shall require the vendor to complete its work by January 1, 2007.

The SAMB recently published the *West Virginia 9-1-1 Addressing Handbook, First Edition*, which outlines the responsibilities for 9-1-1 addressing in the state. The first edition is designed to provide sufficient information to counties and municipalities to prepare them for working with the Vendor to create 9-1-1 addresses and develop the associated databases. Briefly, the tasks to be completed by counties and municipalities listed in the first edition of the handbook include:

- Commit to SAMB 9-1-1 addressing process.

- Designate an Addressing Coordinator.
- Identify roads to be part of the county or municipal emergency road network.
- Adopt 9-1-1 addressing standards.
- Adopt an addressing ordinance.
- Notify residents of 9-1-1 addressing process.
- Request postal edit sheets from the USPS, if rural postal addresses present.
- Discuss the naming and numbering of shared roads with adjacent counties and municipalities.
- Eliminate conflicting road names and assign official road names to all roads that are part of the emergency road network.
- Assist the Vendor with identifying intersection address ranges on roads where city-type addresses are present.
- Designate staff to assist the Vendor.
- Work with Vendor in a timely fashion to complete all necessary tasks.

As of this date, the SAMB has received 41 letters of participation from counties and 12 from municipalities. Under the permanent rules to be submitted by the SAMB to the state legislature during the summer of 2003, the deadline for county and municipal authorities to elect to participate in the project is December 31, 2003.

A second edition of the addressing handbook is planned for release by the SAMB in late 2003 after the Vendor is hired and the remaining steps of the process are better defined. These tasks will require counties and municipalities to assist the Vendor with the following:

- Provide access to parcel maps and tax roll addressing.
- Link and validate city-type addresses for all properties.
- Assign and approve road names and other attributes to digital road centerlines.
- Complete rural address conversion with the USPS.
- Complete the linking of addresses to telephone subscribers.
- Verify the MSAG with the appropriate local exchange carrier.
- Identify Emergency Service Zone (ESZ) boundaries and associated emergency response agencies.

- Approve all data developed by the Vendor before final acceptance.
- Update the county or municipal tax database with new addresses.
- Notify property owners of their new addresses.
- Update the MSAG and Emergency Service Zones, as needed.
- Facilitate new address adoption by utility companies and others.
- Assign new addresses as needed.

Upon completion of the development by the Vendor and final acceptance by the Board of all 9-1-1 addresses and databases, counties will assume responsibility for the maintenance of all spatial data. These spatial data will be stored in an ESRI Geodatabase format.

Vendor responsibilities and deliverables are described in specific detail in the following sections. Briefly, they shall include:

- In general, extensively support county and municipal addressing and database development efforts under direction of the SAMB and the SAMB Project Manager.
- Assess the quality of existing city-type addresses and road names and identify problems for local correction.
- Assist with the identification of intersection address ranges for communities and counties with existing city-type addresses.
- Create city-type addresses where needed.
- Create a master addressing database.
- Develop all necessary 9-1-1 databases (MSAG and ESZ).
- Assist telephone exchange carriers with ALI assignment.
- Provide materials for and assist with USPS address conversion.
- Format spatial data based on specified standards. Create additional data as needed.
- Attribute spatial data upon receiving official approval of relevant information by Addressing Coordinators and review by SAMB Project Manager.
- Maintain currency of all spatial data and attributes until project completion.
- Deliver all data to a location specified by the board on a delivery schedule to be determined by the SAMB and the SAMB Project Manager.

- Develop specifications, processes, and documentation for long-term spatial data maintenance.
- Provide a final set of map products to all participating counties and PSAPs.
- Propose a methodology to update the West Virginia Division of Highways road database.
- Provide and follow a project management plan to insure project completion in a time frame established by the SAMB.
- Conduct a pilot project.
- Meet all acceptance criteria established by SAMB and the SAMB Project Manager.
- Complete all work by January 1, 2007.

Expressions of Interest must also articulate a clear and specific vision of (a) how the mapping and addressing data will be delivered to and accessed by local governmental agencies and other users for 9-1-1 and other purposes; and (b) how the data will be maintained in the future either (1) by an outside contractor or (2) by the local governmental agencies themselves. Expressions of Interest must also clearly state the Vendor's proposal with respect to (a) what work the Vendor proposes to perform in connection with achieving its vision, including what systems and deliverables the Vendor proposes to deliver; and (b) what work or systems the Vendor expects local governmental agencies to perform or deliver in order to achieve the Vendor's vision. **It is crucial that the Vendor articulate a vision for performing the work in a manner that integrates seamlessly into the work being performed by BAE, and that will achieve an integrated, world-class addressing and mapping system.**

The following resources should be available to the Vendor to accomplish its tasks. Vendors are strongly encouraged to seek additional data sets that will enhance their ability to perform under this Solicitation.

- Statewide digital color orthophotos (1:4800) in TIFF format
- Planimetric spatial data (roads, building points, hydrography, etc.)
- County and municipal tax assessing databases
- Customer Record Information Systems (CRIS) or similar extracts from Verizon and Frontier Communications databases
- Digital edit sheets from USPS
- West Virginia Division of Highways road databases and maps (both analog and digital)
- Statewide tax parcel maps in TIFF format

- Digital tax parcel maps, where available
- Fire protection response boundary maps

The Vendor shall be ultimately responsible for delivery of the final work product, which must include, but will not be limited to completing statewide city-type addressing and the development of all necessary 9-1-1 databases. Although the *West Virginia 9-1-1 Addressing Handbook, First Edition* places certain responsibilities on participating public agencies, nothing in the Handbook may be construed to absolve the Vendor of this ultimate responsibility to the Board, except to the extent to which public agencies have failed or refused to pass ordinances or other enabling legislation or perform other tasks for which they have sole legal authority that may be a necessary prerequisite to accomplishing city-type addressing.

1.4 VENDOR DELIVERABLES

The State shall become the sole owner of all deliverables and associated intermediate data. Deliverables must include the following, without limitation:

1.4.1 FORMAT PLANIMETRIC GIS DATA.

The Vendor will receive sets of planimetric GIS data described below from BAE, the SAMB Mapping Vendor. The files will be provided in ESRI shapefile format or equivalent as approved by the board with minimal attribution in West Virginia State Plane Coordinate System (Zones North and South), NAD83 datum and units U.S. Survey Feet. A full set of planimetric feature delivery specifications for the mapping Vendor is described in Attachment A.

The Addressing Vendor shall be required to:

- Convert all planimetric data to ESRI ArcSDE Geodatabase format or approved equivalent.
- Build clean topology for all adjacent linear and polygonal features.
- Build the appropriate attribute tables based on NENA-02-010 format for road centerlines, bridges, railroads, hydrology, building points, and structure polygons. Road centerline attribute tables must also contain the old road name if the road name was changed.

- Build attribute tables for other layers using appropriate national standards as determined through discussion with the SAMB Project Manager.
- Add or calculate attribute values in relevant addressing data sets following official approval by local Addressing Coordinators and the SAMB Project Manager.
- Update all relevant planimetric data used for addressing during the field validation phase or whenever fieldwork or additional input from the counties or state indicates a change.
- Post changes back to the ESRI ArcSDE Geodatabase or approved equivalent.
- Provide metadata compiled to the current standard endorsed by the Federal Geographic Data Committee (FGDC) for each of the data sets. Currently, this is the Content Standard for Digital Geospatial Metadata Version 2 (FGDC-STD-001-1998). Metadata must be compiled in the Metadata section of ESRI's ArcCatalog application or equivalent as approved by the SAMB.
- Maintain all Geodatabases in a secure physical location that must be accessible to the SAMB Project Manager and the SAMB. The SAMB and the SAMB Project Manager may designate an alternative location for the storage of the Geodatabases.
- Deliver individual data sets to each county in one of the following formats, as per the requirements of the county or PSAP: ESRI Personal Geodatabase, ESRI Shapefile, ESRI Coverage, Microstation Design File, Intergraph GeoMedia, MapInfo, AutoCAD Drawing File or approved equivalents. There is currently only one municipal-only PSAP in the State of West Virginia, at Weirton, West Virginia. This data set must also be delivered to any municipal-only PSAP existing at the time of the delivery.

Additionally, the Vendor shall propose other attributes to insure that all spatial data will be compatible with the Federal Communications Commission (FCC) requirements for Phase II wireless 9-1-1 Docket No. 94-102, U.S. Census Bureau Master Address File (MAF), and, to the fullest extent possible, the National Model: Statewide Application of Data Collection and Management Technology to Improve Highway Safety by the U.S. Department of Transportation, Highways Administration, Publication No. FHWA-RD-99-140, FGDC Address Content Standard (under development) and the ESRI Geodatabase Address Model (under development).

Further, Vendor shall create centerlines of navigable waterways as determined by the U.S. Army Corps of Engineers (USACE), and show river mile markers, which are in addition to NENA standard

hydrographic attributes. The planimetric hydrological features collected by BAE may contain edges of waterways instead of centerlines in which case the addressing vendor shall digitize the needed waterway centerline detail where Army Corps of Engineers river centerlines do not exist or are not available. This information is in addition to the NENA-standard attributes. It is believed that this additional information is available from the Army Corps of Engineers. Vendor shall address shore facilities and habitable structures along navigable waterways with both street and river mile marker addresses.

Vendors shall create a feature data set for recreational trail systems using ancillary data and trails captured in the BAE planimetric mapping. Attributes shall be determined by the SAMB Project Manager.

The Vendor shall also be required to create spatial Emergency Service Zone polygons upon identification and approval of emergency service zone boundaries by local Addressing Coordinators. Please see Task 7 for further information.

Planimetric features to be provided by BAE are set forth in the contract between SAMB and BAE attached hereto as Attachment A.

1.4.2 ASSESS COUNTY AND MUNICIPAL ADDRESSING READINESS AND QUALITY OF ADDRESS INFORMATION.

The Vendor shall meet with designated county and municipal Addressing Coordinators to confirm completion of all necessary tasks prior to commencement of the addressing process within their jurisdictions. These tasks, which are described in detail in the Addressing Handbook, must be completed before the Vendor can start work with a jurisdiction. If these tasks are not complete, it is the responsibility of the Vendor to work with the SAMB and local officials to ensure their completion.

Tasks to be completed by the county or municipality prior to commencing work with the Vendor are described in detail in the *West Virginia 9-1-1 Addressing Handbook, First Edition*. Counties or municipalities that already have existing city-type addresses are required to have completed a review of their existing addresses to identify problems and conflicts. Please consult the handbook for further information on the requirements of this latter task. Note: Some municipalities or counties with existing

city-type addresses may possess digital or spatial data that may be of assistance to the Vendor. The extent or accuracy of these data is unknown.

The Vendor shall also assess the quality of any existing city-type addresses and road names. The Vendor shall review city-type addresses provided by the Addressing Coordinators and contact the USPS Address Management Systems offices to determine if any existing city-type addresses used for postal delivery create any delivery issues or problems. Issues may include duplicate numbers, fractional or alphanumeric numbers, duplicate or similar sounding road names, and the like. The Vendor shall also review the list of official road names to determine if any duplicate or similar sounding names exist or if any roads are missing names.

If any issues with property numbers or road names are found, the Vendor shall notify the Addressing Coordinator and provide correction options. The Vendor will then receive written notification of the disposition for all outstanding issues with either a request for Vendor assistance in correcting the problems or a written assumption of liability by the jurisdiction in not correcting the identified problems.

1.4.3 IDENTIFY INTERSECTION ADDRESS RANGES IN ALL COMMUNITIES AND COUNTIES WITH EXISTING CITY-TYPE ADDRESSES.

For counties or municipalities with existing city-type addressing, the Vendor shall, with the assistance of the Addressing Coordinator, identify intersection address ranges on those roads where city-type addressing exists. These ranges must be used to populate relevant attribute fields required by the NENA-02-010 standards for the GIS Centerline Layer. Intersection address ranges must contain potential ranges based on a standard numbering interval wherever possible. One-way streets must also be identified and so attributed. Because of the lack of available information, significant field verification for intersection address ranges may be required of the Vendor.

1.4.4 ASSIGN CITY-TYPE ADDRESSES.

The Vendor shall assign a city-type address to all identified structures in the building point planimetric layer, or otherwise identified. Locations to be addressed include all occupied or inhabited structures, including homes, housing units, businesses, RV parks, trailer courts, campgrounds, marinas, colleges, industrial complexes, pay phones, etc. It is understood that mapping and addressing the locations of

pay phones and other features not provided by the BAE are the responsibility of the Addressing Vendor. The addressing process must also include the addressing of multiple structures within a single structure, such as apartment complexes, town homes, condominiums, and/or commercial retail establishments. It is essential that all structures having telephone service be addressed, including freestanding public telephones. Uninhabited structures or vacant business structures with the potential for telephone service must be addressed, as well as occupied structures that do not presently have telephone service. Address assignment must also be made for bridges and intersections.

Assignment of city-type addresses must be in accordance with the addressing standards adopted by the county or municipality for number assignment in their addressing ordinance. The SAMB has developed the *WV 9-1-1 Addressing Standards* upon which many of these ordinances were based. These standards include the following basics:

- Even numbers on the right side of a road, from the point of its beginning, and odd numbers on the left side of a road.
- Numbers assigned every 10.56 feet or each 1/500-mile on each side of a road. This will yield 1000 numbers per mile, 500 odd on one side and 500 even on the other.
- A consistent beginning point for numbering, based on one of three options, as specified in the *Addressing Standards*.
- Guidelines for corner lots, cul-de-sacs, trailer parks, apartments, bridges, and numerous other situations.

Other general guidelines for address assignment include:

- When the primary building access (front door) can be clearly seen from the road, the address will be assigned where that access falls perpendicular to the road.
- If the primary access cannot be seen from the road, the number shall be assigned where the access road or driveway to the building meets the road.
- Addresses will be assigned to recreational vehicle trails where they meet a main road.
- Addressees will be established for all buildings that have telephone access through a private switch or PBX, regardless of current or planned use of these addresses in the switch database.

Note: In those areas where city-type addressing already exists, the Vendor shall adopt and use for additional addressing activities the existing adopted addressing standards, subject to review and approval of the SAMB and the SAMB Project Manager

Based on the addressing standards established by the county or municipality, the Vendor shall develop appropriate attribute values in the relevant spatial files for use in address assignment. For road centerlines, attribute values for each road segment must contain all those required by the NENA-02-010 standards for the GIS Centerline Layer. Additionally, directionality must be established for all road segments based on the numbering direction or the beginning point for numbering for each road. The attribute fields in the GIS layer for building point features must contain all information required by the NENA-02-010 standards for GIS Site/Structure Location Layer, and x and y coordinate fields additionally.

1.4.5 CREATE MASTER ADDRESS DATABASE.

Upon establishment of an address for each structure, the Vendor, with assistance from the local Addressing Coordinator, shall create an old-to-new master address database for use by the local jurisdiction. The Vendor shall assist and complete in concert with the local Addressing Coordinator, if necessary, the preparation of tax databases and other relevant documents to be used in old-to-new address assignment.

The master address database must contain a complete listing of all address assignments, with the following fields at a minimum: road name, address, property owner name, resident name, telephone number (if available), old address, postal community, and ZIP code. This database must be a digital database delivered in Microsoft Access 2000 or equivalent version, or .dbf format upon request. This database will be used to provide cross-reference lists to update telephone subscriber addresses with Verizon, Frontier Communications and other telephone utilities in West Virginia, to update postal customer addresses with the USPS and to update county and state tax databases.

1.4.6 CREATE MSAGS.

The Vendor shall construct in digital format an MSAG for each jurisdiction using NENA-02-010 standards and provide to each local telephone exchange carrier maintaining 9-1-1 databases. An MSAG in digital and hard copy format must also be provided as part of the Address Conversion

Package (described below) for the USPS for each ZIP code. The MSAG must be extracted from the GIS road centerline files to ensure synchronization between mapping and 9-1-1 databases. The Vendor shall assist local Addressing Coordinators with resolving discrepancies in the MSAG. Minimum MSAG field requirements for Verizon are found in Appendix D.

1.4.7 IDENTIFY EMERGENCY SERVICE ZONES AND CREATE RELATED SPATIAL FILES.

The Vendor shall assist local Addressing Coordinators in working with their emergency service agencies and other officials in each county, city, or other political entity to identify precise boundaries for unique combinations for law enforcement, fire, and emergency medical services response areas. Following local approval of the identified boundaries, the Vendor shall create spatial polygon features with topology, as part of Task 1 above, for Emergency Service Zones. The Vendor shall also prepare and provide tabular Emergency Service Zone information for the appropriate local exchange carrier. The Vendor shall assist, as necessary, with the assignment of Emergency Service Numbers (ESNs) for all identified ESZs.

1.4.8 PROVIDE ASSISTANCE WITH USPS ADDRESS CONVERSION.

The Vendor shall, with the assistance of the local Addressing Coordinator, prepare and submit an Address Conversion Package to the Addressing Management Systems Office of the USPS for each five-digit ZIP code. Each Address Conversion Package must consist of the following:

1. An old-to-new address conversion list for each postal edit sheet in specified digital and hard copy formats. The list must contain a new address for each box number on the edit sheet and be sorted in the following sequence:
 - ZIP code
 - Carrier Route (C, H, R)
 - Route #
 - Box #
2. An MSAG listing for all roads within the ZIP code in specified digital and hard copy formats.
3. A paper map (two copies, plus an electronic archival version) showing all roads within the ZIP code and displaying road names and intersection address ranges to facilitate assignment of ZIP+4 Codes.

Address Conversion Packages must be submitted by the Vendor to the Addressing Management Systems Office of the USPS in Charleston, WV for all counties in West Virginia except Brooke, Hancock, Marshall, and Ohio counties. Conversion packages for these latter four counties must be submitted by the vendor to the Addressing Management Systems Office of the USPS in Pittsburgh, PA. Contact information and mailing addresses for these offices is found in the *West Virginia 9-1-1 Addressing Handbook, First Edition*. The Vendor shall assist the local Addressing Coordinator with resolving any issues with postal address conversion, including missing customer names or addresses, ZIP code boundary adjustments, and town/post office name identity issues. The Vendor shall promptly bring to the attention of the SAMB Project Manager and SAMB any issues that cannot be immediately resolved amicably.

1.4.9 DEVELOP ALI DATA FOR TELEPHONE COMPANIES.

The Vendor shall prepare and submit address files, with the assistance of the local Addressing Coordinator, to Verizon, Frontier Communications, and any other identified local exchange carrier to assist with creating or updating Automatic Location Identification (ALI) addresses for their 9-1-1 databases. These files must be submitted in a format initially provided by these carriers and must, at a minimum, include telephone subscriber name, phone number(s), current mailing address, new physical address, and several other fields of information. Specific formats for each carrier's current customer record system are found in Attachments D and E.

1.4.10 NOTIFY PROPERTY OWNERS AND RESIDENTS OF NEW ADDRESSES.

The Vendor shall submit a plan as to how it will, with the assistance of the county or municipal Addressing Coordinators, notify property owners and residents of their new 9-1-1 addresses. This process must include creating an informational packet that includes notification of new addresses for Enhanced 9-1-1 service and postal delivery and other educational information regarding the appropriate use of 9-1-1 service for emergencies. The Vendor's plan must include specific recommendations as to the accomplishment of this task.

1.4.11 PROVIDE FINAL MAP PRODUCTS TO COUNTIES AND MUNICIPALITIES.

Upon project completion, the Vendor shall provide each county and each public safety answering point (PSAP) with one set of the map products listed below. All products must be based on West Virginia State Plane Coordinate System (North or South Zones), in U.S. Survey Feet, NAD 83.

1. One overall coverage hard-copy map depicting all the areas served by the PSAP (or PSAPs) or in the county (or counties), plus a buffer of five (5) miles into all adjoining areas. This map must be printed on "E" size (34"x44") paper. The coverage map must display, at a minimum, state routes, state highways, federal highways, official road names, political boundaries, major hydrography, and railroad tracks. The map must also display a legend containing map title, map scale, north arrow, appropriate feature symbols, data source references, and production date.
2. One hard-copy map for each PSAP depicting ESZ boundaries within the PSAP coverage area. This map shall be printed on "D" (22"x34") or "E" (34"x44") size paper. The map shall display, at a minimum, ESZs, Enhanced 9-1-1 road centerlines with official road names and intersection address ranges, hydrography, railroad tracks, and political boundaries. The map must display a legend containing map title, map scale, north arrow, appropriate feature symbols, data source references, and production date. The map must include a grid with reference numbers and letters and an index of road names in alphabetical order with grid cell references. Where necessary, the map must also contain inset maps of more densely populated sections in the PSAP coverage area at a scale larger than the overall map to provide sufficient detail to clearly read road names and intersection address ranges. At the request of the SAMB, individual maps depicting ESZ boundaries within the boundaries of participating municipalities shall be provided.
3. One hard-copy map book, or atlas, for each county and PSAP coverage area. The map book must not exceed 12" in width and 16" in height and be of a size that is easily stored and accessed in emergency vehicles. Individual map pages must be displayed at a scale no smaller than 1:400. The map book must include a general legend containing appropriate feature symbols, data source references, production date, and an overall reference grid for locating

individual map pages. Each individual map page must display, at a minimum, Enhanced 9-1-1 road centerlines with road names and intersection address ranges, hydrography, railroad tracks, and political boundaries. At a minimum, individual map pages must also display a map scale, a north arrow, a graticule showing latitude and longitude, and references to adjacent map pages.

The Vendor shall format each map book and atlas in a logical manner and in such a way as to facilitate the easy replacement of outdated individual map pages. The Vendor shall supply samples or mock-ups with its EOI.

4. One Windows-based CD-ROM that contains all the GIS planimetric data layers developed through the SAMP in a personal Geodatabase format or similar industry standard CAD or GIS database format as specified above (in Section 1.4.1). Areas to be displayed will be those areas served by the PSAP or the county, plus a buffer of five (5) miles into all adjoining areas. The CD-ROM must include a data viewer that provides the following minimum functionality: locate and zoom to an individual address, zoom in and out, and pan.
5. The vendor shall develop and deliver a plotting application developed for the ESRI ArcGIS platform. The plotting application shall be capable of printing sets of each of the above map books and atlases directly from the ArcGIS application and utilizing up-to-date information stored in the ArcSDE Geodatabase. The plotting package shall require minimal user input in order to create updated map books and atlases of type outlined in this section.

The SAMP and the SAMP Project Manager shall approve the final content and format of all map products prior to production.

Both hard copy and print-ready electronic versions (in Adobe .PDF or equivalent) of these map books and atlases shall be delivered.

At the time of the negotiation of a contract based on the EOI, the Vendor shall provide to the SAMP a price list for the purchase of additional copies of the hard copy map books and atlases.

1.4.12 DEVELOP METHODOLOGY FOR THE WEST VIRGINIA DIVISION OF HIGHWAYS.

The Vendor shall propose a methodology to update the West Virginia Division of Highways road database. See Attachment F for minimum fields to be provided in ASCII text format.

1.4.13 MAINTAIN CURRENCY OF GEODATABASE.

During the period in which the Vendor is engaged in developing the products and services defined herein, the Vendor shall perform all address feature updates. This will insure that the address databases delivered at the end of the contract period will be up-to-date as of the date of final delivery. Additionally, the Vendor shall insure that the address ranges in the road centerline data match those in the corresponding MSAG at the time of project completion.

The Vendor shall propose an open-architecture turnkey maintenance solution capable of being implemented by the counties upon addressing project completion. The recommended configurations shall be provided within six months of the date of signing the contract. Open-architecture means OpenGIS compatible and implemented on an industry-standard GIS platform or one that is compatible with the ESRI Geodatabase format that must be stored in ArcSDE or approved equivalent. The Vendor shall deliver all software, procedures and documentation, needed to transfer the technology to the counties.

Prior to the delivery of final data sets to the jurisdiction, the Vendor shall provide a training package and an optional proposal for training and implementation services to the counties and/or municipalities. County and municipal personnel will then take over the responsibility of maintaining all data sets by using the applications and procedures provided by the Vendor. Vendor shall also provide maintenance procedures that employ a failsafe low-tech methodology, such as standard forms for submitting handwritten notifications or for submitting building permits with CAD drawings for new addresses, for example.

In addition, prior to the delivery of any datasets, the Vendor shall provide training to the SAMB or its designated agents using the proposed tools and methodology for database maintenance.

1.4.14 PROJECT MANAGEMENT

The Vendor shall provide a management plan for the project that clearly establishes lines of communication, authority, and responsibility with regards to management of the addressing project. The plan must demonstrate efficient and effective communication on all aspects of the addressing project to minimize the administrative overhead of SAMB. The plan must also state how the Vendor shall ensure that the SAMB will receive the deliverables specified above, and in a time frame that will fit into SAMB's overall purpose. The management plan shall include the following items at a minimum:

1.4.14.1 On Call Point of Contact

An individual or a team of individuals shall be identified by Vendor and contact information provided that allow SAMB and its project manager to contact the Vendor's "Point of Contact" anytime during regular business hours (i.e., 8:00 AM to 5:00 PM), Eastern Standard Time.

1.4.14.2 Project Initiation Meeting and Project Plan

The Vendor shall meet with the SAMB and the SAMB Project Manager within two (2) weeks subsequent to Contract award to discuss the required Vendor project plan. The Vendor shall present a preliminary project schedule and project plan for review and approval by SAMB at the project initiation meeting. The Vendor shall summarize all pertinent issues, clarifications, and proposed changes resulting from the meeting and shall distribute them to the SAMB and the SAMB Project Manager for approval within five (5) working days after the project initiation meeting.

1.4.14.3 Status Meetings

The Vendor shall, at a minimum, participate in monthly meetings in Charleston, West Virginia, or another designated location in West Virginia, unless deemed unnecessary by SAMB in consultation with the SAMB Project Manager. Additional meetings may be scheduled as required upon mutual consent of the Vendor and SAMB in consultation with the SAMB Project Manager at no additional cost to the State.

1.4.14.4 Status Reports

The Vendor shall, at a minimum, provide brief weekly reports to the SAMB and the SAMB Project Manager by email, updating and documenting the status of the project in relation to the project schedule and identifying any issues or concerns. The Vendor shall develop a secure, limited access Project Management Website (either independently or using the SAMB Project Manager's Website, as directed by SAMB) to assist in the dissemination of project status information to the SAMB, the SAMB Project Manager, subcontractors, and other project stakeholders where appropriate. The Vendor shall frequently update its information on such Website as required by the SAMB Project Manager.

1.4.14.5 Weekly Conference Calls

1. The Vendor shall arrange and initiate weekly conference calls, minimally, with the SAMB Project Manager.
2. Weekly calls shall continue until such time as the SAMB and the SAMB Project Manager determine that bi-weekly calls are sufficient.
3. A draft agenda shall be delivered via e-mail and precede each call by 24 hours.
4. Conference calls shall be coordinated by and paid for by the Vendor.
5. Issues, decisions, and outstanding items shall be documented by the Vendor in Microsoft Word (.doc) format and distributed via e-mail within three (3) working days following each call for signature approval by the State.

1.4.14.6 Additional Reporting Requirements

For no additional cost, the Vendor shall be responsible for completion of a variety of administrative and reporting requirements, in a format prescribed by the SAMB, and at times as determined necessary by the SAMB. The Vendor shall use Microsoft Office products (i.e., Word, Excel, Access, etc.) to develop textual reports and otherwise document or communicate. E-mail attachments shall be delivered in formats readable by Microsoft Outlook or Outlook Express, and compressed as necessary (e.g., using WinZip) to reduce file size where applicable.

At a minimum, the Vendor shall submit brief, monthly status reports to the SAMB and the SAMB Project Manager via e-mail, e.g., as a .doc or .pdf file (followed with a mailed paper copy) having these sections:

1. Title page indicating project, Vendor, report date, reporting period.
2. Report of all outstanding technical, administrative and financial issues or problems, recommendations to solve, and who has the responsibility to fix the problem.
3. Updated status database in electronic form (.pdf) to contain and reflect status of deliveries.
4. Table, spreadsheet, or GANTT chart (e.g. .pdf, Excel or MS Project file) indicating percent of work completed.
5. Recommendations that can improve the working relationship between the SAMB, the SAMB project manager, and the Vendor.

The Vendor shall develop an ArcIMS-based web site or approved equivalent for project status tracking. This website must be password protected but may, at the discretion of the SAMB, become a public website. A thematic map or maps must be used to communicate the status of major tasks within various counties.

1.4.15 PILOT PROJECT

The Vendor shall propose how it will perform a pilot project for Kanawha and Putnam Counties or such other area(s) as designated by the SAMB.

1.4.16 OTHER WVSAMP SUPPORT.

The Vendor shall provide assistance to the SAMB and the SAMB Project Manager, upon request, to undertake project-related tasks that may include but are not limited to addressing handbook development, public meetings, and other similar tasks.

1.5 TECHNICAL DELIVERABLE ACCEPTANCE CRITERIA

The Vendor shall meet the following levels of completeness in building the Geodatabases and tabular databases associated with this project:

- Road Centerline Features: 100%
- Addressable Structures Point Features: 98%
- USPS Addressing Conversion Package for each ZIP code: 100%
- Address Location Information for telephone subscribers: 98%
- MSAGs for all telephone exchanges: 98%
- Emergency Service Zone (ESZ) Features and tabular files: 100%

The Vendor shall build Geodatabase files that shall meet or exceed the following GIS criteria:

- Complete edge/junction topology within each line feature.
- Complete topology for the delineation of all polygons.
- Each graphic feature must be completely compiled within a single layer.
- Each layer must contain topographically complete features related to a specific theme (e.g., all roads must be compiled within layers according to a pre-determined functional classification such as primary, secondary, tertiary, trails, and driveways.)
- No alteration of the original planimetric source data geometry shall be performed. This includes line cleaning operations, reprojections, or other file transformations that result in even the minutest changes in vector coordinates. The only exception would be topological fixes or needed additions to the original planimetric data due to errors and omissions passed along to the addressing vendor.
- Mixing of features among layers is not permitted.
- All additions to spatial data sets must be accomplished by using double precision coordinate calculations.

Data development and maintenance may require the use of additional data collection. Where data are to be collected, it is expected that Vendor will propose to use GPS technology. The SAMB will entertain cost-effective and creative proposals that utilize any other proven technologies to determine spatial coordinates. It is intended that data will be utilized as it is developed. The Vendor shall update the Geodatabase at least monthly. The SAMB and the SAMB Project Manager may prioritize the work schedule according to the county or municipality.

All data layers delivered to the SAMB must conform to the specified projection, accuracy, file format, and measurement standards. All new spatial features located and delivered as geographic data layers shall conform to an absolute accuracy of less than one meter with respect to established geodetic survey control in the National Geodetic Reference System (NGRS). All spatial data layers developed and delivered must be based on West Virginia State Plane Coordinate System, North or South, US Survey feet, and NAD83 coordinate system.

The Vendor shall be required to advise each county and municipality regarding addressing or other anomalies with recommendations to maintain/correct existing data and integrate new data into the WVSAMP. Maintenance and annotation should be consistent with extant software, databases, and data layers. All changes to the existing system shall require approval of the SAMB and the SAMB Project Manager. One complete set of all statewide/project geographic data must be delivered to the SAMB in an ESRI Geodatabase format (ArcSDE for Oracle or other as specified by SAMB). If data are developed in another GIS format, then the Vendor must convert data to ESRI Geodatabase format for delivery to the SAMB. Vendor shall have the ability to translate to the industry standard formats mentioned in Section 1.4.1 in order to deliver individual county data sets to certain counties that are unable to utilize any planned centralized ESRI-based data repository.

PART II. PROPOSAL FORMAT AND LEGAL REQUIREMENTS

2.1 VENDOR'S PROPOSAL FORMAT

Vendors shall submit an EOI that contains the five following sections (2.1.1-2.1.5), in the following order: Failure to comply with this format and sequence will result in immediate disqualification of vendor's proposal.

2.1.1 PROJECT UNDERSTANDING

The Vendor shall clearly and concisely describe its understanding of the WV Statewide Addressing and Mapping Project.

2.1.2 WORK PLAN

The vendor shall submit a work plan that complies with the Scope of Work as described in Section 1.3 of this solicitation. The work plan must describe in general the approach to be used. Also, in order to evaluate the proposals several specific issues are to be addressed as follows:

2.1.2.1 Overview

Provide an overview of the work plan and methodology as related to the requirements stated in this Solicitation. Note specifically any operations included or excluded that may differentiate your technical procedure from others. If subcontractors are proposed, address specifically how coordination will be maintained. This overview should not exceed three (3) pages and should help the technical review committee understand the essential aspects of this proposal, which distinguish it from others offered.

2.1.2.2 GANTT Chart

Provide a GANTT chart showing the work breakdown structure and proposed project schedule in Microsoft Project format.

2.1.2.3 Hardware / Software

The Vendor shall provide a detailed description of the hardware, peripherals, operating systems, and application software you propose to use to perform each part of this project. All

short listed vendors shall be asked to provide a demonstration of their proposed approach at the oral Vendor presentations.

2.1.2.4 Data Capture Method

Describe the method(s) used to collect and validate additional geographic features that are identified during the addressing process (e.g., missing or miscoded structures, roads, streams, bridges, etc.).

2.1.2.5 Addressing Production Workflow

Describe in detail the methodology, including addressing tools, automated data conversion processes, editing procedures, user interfaces, data translation software, feature attribution, and other in-house tools that will be employed in the addressing process.

2.1.2.6 Maintenance Process

Describe the process for maintaining changes to the Geodatabase throughout the period of the contract. Discuss how you would coordinate data among the various databases and flag bad data for correction. Describe how you would coordinate maintenance activities with the Addressing Coordinators. Also describe a methodology for the long-term address and geospatial data maintenance by the counties that utilizes both GIS and low-tech methods.

2.1.3 EOI DELIVERABLES.

Vendor shall submit a plan identifying how it will comply with the deliverables as described in Section 1.4 of this solicitation in a standard format to enable the review committee to follow clearly. *Specifically, the Vendor shall submit an EOI that lists each individually numbered or lettered Section and Subsection of this Solicitation, stating whether or not the Vendor will comply with the Section or Subsection, and then states how the Vendor proposes to comply, including without limitation the Vendor's proposed vision for accomplishing the Board's goals and statutory mission for addressing the state and providing public safety answering points (PSAPs) with accurate information for 9-1-1 purposes.*

2.1.4 QUALITY ASSURANCE PLAN

2.1.4.1 Overview

Describe your approach to quality control and for quality assurance for all deliverables with samples used in past projects of a similar nature.

2.1.4.2 Technical Concerns

Describe your approach to resolve any anticipated technical concerns or difficulties.

2.1.4.3 Data Accuracy

- Quantify the spatial accuracy of additional geographic data collected. Describe the procedures used to ensure the data meet or exceed the SAMB Mapping specifications (see Attachment A). If different methods are used for different data items, describe each set of procedures.
- Describe the procedures to be used to detect and correct position or attribute errors in geographic data.
- Describe the procedures to be used to ensure the accuracy, integrity, and completeness of address and geographic data layers.
- Quantify the level of completeness that can be assured using your method.
- Describe your procedures to schedule, supervise, and check any necessary fieldwork.
- Describe the procedures used to identify problem addresses for local input.
- Describe the personnel structure you will provide for review of local and contractor collected data.

2.1.4.4 Data Integration

- Describe the process to ensure that GIS data will be used as quality control for other E9-1-1 tabular databases.
- Describe the process to ensure quality of the integration between the Geodatabase and relevant caller information (the MSAG and GIS data layers and the ANI database).
- Describe the process to ensure feature level metadata for new features identified during the addressing process.

2.1.4.5 Data Standards

Describe any specific data layer standards that you propose to use for this project other than those specified in this Solicitation, and explain why they are appropriate for this project. Please comment on any exceptions or modifications you believe would be helpful in addition to those already specified.

2.1.4.6 QA/QC Procedures

Describe the QA/QC process used to ensure that all data are complete, accurate, and delivered on schedule per the specifications described in this solicitation. The Vendor shall include samples of QA/QC forms and reports used both internally and to be presented to the SAMB accompanying all deliverables.

2.1.4.7 Mapping

Describe methods to ensure both online and paper map clarity and quality.

2.1.5 EXPERIENCE

2.1.5.1 Addressing Projects

List and summarize no more than five (5) representative addressing projects **of similar scope and complexity completed within the last five years or currently in process** in which members of the proposed project team have taken part. Explain their relevance in terms of technical scope, tasks involved, lessons learned, etc. At least three (3) customer references must be provided with the project summaries. Include name, address, telephone number, and e-mail address if available.

Respondents must submit evidence that they have relevant past experience and have previously delivered services similar to the ones required for the SAMB. Each respondent must be able to demonstrate that it has satisfactorily performed similar work in the past and that no claims of any kind are pending against such work.

2.1.5.2 Staffing

Vendor shall include a profile of its proposed project manager, including experience with similar projects, education and training background, etc. Describe other key project staff by

experience, titles, technical discipline, and numbers. Vendor shall provide a project organization chart identifying the reporting relationship between the prime contractor, his subordinates, and all subcontractor relationships. Discuss how the team will be organized, and outline management relationships. Cite the responsibilities projected for each partner. Cite employment status (full-time, consultant, subcontractor), availability, hours and percent time expected on the project, and schedule of involvement in the project. Describe the use of West Virginia (in-state) labor and proposed locations of field or permanent offices throughout the State. Submit the resumes of no more than ten (10) key managerial and technical staff members, including the primary Vendor contacts. List the person(s) who will be principal contacts with local Addressing Coordinators, the SAMB, and the SAMB Project Manager. Also specifically describe the management responsibilities for subcontracted work. *At least one principal member of the Vendor team shall be either (a) a registered Professional Engineer (PE) in West Virginia, or (b) a PE in any other state, and have received a waiver from the West Virginia State Board of Registration for Professional Engineers or otherwise be qualified under West Virginia law to practice engineering in the state.*

2.1.5.3 Capacity

What is the potential impact to your current workload on the proposed project? Cite specifically all major commitments of equipment and staff relevant to this Solicitation projected for the period covered by the proposed project schedule. Discuss in practical terms, the impact of such commitments on your ability to complete the project as proposed and scheduled on or before January 1, 2007.

2.1.5.4 Financial Data

This section shall include the background of the prime contractor and its financial statements.

The background of the company must cover:

- Date established
- Ownership (Public company, partnership, subsidiary)
- Dun and Bradstreet rating and statement (if available)

Recent audited financial statements must be provided, including at a minimum:

- Balance sheet

- Income statement
- Financial statements for the past three years

2.2 ADDITIONAL INSTRUCTIONS AND LEGAL TERMS AND CONDITIONS

2.2.1 LABELING OF THE EOI SECTIONS

2.2.1.1 In General

The sections within this Solicitation contain instructions governing how the Vendor's proposal is to be arranged, submitted and to identify the material to be included therein. The Vendor's response *must* follow the sections as described herein.

A response to the sections of this Solicitation will be the basis on which the Vendor's relative qualifications for the job will be assessed. Those Sections describe the anticipated approach by SAMB to the project. An indication of agreement or disagreement with that approach, plus a full explanation of how the Vendor intends to comply, or alternatively, how the Vendor intends to modify the approach stated in the performance data in order to comply shall be required. **A simple "yes" or "no" response to these sections will not be considered adequate.**

SAMB is soliciting all anticipated concepts and proposed methods of approach to the project of the Vendors. However, the Vendor's response must specifically state whether or not the Vendor agrees with the anticipated specification, term or condition, and must state whether or not the Vendor's own recommended approach complies with that anticipated by SAMB, or alternatively, how the Vendor's suggested approach differs from the one anticipated by SAMB and how that approach is, in the Vendor's opinion superior to that anticipated by SAMB.

2.2.1.2 Informational Sections

Any informational sections (such as "Instructions to Vendors") included in the document do not require a response from the Vendor. They are intended to aid the Vendor in structuring an effective proposal capable of meeting the needs of the issuing agency.

2.2.2 FURTHER INSTRUCTIONS ON EOI FORMAT AND SUBMISSION

2.2.2.1 Response

Vendors must complete a response to all mandatory specifications in order to be considered. Each proposal must be formatted as per this Solicitation. The Vendor may make no other arrangement or distribution of the proposal information. Failure on the part of the Vendor to respond to specific requirements detailed in the EOI may be basis for disqualification of the proposal. The State reserves the right to waive any informality in the proposal format and minor irregularities.

2.2.2.2 Copies

All copies must be submitted to the Purchasing Division *prior* to the date and time stipulated in the EOI as the opening date. All bids will be date and time stamped to verify official time and date of receipt. *Electronic responses (e.g., pdf files) to the solicitation alone are not permitted.* Vendor shall supply one copy of its response in Word (.doc) format on CD-ROM attached to each original and convenience copy of Vendor's EOI. Note to Purchasing: *For this Solicitation, SAMB is requesting an electronic copy be submitted to assist in the technical evaluations of the Vendor responses.*

2.2.2.3 Delivery

Vendors mailing proposals should allow sufficient time for mail delivery to ensure timely arrival. The Purchasing Division cannot waive or excuse late receipt of a proposal, which is delayed, and late for any reason, according to State Code 5A-3-11. Any proposal received after the bid opening date and time will be immediately disqualified in accordance with State law and the administrative rules and regulations.

Submit one (1) original EOI and nine (9) convenience copies to:

Ron Price, Senior Buyer
Purchasing Division
2019 Washington Street, East
PO Box 50130
Charleston, WV 25305-0130

All proposals must be received at the above address on or before Wednesday, August 20, 2003, at 1:30 PM (Eastern).

The outside of the response envelope or package(s) should be clearly marked with:

BUYER:	Ron Price
REQ #:	SAM-0301
Opening Date:	08/20/2003
Opening Time:	1:30 PM (Eastern)

NOTE TO VENDORS: A convenience copy of the EOI SHOULD NOT be sent to the Auditors Office per the instructions on the back of the Purchasing Request for Quotation cover sheet. This is not required for an EOI.

2.2.2.4 Rejection of Expressions of Interest

The State shall select the best value solution according to Section 5G-1-3 of the West Virginia State Code. However, the State reserves the right to accept or reject any or all proposals, in part or in whole at its discretion. The State reserves the right to withdraw this Solicitation at any time and for any reason. Submission of or receipt by the State of proposals confers no rights upon the Vendor nor obligates the State in any manner.

A contract based on this Solicitation and the Vendor's proposal, may or may not be awarded. ***Any contract resulting in an award from this Solicitation is not valid until properly approved and executed by the Purchasing Division and approved as to form by the Attorney General.***

2.2.2.5 Contract Terms and Conditions

Pursuant to West Virginia Code Section 5B-1-1, et seq., and as per this Solicitation, a contract is expected. ***Consistent with West Virginia law, under no circumstances will SAMB enter into, or be bound by, any contract terms or conditions not approved by the Purchasing Division or the Attorney General's Office, notwithstanding any other oral or written indication whatsoever to the contrary.*** It should be understood and acknowledged by the Vendor that additional legal terms and conditions will be inserted into any contract. The Vendor must be willing to accept the standard and customary legal terms and conditions of the State and SAMB.

2.2.2.6 *Copyrights and Proprietary Information*

Pursuant to West Virginia Code Section 24E-1-7, any writing or other work created by Vendors in connection with or related to the SAMP, or this Solicitation, is a “work made for hire” within the meaning of the copyright laws of the United States, 17 U.S.C. Section 101, et seq. All right, title and interest to such writing or other work vests in the Board. Pre-existing copyrighted works or other proprietary information must be clearly identified as such. *No proprietary information of the Vendor may be submitted in response to this Solicitation without the express written permission of SAMB.*

2.2.2.7 *Incurring Costs*

The State and any of its employees or officers shall not be held liable for any expenses incurred by any Vendor responding to this Solicitation for expenses to prepare, deliver the proposal, or to attend any mandatory pre-bid meeting or oral presentations.

2.2.2.8 *Addenda*

If it becomes necessary to revise any part of this Solicitation, an official written addendum will be issued by the State to all potential Vendors of record, and may be distributed via electronic means (e.g., email, .pdf file, etc).

2.2.2.9 *Independent Price Determination*

A Contract will not be considered for award if the negotiated price was not arrived at independently without collusion, consultation, communication, or agreement as to any matter relating to prices with any competitor.

2.2.3 *PRICE QUOTATION*

NO “COST,” “PRICE,” OR “FEE” QUOTATION SHALL BE REQUESTED, INCLUDED, OR PERMITTED IN THE EOI OR OTHER VENDOR RESPONSE.

Costs shall only be considered during negotiations with the successful Vendor.

2.2.4 PUBLIC RECORD

2.2.4.1 Submissions are Public Record

All documents submitted to the State Purchasing Division related to purchase orders/ contracts are considered public records. All bids, proposals, or offers submitted by Vendors become public information and may be available for inspection during normal official business hours in the Purchasing Division Records and Distribution center after the award is complete and documents have been microfilmed.

2.2.4.2 Written Release of Information

All public information may be released with or without a Freedom of Information request. However, only a written request will be acted upon with duplication fees paid in advance. Duplication fees shall apply to all requests for copies of any document. Currently the fees are \$0.50/page, or a minimum of \$10.00 per request which ever is greater.

2.2.4.3 Risk of Disclosure

The only exemptions to disclosure of information are listed in West Virginia Code §29B-1-4. Primarily, only trade secrets as submitted by a Vendor are the only exemption to public disclosure. The submission of any information to the State by a Vendor puts the risk of disclosure on the Vendor. *The Vendor may NOT submit proprietary information in its EOI without the express written permission of the State.* If the State permits the submission of proprietary information, the State will endeavor not to disclose it, but the State does not guarantee, and neither the State nor its agents will be liable for, non-disclosure of any information to the public. SAMB strongly prefers that Vendors not ask to submit proprietary information.

2.2.5 DISCLAIMER ON STATEMENTS OF FACT AND INFORMATION

Statements of fact and information contained in this Solicitation are provided for the convenience of the Vendor, and are believed by SAMB to be correct based upon the data most recently available to SAMB. However, the State and SAMB make no representations or warranties with respect to any statements of fact or information

contained in this Solicitation. It shall be the sole responsibility of the Vendor to confirm or verify any and all factual information contained in this Solicitation.

2.2.6 SCHEDULE OF EVENTS

The following schedule of events will apply:	DATE, TIME
Release of Solicitation:	July 21, 2003
Written Questions Submitted from Vendors:	August 4, 2003
Mandatory Vendor Conference:	August 6, 2003 at 10:00 AM
Addendum Issued:	August 13, 2003
Expressions of Interest Opening Date:	August 20, 2003 at 1:30 PM
Submission of "Short List" to Purchasing:	September 3, 2003
Shortlisted Vendor Interviews	September 17, 2003
Final Ranking of Shortlisted Vendors:	September 19, 2003
Contract Award Date (approximate):	October 24, 2003

The State may modify this schedule at any time, at their sole discretion.

2.2.7 MANDATORY VENDOR CONFERENCE:

A mandatory vendor conference shall be conducted on the date specified above at the Verizon Headquarters Building located at 1500 MacCorkle Avenue SE, Charleston, WV 25314. All interested bidders are required to be present at this meeting. Failure to attend the mandatory vendor conference shall automatically result in disqualification. No one person can represent more than one vendor.

2.2.8 BOND REQUIREMENTS: NOT REQUIRED

A performance bond will not be required, but may be negotiated. In any case, Professional liability insurance (including errors and omissions insurance) certificates, and worker's compensation certificates shall be submitted by the vendor.

2.2.9 ***NO DEBT AFFIDAVIT***

West Virginia State Code §5A-3-10a(3)(d) requires that all Vendors submit an affidavit regarding any debt owed to the State. The affidavit *must* be signed and submitted prior to award. It is preferred that the affidavit be submitted with the proposal. The form is available at <http://www.state.wv.us/admin/purchase/vrc/debt.pdf>

2.3 **EVALUATION CRITERIA**

Proposals shall be evaluated by SAMB using the following criteria:

	POINT VALUE
Technical Proficiency	30
References, Qualifications, and Supporting Materials	30
Specific Plan for Compliance	30
Oral Presentation and Interview (Short List Candidates only)	10
Scope of Contract Services Total	100

2.3.1 ***DEVELOPMENT OF "SHORT LIST" OF VENDORS AND INTERVIEWS***

The written submissions will be evaluated, and a "short list" of three (3) Vendors will be developed based on that evaluation. In the event less than three Vendors bid, the State reserves the right to interview all Vendors or withdraw this Solicitation, at its sole option. All Vendors on the "short list" will be given an opportunity for an oral presentation/interview, in order to discuss the Vendor's anticipated concepts and proposed method of approach to the assignment, including clarification of qualifications and performance data, the scope of services offered, and the needed time to complete the project.

Any Vendor who is not available for an oral presentation/ interview within the schedule of the evaluation committee and SAMB's overall project schedule will be disqualified.

A Vendor's failure to provide complete and accurate information shall be considered grounds for disqualification. The State reserves the right if necessary to ask Vendors for additional information to clarify their proposals.

2.3.2 CRITERIA FOR ORAL PRESENTATION / INTERVIEWS

The oral presentation will be evaluated based on the overall impression the Vendor gives as to the Vendor's ability to deliver in accordance with the written proposal, as well as based on other factors related to the oral presentation that may reflect on the Vendor's ability to perform. Evaluations may include, but are not limited to, the following criteria:

- Credibility of the presentation
- Clarity of the presentation
- Persuasiveness of the presentation
- Background understanding of the SAMB and the statewide addressing project
- Subject matter knowledge and expertise shown in the presentation
- Ability to adapt standard practices and technology to meet the demands and unique characteristics of addressing for E9-1-1 purposes to West Virginia
- Participation of principle Vendor personnel at the presentation meeting
- Ability to answer questions clearly and concisely
- Other factors that may reflect on the Vendor's ability to perform

Presenters are permitted (and, where effective, encouraged) to use multi-media forms of presentation, including PowerPoint, videotape, computer animation, etc. Vendors should identify any special needs for equipment in advance of the presentation. A copy of presentation materials shall be requested by the SAMB for its use. Information in the Vendor presentation of a proprietary or sensitive nature shall be avoided.

2.3.3 NEGOTIATIONS AND CONTRACT AWARD

After the oral presentation/interviews have been completed, and after the evaluation has been reviewed and accepted by the State of West Virginia Purchasing Division, the evaluation committee will commence negotiations as to scope of services and price with the firm or team of firms determined by consensus evaluation by the evaluation team to be the highest qualified Vendor. At the start of negotiations, the Vendor will be expected

SAM-0301

to provide immediate and detailed pricing for the projected thirty-six (36) month completion schedule, including costs for any preliminary planning and project wrap-up, per the format provided as in this Solicitation.

If SAMB fails to negotiate a satisfactory contract with the highest qualified Vendor at a fee to be determined by SAMB, in its sole discretion, to be fair and reasonable, negotiations will commence with the firm of second choice. Failing that, negotiations will commence with the third most qualified firm, and so on until negotiations have failed, in turn, with all firms on the short list. In no situation, after negotiations have been terminated with a firm, will negotiations be reopened with that firm. Should the agency be unable to negotiate a satisfactory contract with any of the originally selected professional firms, it shall select additional professional firms in order of their competence and qualifications and it shall continue negotiations in accordance with this section until an agreement is reached.

Attachment A

43

General Planimetric Features Delivery Specifications from Mapping Contractor

INSERT BAE SYSTEMS CONTRACT (P.O. and Exhibit A including addenda)



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Purchase Order

PURCHASE ORDER NO.
 SAM0202

PAGE
 1

44

CORRECT PURCHASE ORDER NUMBER MUST APPEAR ON ALL PACKAGES INVOICES, AND SHIPPING PAPERS. QUESTIONS CONCERNING THIS PURCHASE ORDER SHOULD BE DIRECTED TO THE BUYER AS NOTED BELOW.

BLANKET RELEASE

CHANGE ORDER

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

COMMIT
 WV STATEWIDE ADDRESSING
 AND MAPPING BOARD
 GREENBROOKE BLDG SUITE 201A
 1124 SMITH STREET
 CHARLESTON, WV 25301

VEZ
 *B18105909 856-663-7200
 BAE SYSTEMS ADR INC
 PO BOX 557
 9285 COMMERCE HWY
 PENNSAUKEN NJ 08110

SHIP TO

WV STATEWIDE ADDRESSING
 AND MAPPING BOARD
 GREENBROOKE BLDG SUITE 201A
 1124 SMITH STREET
 CHARLESTON, WV 25301 304-558-4218

DATE PRINTED	TERMS OF SALE	FEIN/SSN	FUND
02/06/2003	NET 30	221906664	FIMS
SHIP VIA	F.O.B.	FREIGHT TERMS	ACCOUNT NUMBER
BEST WAY	DESTINATION	PREPAID	P10462 --

LINE	QUANTITY	UOP	VENDOR ITEM NO.	UNIT PRICE	AMOUNT
	DELIVERY DATE	CAT. NO.	ITEM NUMBER		
0001	1	JB	906-07	4794000.00000	4,794,000.00
CONSULTING SERVICES FOR PHOTOGRAMMETRIC MAPPING AGREEMENT THIS AGREEMENT CONSTITUTES THE ACCEPTANCE OF CONTRACT MADE BY AND BETWEEN THE STATE OF WEST VIRGINIA BY THE PURCHASING DIRECTOR FOR AND ON BEHALF OF WV STATEWIDE ADDRESSING AND MAPPING BOARD AND BAE SYSTEMS ADR INC. FOR AERIAL PHOTOGRAPHY FOR STATEWIDE MAPPING (TASK 1 13 OF EXHIBIT B). SERVICE BEGINNING JANUARY 31, 2003 AND EXTENDING UNTIL JANUARY 30, 2004, WITH OPTION FOR FIVE RENEWALS AS PER SECTION 3.3.10 OF THE ORIGINAL EXPRESSION OF INTEREST. SCHEDULE OF PAYMENT: FEE \$4,794,000.00 \$PER EXHIBIT B PRICE SCHEDULE					

WV State Purchasing Division
 Administration Unit
 Certified Encumbered
 FEB 20 2003

Army Fairchild

IF APPROVAL AS TO FORM IS REQUIRED BY ATTORNEY GENERAL, CHECK HERE 4,794,000.00

George Wayfield

APPROVED AS TO FORM BY
 ASSISTANT ATTORNEY GENERAL

BY *Ron Price* 2/12/03
 PURCHASING DIVISION AUTHORIZED SIGNATURE
 TOTAL 304-558-0492



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Purchase Order

PURCHASE ORDER NO.
 SAM0202

PAGE
 2

45

BLANKET RELEASE

CHANGE ORDER

CORRECT PURCHASE ORDER NUMBER MUST APPEAR ON ALL PACKAGE INVOICES, AND SHIPPING PAPER. QUESTIONS CONCERNING THIS PURCHASE ORDER SHOULD BE DIRECTED TO THE BUYER AS NOTED BELOW.

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

DOCUMENT

WV STATEWIDE ADDRESSING
 AND MAPPING BOARD
 GREENBROOKE BLDG SUITE 201A
 1124 SMITH STREET
 CHARLESTON, WV 25301

REVERSE

*B18105909 856-663-7200
 BAE SYSTEMS ADR INC
 PO BOX 557
 9285 COMMERCE HWY
 PENNSAUKEN NJ 08110

SHIP TO

WV STATEWIDE ADDRESSING
 AND MAPPING BOARD
 GREENBROOKE BLDG SUITE 201A
 1124 SMITH STREET
 CHARLESTON, WV 25301 304-558-4218

DATE PRINTED	TERMS OF SALE	FEIN/SSN	FUND
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BEST WAY	DESTINATION	PREPAID	P10462 --

LINE	QUANTITY	UOP	VENDOR ITEM NO.	UNIT PRICE	AMOUNT
	DELIVERY DATE	CAT. NO.	ITEM NUMBER		

TOTAL \$4,794,000.00

EXECUTION OF THIS AGREEMENT BY THE PURCHASING DIRECTOR, OR THEIR DESIGNEE, CONSTITUTES ACCEPTANCE BY THOSE PARTIES OF THE TERMS AND CONDITIONS CONTAINED IN THE ATTACHED CONTRACT DOCUMENTS AND BINDS THE VENDOR WHOSE SIGNATURE APPEARS THEREIN TO SAID TERMS AND CONDITIONS.

BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT IS AUTOMATICALLY NULL AND VOID, AND IS TERMINATED WITHOUT FURTHER ORDER.

IF APPROVAL AS TO FORM IS REQUIRED BY ATTORNEY GENERAL, CHECK HERE

TOTAL

APPROVED AS TO FORM BY
 ASSISTANT ATTORNEY GENERAL

BY _____
 PURCHASING DIVISION AUTHORIZED SIGNATURE

CONTRACT

This Contract is made this 31st day of January 2003, by and between the State of West Virginia, Department of Administration, Division of Purchasing, acting on behalf of the West Virginia Statewide Addressing and Mapping Board ("Agency"), and BAE SYSTEMS ADR Inc. ("Vendor"). The parties agree as follows:

1. Contract Documents

The Contract Documents are as follows:

- (a) The WV-96 Agreement Addendum;
- (b) This Contract;
- (c) Attachment 1 to this Contract, "Specifications for Consulting Services," which are based on the applicable Department of Transportation, Division of Highways, "Standard Specifications for Consulting Services";
- (d) The Solicitation of Expressions of Interest of Agency, SAMB 0202, dated November 7, 2002 and Attachments and Addendum thereto, attached as Exhibit A;
- (e) The completed Task and Pricing Schedule attached as Exhibit B; and
- (f) The Expression of Interest of Vendor, dated November 27, 2002, attached as Exhibit C.

2. Statement of Work

Vendor shall perform the engineering professional work as stated in Exhibits A, B and C, with the following agreed modifications, additions and clarifications:

- (a) In accordance with Section 3.5.4.1 of Exhibit A, Vendor or its subcontractors may use off-shore labor, provided that such off-shore labor is limited to Canada. Agency may select up to five percent (5%) of the total of the State as restricted areas for which all work must be performed by domestic labor.
- (b) Vendor will be responsible, with Agency's good faith cooperation, to obtain existing maps or mapping data from the following West Virginia counties, and to integrate those maps into the statewide mapping product to be produced under the Contract Documents to become a uniform part of the whole product in adherence to the requirements of Exhibits A and B: Kanawha, Jefferson, Raleigh, Ritchie and Doddridge. Vendor will, with the good faith cooperation of Agency, investigate whether similar existing maps or mapping data may be obtained for Berkeley, Ohio, Brooke and Hancock Counties. Notwithstanding the availability of existing maps or mapping data, or lack thereof, Vendor will be responsible for producing the statewide mapping product to be produced under the Contract Documents.

- (c) Agency will select four pilot studies. Agency will make a good faith effort to select those studies in the same aerial triangulation (AT) block, provided that doing so is consistent with the requirements of counties and other stakeholders in the "Statewide Addressing and Mapping System" and "Project" as those terms are defined in Agency's Emergency Rules, C.S.R. § 169-2-1, et seq.
- (d) Notwithstanding anything to the contract in Section 3.3.2.3 or 3.5.4.9 of Exhibit A, a total of fifty (50) blind AT Quality Assurance (QA) points dispersed throughout the state will be provided.
- (e) Vendor will be responsible for completing all flights in the 2003 flying season, and shall do so in accordance with Section 3.5.1.4 and any and all other applicable provisions of Exhibit A. Any failure by Vendor to complete all flights in the 2003 flying season will not excuse Vendor's obligation to comply with the remaining provisions of the Contract Documents. If, as a result of encountering conditions under Section 2.13 of Attachment 1, Vendor is unable to comply with this paragraph or any other provisions of the Contract Documents, Vendor will notify Agency as soon as possible, and Agency or Agency's Project Manager, after consultation with Vendor, will direct Vendor on how to proceed.
- (f) Notwithstanding anything to the contrary in Section 3.5.3.6 of Exhibit A, Vendor shall deliver the Enhanced Digital Terrain Model (DTM) in Microstation (.dgn) format, as mass points and break lines. All features will be delivered according to applicable West Virginia Department of Transportation, Division of Highways, Engineering Division CADD Standards Manual, Consultant Edition (December 1998, pp. i-9, para. a, "Original Terrain and Topography"). It is expressly understood that ASCII format will not be required for DTM deliveries.
- (g) Notwithstanding anything to the contrary in Section 3.5.6.1, Vendor shall deliver a DTM with a surface that will allow the generation of elevation iso-lines at ten-foot (10') intervals that do not contain loop backs, intersecting lines, spikes or other errors. It is expressly understood that these lines are not strictly required to meet ASPRS Class II accuracies, but that Vendor will use its best efforts to approximate those accuracies. At a minimum, enhanced digital terrain model data (point and breakline) for the entire State of West Virginia will be supplied in Microstation design file (.dgn) format suitable for producing topographically correct unedited ten-foot contours. The surface must be accurate to an absolute accuracy of 10 feet, using NSSDA procedures. The enhanced DTM will include extra spot heights and breaklines for depressions, ridgelines, peaks, and an overall denser collection of elevation points across the state than would be required for orthophotography production alone.
- (h) Notwithstanding anything to the contrary in Section 3.5.2.3 of Exhibit A, the AT process must use the standard 9 VonGruber points mensurated, plus additional tie points. It is expressly understood that the six (6) AT block solution is acceptable.
- (i) Subject to the modifications, additions and clarifications herein, all required tasks under Section 4.3.4.1 of Exhibit A (applicable to 400' Design Scale) are included in the total contract price of \$4,794,000.

- (j) Notwithstanding anything to the contrary in Section 3.5.4.1 of Exhibit A, the bridge rectification process will use the Triathlon approach used by the Vendor in New Jersey, which was implemented after December 2002. Notwithstanding anything to the contrary in Section 3.5.4.1 of Exhibit A, bridge rectification will be accomplished using proprietary data collection and image processing techniques. This automated process is engineered to use all of the existing project imagery from which to develop the orthophotographs of the elevated bridges. It is expressly understood that this process takes images from more than one photograph to remove blind areas behind bridge structures. This process does not provide for the removal of blind areas for which Vendor cannot acquire supporting project imagery. It is expressly understood that this process takes images from more than one photograph to remove blind areas behind bridge structures.
- (k) Notwithstanding anything to the contrary in Section 3.4.13.6 of Exhibit A, Vendor shall produce Federal Geographic Data Committee (FGDC) compliant metadata files on a per delivery lot.
- (l) Notwithstanding anything to the contrary in Section 3.5.2.d of Exhibit A, ninety percent (90%) of existing QA points used to QA deliverables will be 0.4 feet instead of 0.2 feet as specified therein.
- (m) Notwithstanding anything to the contrary in Section 3.5.3.2 of Exhibit A, building structures must be digitized if they exceed dimensions of one hundred feet (100') in any direction. The pilot criterion for the minimum size of building structure that needs to be located by centroid shall be six hundred (600) square feet. After completion of the pilot(s), that criterion will be finalized, in good faith, by the Project Manager, as defined by Agency's Emergency Rules, C.S.R. §169-1-1, et seq., in consultation with Vendor. In any event, all identifiable potentially habitable structures shall be located by centroid, and included on all maps and in all mapping data. In addition, mapping data for the entire State of West Virginia will, at a minimum, consist of road centerlines, hydrology, and structure centroids with larger structure footprints in Microstation design file (.dgn) format at a scale of one inch to four hundred feet; and digital terrain elevations, as Microstation (.dgn) files, adequate to import into Intergraph InRoads TIN files. It is expressly understood that the entire State will be included within the total contract price of \$4,794,000, irrespective of Vendor's or Agency's estimates of the number of tiles necessary to complete the work.
- (n) Task 14 (map plotting package) of Section 4.3.4.1 of Exhibit A is included in the total contract price of \$4,794,000.
- (o) Task 15 (structure footprints) of Section 4.3.4.1 and Attachment A of Exhibit A is not included in the total contract price of \$4,794,000, subject to the conditions of subsection (m) above.
- (p) Task 16 (upgraded DTM) of Section 4.3.4.1 and Attachment A of Exhibit A is not included in the total contract price of \$4,794,000, but Vendor shall deliver the DTM as per subsections (f) and (g) above as a part of the total contract price.

- (q) The tasks listed under Sections 4.3.4.2 and 4.3.4.3 and Attachments B and C of Exhibit A (applicable to 100' Design Scale) are not included as a part of the total contract price of \$4,794,000. Vendor shall perform those additional tasks at the option of Agency, for the prices set forth in Exhibit B. These prices will remain in effect until December 31, 2004, after which time Vendor may increase the per tile prices in accordance with the current Consumer Price Index, at the time of request. This pricing is valid for a minimum of 100 tiles for both the required and optional items for 100' Design Scale. Vendor shall provide pricing for any requests, under 100 tiles, on a per case basis. This pricing structure will remain in effect until January 8, 2008. Agency may exercise such option for all or any part of the areas designated under Exhibit A as 100' Design Scale (required or optional), and may make any number of exercises of its option to add 100' Design Scale tasks for discrete areas. It is expressly understood that the above-described pricing only applies to 100' Design Scale. All tiles for the 400' Design Scale must be delivered by Vendor at the total contract price of \$4,794,000.
- (r) In accordance with Section 3.3.9 of Exhibit A, Agency hereby grants its prior written consent for Vendor to use the subcontractors identified as such in Exhibit C. Vendor may not change any subcontractors without Agency's express written consent.
- (s) All deliverables under the Contract Documents must be in a format and condition acceptable to the Agency's Project Manager, as defined by Agency's Emergency Rules, C.S.R. §169-1-1, et seq. Unless otherwise expressly agreed in writing signed by both parties' respective authorized representatives, Vendor shall supply all required and optional deliverables in accordance with the timetables in Exhibit B. The Vendor and the Agency's Project Manager shall meet to develop acceptance criteria for deliverables as soon as possible. Any dispute as to such criteria shall be resolved in the manner set forth for resolution of matters of technical interpretation under Paragraph 4 (c) below.
- (t) The General Terms and Conditions in Attachment 1 are hereby added to this Contract as if fully set forth herein.

3. Use of Professional Judgment and Care

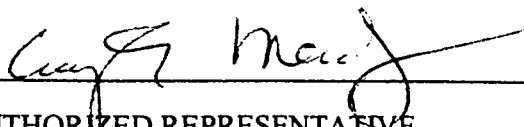
In addition to the General Terms in Exhibit A, and the other terms and conditions contained herein and in Attachment 1 hereto, it is expressly understood and agreed that Vendor and its subcontractors shall use a high degree of professional judgment and care in the performance of their duties under the Contract Documents and any subcontracts thereto.

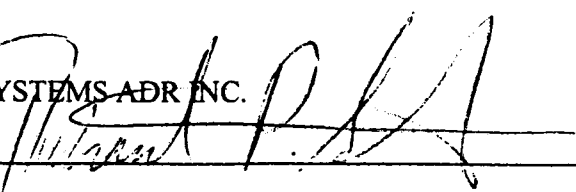
4. Order of Precedence; Interpretation

- (a) In the event of an irreconcilable conflict in the language in the Contract Documents, the following Order of Precedence is to apply:
- (1) The WV-96 Agreement Addendum;
 - (2) This Contract;
 - (3) Attachment 1 to this Contract, "Specifications for Consulting Services";

- (4) The Solicitation of Expressions of Interest, SAMB 0202, dated November 7, 2002 and Attachments and Addendum thereto, attached as Exhibit A;
- (5) The completed Task and Payment Schedule attached as Exhibit B; and
- (6) The Expression of Interest of Vendor, dated November 27, 2002, attached as Exhibit C.
- (b) Any interpretation of the Contract Documents must be made to ensure that Agency receives the full services set forth in Exhibit A, except as explicitly modified in this Contract. Any interpretation of the Contract Documents must also promote the underlying purposes of the Agency's enabling statute and Emergency Regulations, W. Va. Code § 24E-1-1, et seq. and C.S.R. § 169-2-1, et seq., to establish the "Statewide Addressing and Mapping System," defined in C.S.R. § 169-2-1.6.h, for, inter alia, 911 and/or enhanced 911 dispatch and response, which purposes the Contract Documents are intended to serve.
- (c) The parties expressly understand and acknowledge that the work to be performed under the Contract Documents is highly technical, that the Contract Documents are themselves complex, and that the Contract Documents use technical terms. Any question of interpretation of the technical requirements of the Contract Documents shall be resolved by the Agency's Project Manager, as defined by Agency's Emergency Rules, C.S.R. § 169-1-1, et seq., whose good faith professional judgment on all matters of such interpretation, after consultation with Vendor, shall be final. Such consultation may, at Vendor's request, include documentation supplied by Vendor that supports Vendor's own judgment on the matter.

STATE OF WEST VIRGINIA,
DEPARTMENT OF ADMINISTRATION,
DIVISION OF PURCHASING,
ON BEHALF OF THE WEST VIRGINIA
STATEWIDE ADDRESSING AND MAPPING BOARD

BY: 
ITS AUTHORIZED REPRESENTATIVE
TITLE: Chair, WVA-SAMB

BAE SYSTEMS ADR INC.
BY: 
ITS AUTHORIZED REPRESENTATIVE
TITLE: PRESIDENT, BAE-ADR

Attachment 1**SPECIFICATIONS FOR CONSULTING SERVICES****SECTION I: DEFINITIONS**

When used in these Specifications for Consulting Services, or any documents to or governed by these Specifications, the following terms shall be defined as follows:

1.01 AGENCY

The West Virginia Statewide Addressing and Mapping Board or its duly authorized representatives.

1.02 CONSULTANT

Any firm, person, or organization participating in a Contract with the Agency.

1.03 SUBCONSULTANT/SUBCONTRACTOR

A subconsultant is any firm, person, or organization to whom the Consultant has transferred, by Consultant's request and Agency's approval, any portion of the work covered by its obligation to the Agency under the Contract. A subcontractor is any firm, person, or organization to whom the Consultant has transferred, by solicitation of bids or quotes and Agency's approval, any portion of the work covered by its obligation to the Agency under the Contract.

1.04 WORK

All necessary activities including technical, engineering, and other services, and all necessary materials required of the Consultant under the terms of the Contract.

1.05 SCOPE OF WORK

Extent of work mutually and originally agreed upon by the Agency and the Consultant upon which the Consultant bases its cost proposal.

1.06 CONTRACT/AGREEMENT

The Agreement or Contract (hereinafter called "Contract") between the Consultant and the Agency for the performance by the Consultant and the Agency of services and work specified therein. These Specifications, or applicable portions thereof as noted in the Contract, are part of the Contract. The Contract shall be initiated and prepared by the Agency.

1.07 SUPPLEMENTAL AGREEMENT

A Contract between the Consultant and the Agency for the performance of services and work, and payment therefor, for any major changes in the terms of the original Contract.

1.08 ADDITION

The joining or uniting so as to increase the number, to augment the quantity, or to enlarge the magnitude of the work, by supplemental agreement.

1.09 DELETION

The removing or eliminating so as to decrease the number, to diminish the quantity, or to reduce the magnitude of the work, by supplemental agreement.

SECTION II: GENERAL CLAUSES AND COVENANTS

The following requirements and conditions shall govern the execution and performance of the Consultant's professional services as delineated in all Contracts with the Agency.

2.01 INSURANCE

The Consultant shall comply with all Workers Compensation Laws of the State of West Virginia, and shall carry at least the following minimum amounts of insurance:

1. Public Liability Insurance in an amount not less than One Hundred Thousand Dollars (\$100,000.00) for injuries, including those resulting in death to any one (1) person and in an amount not less than Three Hundred Thousand Dollars (\$300,000.00) for damage on account of any one (1) accident or occurrence; and Property Damage Insurance in an amount not less than Three Hundred Thousand Dollars (\$300,000.00) from damages on account of any accident or occurrence.

Said insurance shall be maintained in full force and effect during the life of the Contract and shall protect the Consultant and the Agency, their employees, agents, and representatives from claims for damages for personal injury and wrongful death, and for damages to property arising in any manner from the acts or omissions of the Consultant, its employees, agents, or representatives in the performance of the work covered by the Contract, and any supplemental agreement thereto.

2. Professional Liability Insurance in an amount not less than Five Million Dollars (\$5,000,000.00), or as otherwise specified by the Agency. The Professional Liability Insurance shall be maintained in full force and effect until final acceptance of the construction project for which a Contract has been entered under these Specifications or three (3) years after final acceptance of the Consultant's work by the Agency, whichever comes first, unless construction is initiated but not having final acceptance prior to the end of the three (3) year period, in which case the Professional Liability Insurance shall be maintained until final acceptance of the construction project for which a Contract has been entered under these Specifications.

3. The Consultant shall carry Valuable Papers and Records Insurance in an amount not less than eighty-five percent (85%) of the total invoiced fee at any time during the life of the Contract in order to assure the restoration of any plans, drawings, field notes, or any other similar data relating to the work covered by the Contract should they be lost or destroyed prior to receipt in completed form by the Agency. Valuable Papers and Records Insurance shall pertain only to the work as set forth in the Contract and the Agency shall be named as one of the insured.

4. The policy, or policies, of insurance herein required must be countersigned by a Resident Agent of the State of West Virginia in accordance with the applicable statutes of the

State of West Virginia.

5. Certificates showing the Consultant is carrying the above described insurance, in at least the above specified minimum amounts, shall be furnished to the Agency before the Agency is obligated to make any payment to the Consultant for work performed under the provisions of the Contract.

6. If any part of the work is transferred to a subconsultant, all the above provisions shall apply to the subconsultant and the work performed by it.

2.01A LIABILITY OF CONSULTANT, INDEMNIFICATION, STANDARD OF PERFORMANCE, AND EFFECT OF ACCEPTANCE

The Consultant shall be responsible to the Agency for all damage and expense to person or property caused by its activities and those of its subconsultants, agents, or employees, in connection with the work and services required under the Contract. Further it is expressly understood that the Consultant shall indemnify, defend, and hold harmless the State of West Virginia, the Agency, its officers, agents, or employees from and against any and all damages, claims, suits, judgments, expenses, actions, and costs of every name and description caused by any act or omission in the performance by the Consultant, or its subconsultant, agents, or employees, of the work and services under the Contract.

The Consultant shall be liable for all damages, costs, and additional expense incurred by the Agency in the construction of the project which is caused by the negligence of the Consultant to perform the work and services as specified in the Contract with the same degree and standard of care and skill normally expected of and provided by Consultant in the performance of the same work and services, or work and services similar to the work and services to be provided herein. Acceptance of the work and services by the Agency shall not waive any of the rights of the Agency contained in this Section nor release or absolve the Consultant from any liability, responsibility, or duty contained herein. This includes damages, costs, and expenses resulting from claims brought against the Agency by the construction contractor(s).

2.02 PLANS AND RECORDS

Upon request, the Agency shall deliver to the Consultant, without cost to the Consultant, one copy of any plans, photographs, reports, traffic data, calculations, topographic surveys, maps, digital files, utility location plats, title abstracts, and other pertinent public records applicable to the work, currently possessed by the Agency.

2.03 OWNERSHIP OF THE WORK

All works created by Consultant in connection with or related to the Contract are "work made for hire" within the meaning of the copyright laws of the United States, 17 U.S.C. Section 101, *et seq.* All right, title and interest to such works vests in the Agency and the State of West Virginia.

2.04 TRANSFERS

The Consultant shall not assign, sublet, or transfer any interest in the work covered by the

Contract without the prior written approval or consent of the Agency.

Agency's approval or consent to assign, sublet, or transfer any part of the work shall not relieve the Consultant of its primary responsibility for the performance of work so transferred.

2.05 ACCESS TO RECORDS

The Consultant and its subconsultants shall maintain records of material cost, direct salary, payroll additives, other direct and indirect costs, and net fee used to support cost of the work and shall maintain all accounts, papers, maps, photographs, other documentary material, and any evidence pertaining to cost incurred, and shall make such materials available at its offices at all reasonable times during the contract period and for three (3) years after final payment for the project, for inspection by the Agency or any authorized representatives of the State or Federal Government, and copies thereof shall be furnished if requested. "Final Payment" refers to the date of final payment with respect to the project. If a claim, investigation, or litigation is pending after what was assumed to be the final payment, the retention period will not begin until final settlement of the claim, investigations, or litigation.

2.06 SUBMISSIONS, REVIEWS, AND ACCEPTANCE

All preliminary and detailed designs, plans, specifications, estimates, surveys, and other documents prepared or executed by the Consultant shall be subject to reviews and acceptance by the Agency and other public agencies and entities involved insofar as the interest of each is concerned.

The official date of any submission by the Consultant shall be the date upon which an acceptable version thereof is received by the Agency. A review by the Agency shall be the basis of determining whether a submission is acceptable. If an original submission is found acceptable, the date of submission shall be the official date of acceptance. If, as a result of the Agency's review, it is decided that a submission is not acceptable, the date of acceptance shall be the date upon which an acceptable revision is received by the Agency.

Acceptance of a submission shall not relieve the Consultant of its obligation to correct any defects or errors in its work, at its own expense.

2.07 COORDINATION OF WORK

The Consultant shall confer with all state, federal, and local governmental agencies including planning commissions, public utilities, corporations, other private or public organizations, and any other official bodies whose work and plans may be either directly or indirectly affected by the work contemplated under the provisions of the Contract. The Consultant shall, insofar as it is consistent with the work of the Contract, fully consider such work and plans in the performance of its work, and shall report to the Agency, in writing, any such work or plans of others which may be inconsistent with the work of the Contract.

The Consultant shall cooperate with those performing work on adjacent or related projects and shall provide all information and data in its possession necessary for the coordination and performance of such work.

2.08 APPEARANCES AND CONFERENCES

The Consultant shall provide further professional services which the Agency deems

necessary for the furtherance of the work under the Contract, such as appearances at conferences, public meetings and hearings, and other such professional services as may be required prior to acceptance of the work covered by the Contract.

The Consultant shall have a qualified representative, authorized to speak and act for it, at monthly meetings to be held in the Agency in Charleston, West Virginia.

At any time during work designed or provided under these Specifications, the Consultant shall confer with the Agency as to interpretation of plans, correction of errors and omissions, and prepare any plan necessary related to such work, without added compensation.

2.10 ADDITIONS OR DELETIONS

Upon written notice, and without invalidating or supplementing the Contract, the Agency may require additions or deletions of a minor nature within the scope of work originally contemplated. Any request for extension of time caused thereby shall be considered and agreement reached at the time such addition or deletion is ordered.

2.11 CHANGES REQUIRING ADJUSTMENT OF FEE PAYMENTS

Upon written notice and execution of a supplemental agreement by all parties and without invalidating the Contract, the Agency may require changes in fees due to the revision or abandonment of work contemplated or already satisfactorily performed by the Consultant.

The amount of adjustment in fees for such changes shall be determined by mutual agreement in accordance with these Specifications.

The Agency will not be otherwise obligated to honor claims for additional fee payments unless the work has been previously authorized by a supplemental agreement.

2.12 WORK SCHEDULE AND PROGRESS REPORTS

The Consultant agrees to complete the work in accordance with the time schedule shown in the Contract and its attachments and exhibits.

2.13 FAILURE TO COMPLY WITH TIME SCHEDULE

Neither the Agency nor the Consultant shall be held responsible for delay of performance of the work when such delay is due to unforeseeable causes against which provision cannot be made, such as an act of God, or public enemy, fire, strikes, floods, or legal acts of public authorities not occasioned through negligence on the part of the Consultant. If any delays for such causes are such as to prevent the complete performance of the Contract within the time it was originally scheduled for completion, Agency may, by written notice, terminate the Contract.

2.14 CONTINUING OBLIGATIONS

In the case of death of any of the principals or associates of the Consultant's organization, or any other occurrence that may preclude satisfactory performance of the work covered by the Contract, neither the Consultant nor the surviving principals shall be relieved of the obligation to complete the performance thereof. The Agency may terminate the Contract if it considers the death or incapacity of such principal or associate, or the circumstance, to be a loss of such magnitude as to affect the Consultant's ability to complete the performance of the work in a satisfactory manner.

2.15 AGENCY'S OPTION TO TERMINATE

In addition to its rights and options as herein provided to terminate the Contract, the Agency may terminate the Contract at any time before full completion of the work covered by the Contract by giving written notice of its intention by certified mail not less than fifteen (15) days prior to the effective date of termination.

If the termination is requested by the Agency, payment will be made promptly to the Consultant of any fees earned by it up to the date of termination, less any previous payments.

2.16 DESIGN STANDARDS AND DIRECTIVES

The applicable design standards and directives as issued by the Agency shall apply.

2.17 WORKING OFFICE

The Consultant is to have or establish a working office at a place acceptable to the Agency, where it will be possible for Agency representatives to review and discuss its work as it progresses.

2.18 FIELD REVIEWS

The Consultant shall arrange for a responsible and informed representative to accompany representatives of the Agency, and other agencies designated by the Agency, in making any field reviews requested by the Agency.

2.19 CONSULTANT ENDORSEMENT

All work by the Consultant shall be performed under the supervision of a professional, registered in the primary discipline necessary to complete the work covered by the Contract.

All reports and plans shall be endorsed by a professional meeting the requirements of this Subsection.

2.20 PUBLICITY

All news releases to newspapers, magazines, other publications, television, and radio shall be approved and released through the Agency.

2.21 COPYRIGHT

The Consultant shall not copyright any papers, reports, forms, or other material which are a part of the work under the Contract without the prior express written consent or approval of the Agency.

2.22 COMPLIANCE WITH LAWS AND REGULATIONS

The Consultant shall observe and comply with all federal, state, and local laws, ordinances, and regulations in any manner affecting the conduct of the work.

2.23 OVERPAYMENTS

It is hereby expressly covenanted, agreed, and understood by and between the parties hereto, that the Consultant will immediately make payment and refund to the Agency any and all

overpayments made by said Agency to the Consultant for any work performed under the Contract. It is further agreed that the Agency is given the right and authority to withhold and apply any funds in its possession, belonging to or owed by it to the Consultant on any Contract or from any other source, for the recovery of any overpayment made in connection with this Contract. It is further expressly agreed that the statute of limitations shall not commence to run against the Agency for such overpayment until such overpayment is discovered and made known to the Agency.

2.24 WARRANTY

The Consultant warrants that it has not employed or retained any company or person other than a bona fide employee, working solely for it, to solicit or secure the Contract, and that it has not agreed to pay any company or person other than bona fide employees working solely for it, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon, or resulting in, the award of the Contract with the Agency. For breach of the warranty, the Agency shall have the right to annul the Contract without liability, or, at its discretion, to deduct from the Agency's payment to the Consultant under the Contract an amount equal to the aforesaid fee, commission, percentage, brokerage fee, gifts, or other consideration.

2.25 NONDISCRIMINATION OF EMPLOYEES

The Consultant further agrees as follows: During the performance of the Contract, the Consultant and all of its subconsultants shall provide equal employment opportunities for all qualified persons and shall not discriminate against any employee or applicant because of race, color, age, handicap, religion, sex, or national origin. The Consultant and its subconsultants shall comply with the executive orders of the Governor of the State of West Virginia, dated October 16, 1963, and December 15, 1965; the Presidential Executive Order Number 11246, as amended by Executive Order Number 11375 and as supplemented in Agency of Labor Regulations (Title 41 Code of Federal Regulations, Part 60); and the Civil Rights Acts of 1964 as amended. During the performance of the Contract, the Consultant, for itself, its assignees, and successors in interest (hereinafter called "Consultant") shall agree as follows:

The Consultant, with regard to the work performed by it afterward and prior to completion of the work, shall not discriminate on the grounds of race, color, age, handicap, religion, sex, or national origin in the selection and retention of subconsultants, including procurements of materials and leases of equipment.

Solicitations for Subcontractors, including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiation by the Consultant for work to be performed under a subcontract, including procurement of materials or equipment, each potential subcontractor or supplier shall be notified by the Consultant of the Consultant's obligations under the Contract and the Regulations relative to nondiscrimination on the grounds of race, color, age, handicap, religion, sex, or national origin.

Information and Reports: The Consultant shall provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and shall permit

access to its books, records, accounts, and other sources of information, and its facilities, as may be determined by the State of West Virginia to be pertinent to ascertain compliance with such Regulations, orders, and instructions.

Where any information required of a Consultant is in the exclusive possession of another who fails or refuses to furnish this information, the Consultant shall so certify to the State of West Virginia, as appropriate, and shall set forth what efforts it has made to obtain the information.

The Consultant shall include the provisions of the above paragraphs in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, orders, or instructions issued pursuant thereto. The Consultant shall take such action with respect to any subcontract or procurement as State of West Virginia may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event a Consultant becomes involved in or is threatened with litigation with a contractor or supplier as a result of such direction, the Consultant may request the Agency to enter into such litigation to protect the interest of the Agency. In addition, the Consultant may request the United States to enter into such litigation to protect the interest of the United States.

2.26 NON-APPROPRIATION

Pursuant to the West Virginia Constitution, the State cannot enter into any agreement which would obligate the State beyond the current fiscal year. Therefore, services to be performed under this Contract are to be continued in succeeding fiscal years for the terms of the Contract and any subsequent renewals, contingent upon funds being appropriated by the Legislature for the services. In the event of non-appropriation of funds for the services, the payments, including any interest, shall be canceled in whole without penalty of the State at the end of the then current fiscal year, with the Contract becoming null and void after June 30. The Agency will make efforts to obtain the necessary funds to avoid cancellation of the Contract, and will provide written notice to the Consultant in the event of non-appropriation thirty (30) days prior to the end of the fiscal year in which such non-appropriation for the next fiscal year occurs.

2.27 CONSULTANT/CONTRACTOR CONFLICTS

The Consultant agrees that neither it, nor any of its subsidiaries, affiliates, the parent company, or subconsultants shall contract for the construction of the work contained in the Contract, except with the prior express written approval of the Agency. The Consultant also agrees that it shall not perform services for any contractor, subcontractor, or supplier participating in bidding or construction of the work contained in the Contract, nor shall the Consultant negotiate, contract, or make any agreement with contractor, subcontractor, or any supplier participating in bidding or construction of the work contained in the Contract with regard to any of the work or any services, equipment, or facilities to be used during bidding or construction without the express written approval of the Agency.

2.28 BREACH OF AGREEMENT: WAIVER

These provisions shall be fully and effectively enforced, and failure to comply therewith shall be regarded as a material breach of the Contract. Waiver by the Agency of any particular

breach shall not constitute waiver of any other breach of the agreement.

No provision of this contract or these Specifications can be waived by either party unless the waiver is expressed in writing and signed by their duly authorized officers.

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Rev. 5/94

AGREEMENT ADDENDUM

In the event of conflict between this addendum and the agreement, this addendum shall control:

1. **ARBITRATION** - Any references to arbitration contained in the agreement are hereby deleted. Disputes arising out of the agreement shall be presented to the West Virginia Court of Claims.
2. **HOLD HARMLESS** - Any clause requiring the Agency to indemnify or hold harmless any party is hereby deleted in its entirety.
3. **GOVERNING LAW** - The agreement shall be governed by the laws of the State of West Virginia. This provision replaces any references to any other State's governing law.
4. **TAXES** - Provisions in the agreement requiring the Agency to pay taxes are deleted. As a State entity, the Agency is exempt from Federal, State, and local taxes and will not pay taxes for any Vendor including individuals, nor will the Agency file any tax returns or reports on behalf of Vendor or any other party.
5. **PAYMENT** - Any references to prepayment are deleted. Payment will be in arrears.
6. **INTEREST** - Should the agreement include a provision for interest on late payments, the Agency agrees to pay the maximum legal rate under West Virginia law. All other references to interest or late charges are deleted.
7. **RECOURPMENT** - Any language in the agreement waiving the Agency's right to set-off, counterclaim, recoupment, or other defense is hereby deleted.
8. **FISCAL YEAR FUNDING** - Service performed under the agreement may be continued in succeeding fiscal years for the term of the agreement, contingent upon funds being appropriated by the Legislature or otherwise being available for this service. In the event funds are not appropriated or otherwise available for this service, the agreement shall terminate without penalty on June 30. After that date, the agreement becomes of no effect and is null and void. However, the Agency agrees to use its best efforts to have the amounts contemplated under the agreement included in its budget. Non appropriation or non-funding shall not be considered an event of default.
9. **STATUTE OF LIMITATION** - Any clauses limiting the time in which the Agency may bring suit against the Vendor, lessor, individual, or any other party are deleted.
10. **SIMILAR SERVICES** - Any provisions limiting the Agency's right to obtain similar services or equipment in the event of default or non-funding during the term of the agreement are hereby deleted.
11. **ATTORNEY FEES** - The Agency recognizes an obligation to pay attorney's fees or costs only when assessed by a court of competent jurisdiction. Any other provision is invalid and considered null and void.
12. **ASSIGNMENT** - Notwithstanding any clause to the contrary, the Agency reserves the right to assign the agreement to another State of West Virginia agency, board or commission upon thirty (30) days written notice to the Vendor and Vendor shall obtain the written consent of Agency prior to assigning the agreement.
13. **LIMITATION OF LIABILITY** - The Agency, as a State entity, cannot agree to assume the potential liability of a Vendor. Accordingly, any provision limiting the Vendor's liability for direct damages or limiting the Vendor's liability under a warranty to a certain dollar amount or to the amount of the agreement is hereby deleted. In addition, any limitation is null and void to the extent that it precludes any action for injury to persons or for damages to personal property.
14. **RIGHT TO TERMINATE** - Agency shall have the right to terminate the agreement upon thirty (30) days written notice to Vendor.
15. **TERMINATION CHARGES** - Any provision requiring the Agency to pay a fixed amount or liquidated damages upon termination of the agreement is hereby deleted. The Agency may only agree to reimburse a Vendor for actual costs incurred or losses sustained during the current fiscal year due to wrongful termination by the Agency prior to the end of any current agreement term.
16. **RENEWAL** - Any reference to automatic renewal is hereby deleted. The agreement may be renewed only upon mutual written agreement of the parties.
17. **INSURANCE** - Any provision requiring the Agency to insure equipment or property of any kind and name the Vendor as beneficiary or as an additional insured is hereby deleted.
18. **RIGHT TO NOTICE** - Any provision for repossession of equipment without notice is hereby deleted. However, the Agency does recognize a right of repossession with notice.
19. **ACCELERATION** - Any reference to acceleration of payments in the event of default or non-funding is hereby deleted.
20. **AMENDMENTS** - All amendments, modifications, alterations or changes to the agreement shall be in writing and signed by both parties. No amendment, modification, alteration or change may be made to this addendum without the express written approval of the Purchasing Division and the Attorney General.

ACCEPTED BY:

STATE OF WEST VIRGINIA

Spending Unit: WV STATEWIDE MAPPING BOARD

Signed: [Signature]

Title: Chief, WVSAIMS

Date: 2/2/03

VENDOR

Company Name: BAE SYSTEMS ADR Inc.

Signed: [Signature]

Title: Richard Genet
President

Date: January 31, 2003

Exhibit A

Solicitation of Expression of Interest of Agency

SAM 0202



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street, East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFO NUMBER
SAM0202

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ADDRESS CORRESPONDENCE TO ATTENTION OF:
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304-558-0492

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WV STATEWIDE ADDRESSING
 AND MAPPING BOARD
 GREENBROOKE BLDG SUITE 201A
 1124 SMITH STREET
 CHARLESTON, WV
 25301 304-558-4218

DATE PRINTED 11/06/2002	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
BID OPENING DATE: 11/27/2002		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-07		
CONSLTING SERVICES FOR PHOTOGRAMMETRIC MAPPING EXPRESSION OF INTEREST THE WEST VIRGINIA STATEWIDE ADDRESSING AND MAPPING BOARD (SAMB) IS REQUESTING EXPRESSIONS OF INTEREST BE SUBMITTED FOR CONSULTING SERVICES TO BE UTILIZED IN THE PREPARATION OF ADVANCED PHOTOGRAMMETRIC MAPPING SERVICES FOR STATEWIDE ENHANCED 911 AND RURAL ADDRESSING PURPOSES. TO RECEIVE ATTACHMENT D: GRID MAP TEMPLATE, PLEASE CONTACT LEIGH CIELENSKI AT 304-558-4218 ADDITIONAL INFORMATION IS ATTACHED ***** THIS IS THE END OF RFQ SAM0202 ***** TOTAL						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street, East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
SAM0202

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RON PRICE
 304-558-0492

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WV STATEWIDE ADDRESSING
 AND MAPPING BOARD
 GREENBROOKE BLDG SUITE 201A
 1124 SMITH STREET
 CHARLESTON, WV
 25301 304-558-4218

DATE PRINTED 11/21/2002	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
BID OPENING DATE: 11/27/2002		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001		JB		906-07		
ADDENDUM NO. 1						
ANSWERS TO SUBMITTED QUESTIONS AS PER THE ATTACHED						
CONSULTING SERVICES FOR PHOTOGRAMMETRIC MAPPING						
***** THIS IS THE END OF RFQ SAM0202 ***** TOTAL: _____						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE _____ TELEPHONE _____ DATE _____

ADDRESS CHANGES TO BE NOTED ABOVE

Addendum 1. Responses to submitted vendor questions regarding EOI SAM-0202

There appears to be conflicting information given on the proposal format. Section 4.1 clearly indicates that the EOI response should be divided into 4 sections: I. Narrative, II. Qualifications, III. Specific Plans and IV. Task Sheets.

Section 4.2.2 provides a more detailed outline, but it does not correspond with the 4 sections described in 4.1.

For example, 4.2.2.1, "The Company", appears to correspond with 4.1.1 Section 1. Narrative, but requests information on qualifications, resumes and references, items that I believe should be included in 4.1.2 Section 2, Qualifications.

Furthermore, client references are requested in Section 4.2.2.1 and also in 4.2.2.3.

Can you confirm whether we should follow the outline in Section 4.1, or the outline in Section 4.2.2?

Response: Use the format described as per Section 4.1, Vendors Proposal Format (p. 48). Descriptions under Section 4.2 were provided to explain in more detail what types of information should be provided in the vendor responses as outlined per Section 4.1.

Also, can you provide copies of the digital shape files that were used to create the map in Attachment D?

Response: No, the state does not intend to provide the individual shape files that were used to create the map in Attachment D. The pdf version of the map was provided instead as a guide to be used by the vendors in their responses. The state anticipates that each vendor will develop a somewhat different approach to gridding the state as long as they adhere to the general parameters described for the required mapping scales and tiling structure. A revised grid map has been posted to the <ftp://ftp.wvgis.wvu.edu/wvsamb/eoi-sam0202/maps>. The state intends to provide the shape-files to the short-listed vendors if necessary.

Ref. 1.8.3 Proprietary Information

The second to last sentence says "proprietary information must be clearly marked". The next says "No proprietary information ... may be submitted without the express written permission of SAMB." Are we permitted to submit proprietary information if it is clearly marked?

Response: The state prefers that any information of a proprietary nature not be included in the vendor response. However if inclusion of proprietary information is considered unavoidable or its use is considered necessary for the successful completion of the proposed work, its inclusion must be clearly marked in the response. Please realize that while we try to maintain the integrity of proprietary information, the files do become public record after the award and the state can not guarantee that the information will not be viewed by those other than the members of the evaluation team.

Addendum 1. Responses to submitted vendor questions regarding EOI SAM-0202

Ref 3.5.1.6 Extent of Imagery.

The last line on Page 18 states that the work associated with incorporating existing data sets "shall be described". Do you want this in the EOI response, or will it be discussed during negotiations? If in the response, do you have more information on the existing data sets that you can provide?

Response: If the vendor is aware of other data sets that may influence its response, please bring it to the state's attention. The state anticipates that the bulk of this discussion will be entered during negotiations. The state does not have any further information to provide at this time.

Ref 3.5.2.1 Project Control.

Please verify the stated vertical accuracy for vertical control to be Third Order. The statement for vertical accuracy does not conform to the Third Order accuracy specifications.

Response: Vertical control shall be equal to or better than Third Order.

Ref 3.5.3.1 Scanning.

Please confirm that color film will be used. There is a statement referencing color infrared film. The EOI states that scanning resolution "shall not exceed 20 microns". 21 microns is optimum for the film scale specified and intended resolution. Furthermore, many scanners have preset increments at 21 microns. Is 21 microns suitable?

Response: The stated film type is natural color. The reference to color infrared film does not apply. A scanning resolution of 21 microns is acceptable as long as all spectral and accuracy requirements are met.

Ref 3.5.2.3 -11 and 3.5.3.2 -6

Please clarify the two statements referenced to the "minimum 25 blind AT QA points . . . per block" (as stated in 3.5.2.3-11) and " at least 10 blind QA points per block".

Response: Use Section 3.5.2.3-11 . Ignore Section 3.5.3.2-6 .

Ref. 3.5.3.3.1 Road Centerlines

Will the State provide the road types and the location of change i.e. from county to township.

Response: The vendor is responsible for the road centerline collection and a cursory attribution of the line feature (i.e., primary, secondary, driveway, trail, etc.). The state (i.e., WVDOH) and/or any follow-on addressing contractor will assign more specific attribution such as route number, etc.

Ref. 3.5.3.3.1 Railroad Centerlines

Please clarify the term "Abandoned railroad right-of-way". Do you want the ROW collected or the centerline of the ROW ?

Response: The centerline of the abandoned railroad as can best be identified.

Addendum 1. Responses to submitted vendor questions regarding EOI SAM-0202

Ref. 3.5.3.3.1 Driveway Centerline

Does the specification for driveways "over 200 ft" also apply for the 1"=100' scale mapping?

Response: Yes, driveways "over 200 ft" at all scales.

Ref. 3.5.3.3.1 Overpasses, Bridges and Tunnels or Ferry Routes

Please confirm that the maximum allowable omission of ¼ in at map scale applies also to the culverts. Should culverts be compiled as polygons even when streams are a single line?

Response: Yes and yes (for example, large box culverts).

Ref. 4.1 Proposal Format

Should a West Virginia Resident Vendor Preference Certificate be included for any team member that qualifies, or only for the prime contractor? Is there any preference or requirement for inclusion of small, minority, women owned or disadvantaged businesses?

Response: No. Resident Vendor Preference applies only to the cost or price on a bid. Since this is an Expression of Interest, the Resident Vendor Preference does not apply because cost is not a part of the submittal. No, the state does not consider any other preference when making an award unless it is a requirement of federal funds used for a project. Again since this is a qualifications based evaluation there are not any preferences granted in the evaluation process.

Page 1, Section 1.1, paragraph 5, discusses the state's desire for vendors to respond with "anticipated concepts and methods of approach" to the E-911 addressing portion of this project, though the RFQ also states its focus is the mapping component. Can the state provide more details on the extent to which it expects and/or desires vendors to present qualifications related to the addressing component?

Response: The state understands that many respondents have "teamed" with or otherwise entered into discussions with addressing vendors. The extent of the addressing vendor's involvement in the proposed work and the role of the addressing vendor as described in the vendor's response is solely at the discretion of the respondent. The state wants to learn more about the proposed methods of addressing and the hand off between the mapping contractor and the addressing contractor before deciding to either issue a new EOI for addressing or optionally extend the mapping contract to include addressing.

Page 8, Part 3, Section 3.2.5, Minimum Vendor Qualifications, requires a registered Professional Engineer (PE) to be a member of the vendor team. Can the state elaborate on the expected role of the PE? For example, will the state require the PE to review and approve all final deliverables? Does the state expect that the PE shall serve as Project Manager?

Response: The only requirement on the part of the state is that a PE be a member of the vendor team. The extent of the PE's involvement in the proposed work and the role of the PE as described in the vendor's response is solely at the discretion of the vendor.

Addendum 1. Responses to submitted vendor questions regarding EOI SAM-0202

Page 48, Part 4, Section 4.1, Vendor's Proposal Format, outlines the state's requirements for the structure and flow of the proposal. Since the RFQ contains many cross-references to items that must be addressed within the context of the four sections outlined in Part 4, Section 4.1, and since all four sections (4.1.1 – 4.1.4) make reference to "as per Section 4.2.2" without greater specificity, EarthData requests confirmation and clarification as follows. [With regard to this question, we believe that by clarifying its expectations with regard to the specific material to be covered in each section (I-IV), the state will be assured of receiving proposals that are easier to review and compare.]

Response: Use the format described as per Section 4.1, Vendors Proposal Format (p. 48). Descriptions under Section 4.2 were provided to explain in more detail what types of information should be provided in the vendor responses as outlined in Section 4.1.

Section I, Written Narrative, "as per Section 4.2.2":

Section 4.2.2.1, The Company, requires "a written narrative statement..." addressing at a minimum Items a through e. We assume the state expects to see Section I, Written Narrative, address specifically the items required in Section 4.2.2.1. Please confirm.

Response: The narrative should be provided as described as per Section I, Section 4.1. As per your follow-up question below, Section I is more appropriately described as an overview or executive summary that provides an introduction to the more detailed sections of the proposal to follow.

Section 4.2.2.1, Item c, requests resumes of staff to be assigned to the project. For ease of review, may we place resumes in an appendix to Section I?

Response: Resumes are more appropriately included as per Section II, Section 4.1. Resumes should be submitted as an appendix to Section II, and clearly labeled as such.

How does Section 4.2.2.1, Item e, "Specific plans for providing the proposed services," differ from the larger Section III? We assume that this item (Section 4.2.2.1, e) requires a more general overview of our team's approach, including roles and responsibilities, etc. Please confirm.

Response: Specific plans for providing the proposed services should be included as per Section III, Section 4.1, Vendors Proposal Format.

Should Section 4.2.2.2, The Services, be included in Section I, Written Narrative, as a summary/overview of the services we will provide for this statewide project? We request confirmation of this approach to our response, because we interpret the RFQ to place technical descriptions and methodologies in Section III, Specific Plans. We conclude that Section I is to function somewhat as a modified executive summary. Please confirm.

Response: A description of similar past services rendered by the vendor is more appropriately placed as per Section I. A description of the specific services to be proposed by the vendor for this EOI is most appropriately placed as per Section III, Section 4.1

Addendum 1. Responses to submitted vendor questions regarding EOI SAM-0202

Section II, Vendor Qualifications, "as per Part 3 and Section 4.2.2":

Section 4.2.2.3, References, Qualifications, and Supporting Materials, requires submission of the supporting materials identified in Items a-d. Also, Part 3.6, Vendor Qualifications and Experience, outlines additional requirements for demonstrating project experience in each of the technical performance criteria. We assume that the state expects to see Section II, Vendor Qualifications, address specifically the items required by Section 4.2.2.3 and Section 3.6. Please confirm.

Response: Include descriptions of all relevant qualifications, experience, and technical capabilities as per Section II, Section 4.1, Vendors Proposal Format.

Section III, Specific Plans, "as per Part 3 and Section 4.2.2":

Based on Section 4.2.2.4, we assume that the state expects vendors to use this section to demonstrate compliance with each of the technical performance criteria outlined in Section 3.5, as well as addressing Items a-e of Section 4.2.2.4. We further assume that this would be the appropriate place to demonstrate compliance with Section 4.2.2.8 and 3.4.2 as these sections also address the requirements to demonstrate technical performance and compliance. Please confirm. Please also confirm that we may address Sections 4.2.2.5, 4.2.2.6, and 4.2.2.7 within the framework of Section III, as these items are also part of Part 3.5.

Response: Include descriptions of compliance with all technical performance criteria as per Section III, Section 4.1, Vendors Proposal Format.

Section IV, Task Check Sheets (Attachments A, B, and C):

Having read the instructions on each attachment, as well as the RFQ reference to the general instructions in 1.8.1, we are unclear as to how these detailed attachment forms should be completed. It seems that to respond to each attachment with a detailed compliance plan (since a simple "yes" or "no" will not be considered to be adequate) would be to duplicate the specific plan for technical performance compliance presented in Section III. Based on our understanding of the requirements for Section III, Specific Plans, and the instructions for each attachment, we would duplicate the explanation of methods, QC and QA steps, technical efficiencies related to equipment and personnel resources, etc.

Moreover, since most of the tasks are identical (with a few exceptions that would be addressed in the specific plans), attachments A-C would be largely a duplication of one another as well as a duplication of Section III.

Could the state please provide clarification of what is expected in the attachments' response as compared to Section III, the specific plans?

Response: The state acknowledges there is a certain amount of redundancy inherent in the responses to Attachments A-C. However, this was done to elicit the vendor's responses to consider innovative or alternate responses to each proposed scale of mapping, especially when proposed optional tasks are identified and where 100' design scale mapping extents have not been clearly identified. The appendices are also provided to guide the vendor in the formulation of anticipated costs at such time the successful respondent enters into contract negotiations, as well as to provide a consistent schema for the evaluation of tasks

Addendum 1. Responses to submitted vendor questions regarding EOI SAM-0202

by the state's technical evaluation committee. So long as the initial task is described in detail (e.g., as in Attachment A, Tasks 1-16), a statement such as "refer to response in Attachment x, Task yy" will be acceptable, and any unique tasks are appropriately described in full. Any differences in the approaches taken in the proposed work between the 400' design scale and the 100' design scale shall also be described in detail as per Section III.

Should required forms be included in a Section V or in an appendix?

Response: Required forms shall be included as an appendix to Section II, and clearly labeled.

Page 23, Section 3.5.3.1 requires that vendors scan imagery using an aperture size no finer than the effective resolving power of the combined film and lens system. The section further states, "scan resolution shall not exceed 20 microns for the aerotriangulation solution." Since a 21 micron scan resolution would support the required orthophoto GSDs (2' and .5') from both the 14,400 AMT and 3,600 AMT flying heights, can vendors generate and use 21 micron scans for both digital orthophoto production and aerotriangulation?

Response: A scanning resolution of 21 microns is acceptable as long as all spectral and accuracy requirements are met.

Page 23, Section 3.5.3.1, states, "any negative systematic effects of exposing, processing, and scanning shall be eliminated in the resultant digital files prior to orthorectification." Does this requirement denote that scans must be "dodged" prior to orthorectification or can image dodging occur post-rectification?

Response: Any necessary "dodging" shall be completed prior to orthorectification.

Page 32, Section 3.5.3.6.2, requires edge of pavement collected as a breakline "to avoid unnatural appearance of bridge decks, interstate overpasses, railroad trestles, and similar features in the orthoimagery." Are these elevated features the only places where edge of pavement breaklines are required?

Response: No, breaklines shall be collected for any identified surface feature where the required accuracy of either the DTM surface or the resultant orthorectified imagery would be affected.

Page 29, Section 3.5.3.4.1, acknowledges that smears will result from both the ground level and elevated structure being modeled in the DTM. Will a specification for allowable image smear be established like those for blemishes, scratches, and dust (page 30, section 3.5.3.4.3)?

Response: Yes, if possible, as described for other artifacts.

Page 45, Section 3.5.4.13.5, requires a "Statewide Coverage of Digital Ortho Imagery." Is this an image mosaic compressed in MrSID format or a collection of the 55 individual county coverages?

Addendum 1. Responses to submitted vendor questions regarding EOI SAM-0202

Response: The vendor shall propose what it feels is the most appropriate approach for compiling both a statewide and per county orthoimage "mosaics", but a required deliverable is one complete seamless orthoimage coverage of the entire state. A second set of deliverables is one seamless orthoimage coverage for each of the 55 counties.

In areas where there is 100% coverage of 100' orthophoto tiles, should the 400' tiles be eliminated? There seems to be two places where this is in conflict:

P. 18 States 'Mandatory standard mapping: 2-foot GSD; 2-foot GSD orthoimagery shall be collected for the entire co-terminus extent of the State of West Virginia (25,000 square miles, more or less, including minimum buffers along border areas.

P. 44 Section 3.5.4.13.2 States 'Where the SAMB selects the areas of supplemental or optional high resolution 100' design scale mapping, the underlying whole, medium resolution 400' design scale tiles will be eliminated. Only whole ortho tiles shall be delivered.

Response: Where 100' orthoimages are collected such that the entire underlying 400' scale tile is mapped, those 400' tiles will be eliminated.

Do all orthophoto files need to be filled out in full? For example, if the boundary, including the 1000' overedge, only covers 2000' of the tile, does the orthophotography have to extend to fill the entire rest of the 10,000' X 10,000' tile?

Response: At the 400' scale, only the 1000 foot over edge criteria need be met. At 100' scale, the entire tile shall be included regardless of the overedge.

How many pilot projects are to be performed?

Response: As many as four pilot projects are anticipated, dispersed around the state.

Must we deliver raw scans? If so what is the deliverable format (JPEG compressed or uncompressed TIF).

Response: The successful vendor shall be expected to maintain the raw scans (as uncompressed TIF) for internal purposes until final delivery of the orthoimagery is confirmed. Delivery of raw scans is not required, mainly because of the anticipated additional expense to the project. Raw scans will be considered only as a deliverable if the orientation setup will be used for other photogrammetric work such as contour generation. This topic will be given further consideration during the negotiations phase with the successful respondent. If considered for delivery, JPEG compressed format would be preferred.

Does the state want an A/I Generate format DTM file rather than the presented ASCII format presented in the RFP? The one requested is not directly readable by ArcInfo.

Addendum 1. Responses to submitted vendor questions regarding EOI SAM-0202

Response: An ASCII format DTM file shall be the required deliverable. As a secondary deliverable, the vendor may provide an ArcInfo generate format DTM file as long as the breakline data and the other attribution needed to construct a DTM that can be enhanced by others for contour generation are maintained within project specifications.

RFP implies manual cutlines by some references. If it answers all these concerns, is an automatic mosaicking approach permissible?

Response: An automated mosaicking approach is permissible as long as it adheres to all other mosaicking specifications including those in Section 3.5.3.4.5 .

End of all responses to SAM-0202 Addendum 1.



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street, East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFO NUMBER
SAM0202

PAGE
1

72 ADDRESS CORRESPONDENCE TO ATTENTION OF:
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WV STATEWIDE ADDRESSING
 AND MAPPING BOARD
 GREENBROOKE BLDG SUITE 201A
 1124 SMITH STREET
 CHARLESTON, WV
 25301 304-558-4218

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
11/06/2002				
BID OPENING DATE: 11/27/2002		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		906-07		
<p>CONSLTING SERVICES FOR PHOTOGRAMMETRIC MAPPING</p> <p>EXPRESSION OF INTEREST</p> <p>THE WEST VIRGINIA STATEWIDE ADDRESSING AND MAPPING BOARD (SAMB) IS REQUESTING EXPRESSIONS OF INTEREST BE SUBMITTED FOR CONSULTING SERVICES TO BE UTILIZED IN THE PREPARATION OF ADVANCED PHOTOGRAMMETRIC MAPPING SERVICES FOR STATEWIDE ENHANCED 911 AND RURAL ADDRESSING PURPOSES.</p> <p>TO RECEIVE ATTACHMENT D: GRID MAP TEMPLATE, PLEASE CONTACT LEIGH CIELENSKI AT 304-558-4218</p> <p>ADDITIONAL INFORMATION IS ATTACHED</p> <p>***** THIS IS THE END OF RFQ SAM0202 ***** TOTAL</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE _____ TELEPHONE _____ DATE _____

TITLE _____ FEIN _____ ADDRESS CHANGES TO BE NOTED ABOVE

UC/WC Defaulted Accounts Search Results

Sorry, no records matching your criteria were found.

FEIN: 221906664

Business name:

Doing business

as/Trading as:

Please use your browsers back button to try again.

To BEP home page	To Unemployment Compensation page	To Workers Compensation page
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RFQ No. SAM0202**A F F I D A V I T****West Virginia Code §5A-3-10a states:**

No contract or renewal of any contract may be awarded under this article to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor as defined in this section and the debt owed is an amount greater than five thousand dollars in the aggregate.

Definitions:

"Debt" means any assessment, penalty, fine, tax or other amount of money owed to the state because of a judgement, fine, permit violation, license assessment, penalty or other assessment presently due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon;

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions;

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor, so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

Exception:

The prohibition does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the West Virginia Code, worker's compensation premium, permit fee or environmental fee or assessment, and the matter has not become final, or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (West Virginia Code §61-5-3), it is hereby certified that the bidder and all related parties do not owe any debts or, if a debt is owed, that the provisions of the exception clause (above) apply.

Vendor's Name: BAE SYSTEMS ADR INC.Authorized Signature: Date: Nov. 25, 2002

**SOLICITATION OF EXPRESSIONS OF
INTEREST**

**West Virginia Statewide Addressing and Mapping Board
(WVSAMB)**

EOI# SAM-0202

November 7, 2002

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SOLICITATION OF EXPRESSIONS OF INTEREST

West Virginia Statewide Addressing and Mapping Board (WVSAMB)

EOI# SAM-0202

PART 1. GENERAL INFORMATION

1.1 PURPOSE

Pursuant to West Virginia Code Section 5G-1-1, et seq., the Acquisition and Contract Administration Section of the Purchasing Division (State), on behalf of the West Virginia Statewide Addressing and Mapping Board ("Board" or "SAMB" below) is soliciting Expressions of Interest (EOI) in establishing a contract through negotiations with a qualified engineering Vendor or engineering Vendor team with high-level photogrammetric capabilities to develop consistent statewide digital orthoimagery, digital terrain models and limited planimetric compilation of features needed to facilitate E-911 addressing and to otherwise support the West Virginia Statewide Addressing and Mapping Program (WVSAMP).

The intent is to develop base maps compatible for presentation at map scales of 1:4,800 (1"=400'; 400' design scale) for the entire state, and at map scales of 1:1,200 (1"=100'; 100' design scale) for selected supplemental urbanized areas of the state. A contract to support the West Virginia Statewide Addressing and Mapping Program will be awarded for aerial photography acquisition in the spring of 2003 during leaf-off conditions and subsequent delivery of digital orthoimagery and specified and state-selected optional planimetric mapping products within eighteen (18) months after contract award. At the State's discretion, extensions or modifications to the initial contract may be considered for subsequent years.

All associated survey, photogrammetric, and planimetric data shall also be delivered to facilitate later third-party compilation of additional planimetric or topographic features.

The State and its Agents shall have the sole authority to define and prioritize the delivery of areas on a statewide, regional, or county by county basis to facilitate the goals of the addressing program, with the understanding that any scheduling shall accommodate reasonable aerial flyover, photogrammetric production, and planimetric mapping processes.

In addition to the requirements described in this Solicitation of Expressions of Interest (EOI), the SAMB is also accepting responses from qualified Vendors or Vendor teams regarding the addressing portion of SAMB's mission as specified under West Virginia Code Section 24E-1-1, et seq. At this time, the SAMB has developed considerably less specific ideas on how it might accomplish the addressing portion of the project. Vendors are encouraged but not required to respond with teaming partners that can bring expertise both in statewide mapping and in E-911 addressing. A clear definition of the roles and relationships within and between teaming partners is requested. Vendors should concentrate on responding to SAMB's immediate aerial photography and planimetric mapping needs, but Vendors are also invited to submit responses to SAMB's addressing needs, including the submission of anticipated

concepts and methods of approach to the addressing project. However, only the proposed scope of work regarding the photogrammetric and planimetric mapping portions of this solicitation shall be considered for initial implementation by the State and the subject of negotiations pursuant to this EOI and West Virginia Code Section 5G-1-1, et seq.. The State expressly reserves the right, however, to limit any contract entered into pursuant to this EOI to the mapping activities described herein, or to certain aspects of the mapping activities. The State also reserves the right to issue any subsequent request or requests for proposals for specific statewide addressing work as it deems necessary to fulfill its requirements, and is under no obligation, implied or actual, to conform with Vendor's expectations regarding possible contracted work outside the scope of this EOI.

1.2 PROJECT DESCRIPTION

The Statewide Addressing and Mapping Board is charged with developing an integrated addressing and photogrammetric base mapping system for the entire State of West Virginia. The system includes aerial photography for the development of digital maps and a computerized Geographic Information System (GIS) that will interface with and contribute to the needs of the following: county Enhanced 911 services, state and local government agencies, telephone companies, US Postal Service, and utility systems, with a special focus on public safety and emergency response. The base maps and data to be supplied by the successful bidder will be a foundation of this system. The entire project undertaken by the Board is referred to herein as the "Project," or as the West Virginia Statewide Addressing and Mapping Program (WVSAMP or SAMP).

The aerial photography, digital orthoimagery, and planimetric feature specifications and performance criteria indicated in Part 3 have been established to provide for the development of high-quality base maps.

1.3 EOI FORMAT

This EOI has four (4) parts. "Part 1" contains informational sections, "Part 2" describes the background and working environment of the project, "Part 3" is a statement of the specifications for the services requested pursuant to this EOI, contractual requirements, and general terms/conditions, and "Part 4" explains the required format of the Vendor's response to the EOI, the evaluation criteria the State will use in evaluating the proposals received, and how the evaluation will be conducted.

1.4 INQUIRIES

Additional information inquiries regarding this EOI must be submitted in writing to the State Buyer with the exception of questions regarding proposal submission which may be oral. The deadline for written inquiries is identified in the Schedule of Events, Section 1.15. All inquiries of specification clarification must be addressed to:

Ron Price, Buyer Supervisor
Purchasing Division
2019 Washington Street, East
P.O. Box 50130

Charleston, WV 25305-0130
Phone: (304) 558-0492, x219
Fax: (304) 558-4115
Email: rprice@gwmail.state.wv.us

Absolutely NO contact shall be made by the vendor with any member of the EOI evaluation committee. Violation shall result in rejection of the bid. The State Buyer named above is the sole contact for any and all inquiries after this EOI has been released. Only questions submitted in writing, such as for an Addendum, shall become part of the official record and warrant a response. Vendors may submit questions to the State Buyer by email or fax.

1.5 VENDOR REGISTRATION

Vendors participating in the bid process should complete and file a *Vendor Registration and Disclosure Statement* (Form WV-1) and remit the registration fee. A Vendor is not required to be a registered in order to submit a proposal, but the **successful bidder must** register and pay the fee of forty-five dollars (\$45.00 US) prior to the award of an actual purchase order/contract. The WV-1 form is available at:
<http://www.state.wv.us/admin/purchase/VRC/wv1.pdf>

1.6 ORAL STATEMENTS AND COMMITMENTS

The Vendor must clearly understand that any verbal representations made or assumed to be made during any oral discussions held between Vendor's representatives and any State personnel (including without limitation, the SAMB) are **not** binding. Only the information issued in writing and contained in the final written contract, after approval by the Purchasing Division and the Office of the Attorney General, shall be binding.

1.7 ECONOMY OF PREPARATION

Proposals shall be prepared simply and economically, providing a straightforward, concise description of Vendor's abilities to satisfy the requirements of the EOI. Emphasis should be placed on completeness, brevity, and clarity of content.

1.8 LABELING OF THE EOI SECTIONS

The sections within this EOI contain instructions governing how the Vendor's proposal is to be arranged, submitted and to identify the material to be included therein. The Vendor's response should follow the sections as described herein and be labeled accordingly for ease of evaluation, especially Parts 3 and 4 of this EOI.

1.8.1 EXPRESSIONS OF INTEREST

A response to the sections included in Parts 3 and 4, and including Attachments A-D, will be the basis on which the Vendor's relative qualifications for the job will be assessed. Those Sections describe the anticipated approach by SAMB to the project. An indication of agreement or disagreement with that approach, plus a full explanation of how the vendor intends to comply, or alternatively, how the vendor intends to modify the approach stated in

the performance data in order to comply shall be required. A simple "yes" or "no" response to these sections will not be considered adequate.

SAMB is soliciting all anticipated concepts and proposed methods of approach to the project of the vendors. However, where an anticipated specification, term, or condition is "highly recommended," "recommended" or stated as if it would be mandatory, the vendor's response must specifically state whether or not the vendor agrees with the anticipated specification, term or condition, and must state whether or not the vendor's own recommended approach complies with that anticipated by SAMB, or alternatively, how the vendor's suggested approach differs from the one anticipated by SAMB and how that approach is, in the vendor's opinion superior to that anticipated by SAMB.

1.8.2 CONTRACT TERMS AND CONDITIONS

A contract is anticipated to be arrived at pursuant to West Virginia Code Section 5B-1-1, et seq., and as per Section 4 of this EOI. Consistent with West Virginia law, under no circumstances will SAMB enter into, or be bound by, any contract terms or conditions not approved by the Purchasing Division or the Attorney General's Office, notwithstanding any other oral or written indication whatsoever to the contrary.

1.8.3 COPYRIGHTS AND PROPRIETARY INFORMATION

Pursuant to West Virginia Code Section 24E-1-7, any writing or other work created by bidders in connection with or related to the project described herein, or this Request for Proposal, is a "work made for hire" within the meaning of the copyright laws of the United States, 17 U.S.C. Section 101, et seq. All right, title and interest to such writing or other work vests in the Board. Pre-existing copyrighted works or other proprietary information must be clearly identified as such. No proprietary information of the bidder may be submitted in response to this EOI without the express written permission of SAMB.

1.8.4 INFORMATIONAL SECTIONS

Any informational sections (such as "Instructions to Vendors") included in the document do not require a response from the vendor. They are intended to aid the vendor in structuring an effective proposal capable of meeting the needs of the issuing agency.

1.9 PROPOSAL FORMAT AND SUBMISSION

1.9.1 RESPONSE

Vendors must complete a response to all mandatory specifications in order to be considered. Each proposal must be formatted as per Parts 3 and 4 of this EOI. No other arrangement or distribution of the proposal information may be made by the bidder. Failure on the part of the bidder to respond to specific requirements detailed in the RFP may be basis for disqualification of the proposal. The State reserves the right to waive any informalities in the proposal format and minor irregularities. *COPIES*

All copies must be submitted to the Purchasing Division prior to the date and time stipulated in the RFP as the opening date. All bids will be date and time stamped to verify official time and date of receipt. *Electronic responses (e.g., pdf files) to the solicitation are not allowed.*

1.9.3 DELIVERY

Vendors mailing proposals should allow sufficient time for mail delivery to ensure timely arrival. The Purchasing Division cannot waive or excuse late receipt of a proposal which is delayed and late for any reason according State Code 5A-3-11. Any proposal received after the bid opening date and time will be immediately disqualified in accordance with State law and the administrative rules and regulations.

Submit one (1) original EOI and fifteen (15) convenience copies to:

Ron Price, Senior Buyer
Purchasing Division
2019 Washington Street, East
PO Box 50130
Charleston, WV 25305-0130

All proposals must be received at the above addresses on or before Wednesday, 11/27/02, 1:30 PM (Eastern):

The outside of the response envelope or package(s) should be clearly marked with:

BUYER:	Ron Price
REQ #:	SAM-0202
Opening Date:	11/27/02
Opening Time:	1:30 PM (Eastern)

1.10 REJECTION OF EXPRESSIONS OF INTEREST

The State shall select the best value solution according to Section 5G-1-3 of the West Virginia State Code. However, the State reserves the right to accept or reject any or all proposals, in part or in whole at its discretion. The State reserves the right to withdraw this EOI at any time and for any reason. Submission of, or receipt by the State of proposals confers no rights upon the Vendor nor obligates the State in any manner.

A contract based on this EOI and the Vendor's proposal, may or may not be awarded. Any contract resulting in an award from this EOI is not valid until properly approved and executed by the Purchasing Division and approved as to form by the Attorney General.

1.11 INCURRING COSTS

The State and any of its employees or officers shall not be held liable for any expenses incurred by any bidder responding to this EOI for expenses to prepare, deliver the proposal, or to attend any mandatory pre-bid meeting or oral presentations.

1.12 ADDENDA

If it becomes necessary to revise any part of this EOI, an official written addendum will be issued by the State to all potential Vendors of record, and may be distributed via electronic means (e.g., email, .pdf file, etc).

1.13 INDEPENDENT PRICE DETERMINATION

A Contract will not be considered for award if the negotiated price was not arrived at independently without collusion, consultation, communication, or agreement as to any matter relating to prices with any competitor.

1.14 PRICE QUOTATION

NO "COST," "PRICE," OR "FEE" QUOTATION SHALL BE REQUESTED, INCLUDED, OR PERMITTED IN THE EOI RESPONSE. Costs shall only be considered during negotiations with the successful Vendor.

1.15 PUBLIC RECORD

1.15.1 SUBMISSIONS ARE PUBLIC RECORD

All documents submitted to the State Purchasing Division related to purchase orders/ contracts are considered public records. All bids, proposals, or offers submitted by bidders become public information and may be available for inspection during normal official business hours in the Purchasing Division Records and Distribution center after the award is complete and documents have been microfilmed.

1.15.2 WRITTEN RELEASE OF INFORMATION

All public information may be released with or without a Freedom of Information request. However, only a written request will be acted upon with duplication fees paid in advance. Duplication fees shall apply to all requests for copies of any document. Currently the fees are \$0.50/page, or a minimum of \$10.00 per request which ever is greater.

1.15.3 RISK OF DISCLOSURE

The only exemptions to disclosure of information are listed in West Virginia Code §29B-1-4. Primarily, only trade secrets as submitted by a bidder are the only exemption to public disclosure. The submission of any information to the State by a vendor puts the risk of disclosure on the vendor. The State will make a reasonable effort not to disclose information that is within the guidelines of §29B-1-4 and is properly labeled "proprietary information not for public disclosure". The State does not guarantee non-disclosure of any information to the public.

1.16 SCHEDULE OF EVENTS

The following schedule of events will apply:	DAY, DATE, TIME
Release of EOI:	Wednesday, 11/6/02
Written Questions Submitted from Vendors:	Monday 11/18/02, 4:30 PM
Addendum Issued:	Thursday 11/21/02
Expressions of Interest Opening Date:	Wednesday, 11/27/02, 1:30 PM

Submission of "Short List" to Purchasing:	Friday, 12/6/02
Vendor Interview Dates (week of)	Monday, 12/16/02
Final Ranking/Vendor Selected:	Friday, 12/20/02
Contract Award Date (approximate):	Wednesday, 1/15/03

The State may modify this schedule at any time, at their sole discretion.

1.17 MANDATORY PRE-BID CONFERENCE: NOT APPLICABLE

1.18 BOND REQUIREMENTS: NOT APPLICABLE

1.19 NO DEBT AFFIDAVIT

West Virginia State Code §5A-3-10a(3)(d) requires that all bidders submit an affidavit regarding any debt owed to the State. The affidavit *must* be signed and submitted prior to award. It is preferred that the affidavit be submitted with the proposal. The form is available at <http://www.state.wv.us/admin/purchase/vrc/debt.pdf>

PART 2. OPERATING ENVIRONMENT AND BACKGROUND

2.1 LOCATION

The West Virginia Statewide Addressing and Mapping Board (SAMB) conducts its regular meetings in Charleston, West Virginia. The current Chairman of the Board is the State GIS Coordinator located in Charleston, West Virginia. The Board currently meets twice monthly. SAMB has hired the team of Michael Baker, Jr., Inc. including Dr. Terry Keating to serve as Project Manager, who will be responsible for coordinating all technical work on the Project, including all mapping and GIS activities under an award pursuant to this EOI. The successful vendor will be required to cooperate with the Project Manager on all aspects of project design, engineering and implementation, and to provide periodic reports, as requested by the Project Manager and SAMB as work progresses.

2.2 BACKGROUND

The West Virginia Legislature created the West Virginia Statewide Addressing and Mapping Board in the 2001 session (Senate Bill 460, codified as *W. Va. Code Section 24E-1-1 et seq.*). The mission of the Board is to advance the infrastructure of West Virginia by overseeing two major tasks: 1) providing new high quality digital mapping of the entire State of West Virginia; and, 2) assigning a standard city-style address to every identifiable structure in the state. The Board is funded primarily under the Incentive Regulation Plan of Verizon West Virginia Inc., approved by the Public Service Commission of West Virginia in *Case Nos. 00-1318-T-G1, et al.*, on October 3, 2001.

The successful bidder's principal contacts will be with the SAMB Project Manager and with the Board's Chairman, West Virginia GIS Coordinator, Craig Neidig.

It is imperative that the project be completed as soon as possible. As a result, SAMB and its Project Manager have set forth their own specific ideas on performance data, concepts and approaches, as incorporated in this document. Vendors are not limited to those ideas, but are encouraged to submit their own ideas on performance data, concepts and approaches. The qualifications of each vendor, however, will be determined based not only on that vendor's experience, but also on how well the vendor's response demonstrates that the vendor has a grasp of the project being undertaken by SAMB and how well the vendor's vision of the project integrates into and dovetails with SAMB's vision.

PART 3. PROCUREMENT SPECIFICATIONS

3.1 GENERAL REQUIREMENTS

The Vendor shall furnish all labor, resources and materials required to develop and deliver digital orthoimagery and planimetric data for the State of West Virginia, in accordance with the specifications herein.

The State shall become the sole owner of all deliverables and associated intermediate data.

3.2 SPECIAL TERMS AND CONDITIONS

3.2.1 BID AND PERFORMANCE BONDS: *NOT APPLICABLE*

3.2.2 *INSURANCE REQUIREMENTS*

The successful bidder must have Professional Liability insurance coverage (including automotive liability insurance coverage) with policy limits of no less than \$1,000,000, and must list the Board as an "additional insured" as its interests may appear. Insurance certificates are required prior to award but are not required at the time of bid.

3.2.3 *LICENSE REQUIREMENTS*

The successful Vendor must present a Workers' Compensation Certificate upon award.

3.2.4 *NO DEBT AFFIDAVIT*

West Virginia State Code §5A-3-10a-(3)(d) requires that all vendors submit an affidavit of debt which certifies that there are no outstanding obligations or debts owing the State of West Virginia. The No Debt Affidavit is attached to this EOI which *shall* be completed, signed and returned *with* the vendor's proposal. If bidding a joint proposal, a No Debt Affidavit must be completed for both vendors.

3.2.5 *MINIMUM VENDOR QUALIFICATIONS*

As a minimum qualification for consideration, the Vendor or a member of the Vendor team shall be a registered Professional Engineer. Proof of licensure will be required.

3.2.6 LITIGATION BOND: NOT APPLICABLE

3.3 GENERAL TERMS AND CONDITIONS

By signing and submitting their proposal, the successful Vendor agrees to be bound by all the terms contained in Section 3 of this EOI.

3.3.1 CONFLICT OF INTEREST

The Vendor affirms that it, its officers or members or employees presently have no interest and shall not acquire any interest, direct or indirect which would conflict or compromise in any manner or degree with the performance or its services hereunder. The Vendor further covenants that in the performance of the contract, the Vendor shall periodically inquire of its officers, members and employees concerning such interests. Any such interests discovered shall be promptly presented in detail to the SAMB.

3.3.2 PROHIBITION AGAINST GRATUITIES

The Vendor warrants that it has not employed any company or person other than a bona fide employee working solely for the vendor or a company regularly employed as its marketing agent to solicit or secure the contract and that it has not paid or agreed to pay any company or person any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award of the contract. For breach or violation of this warranty, the State shall have the right to annul this contract without liability at its discretion, and/or to pursue any other remedies available under this contract or by law.

3.3.3 CERTIFICATIONS RELATED TO LOBBYING

The Vendor certifies that no federal appropriated funds have been paid or will be paid, by or on behalf of the company or an employee thereof, to any person for purposes of influencing or attempting to influence an officer or employee of any federal entity, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any federal contract, grant, loan, or cooperative agreement.

If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the Vendor shall complete and submit a disclosure form to report the lobbying.

The Vendor agrees that this language of certification shall be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this contract was made and entered into.

3.3.4 VENDOR RELATIONSHIP

The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by the parties to this contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents.

The Vendor shall be responsible for selecting, supervising and compensating any and all individuals employed pursuant to the terms of this EOI and resulting contract. Neither the Vendor nor any employees or contractors of the vendor shall be deemed to be employees of the State for any purposes whatsoever.

The Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension or other deferred compensation plans, including but not limited to Workers' Compensation and Social Security obligations, and licensing fees, etc. and the filing of all necessary documents, forms and returns pertinent to all of the foregoing.

The Vendor shall hold harmless the State, and shall provide the State, SAMB and its Project Manager with a defense against any and all claims including but not limited to the foregoing payments, withholdings, contributions, taxes, social security taxes and employer income tax returns.

The Vendor shall not assign, convey, transfer or delegate any of its responsibilities and obligations under this contract to any person, corporation, partnership, association or entity without expressed written consent of the SAMB.

3.3.5 INDEMNIFICATION

The Vendor agrees to indemnify, defend and hold harmless the State, SAMB and its Project Manager, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person or firm performing or supplying services, materials or supplies in connection with the performance of the contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use or disposition of any data used under the contract in a manner not authorized by the contract, or by federal or state statutes or regulations; (3) Any failure of the Vendor, its officers, employees or subcontractors to observe state and federal laws, including but not limited to labor and wage laws.

3.3.6 CONTRACT PROVISIONS

After the most qualified Vendor is identified, and fee negotiations are concluded, a formal contract document will be executed between the State and the Vendor. In addition, the EOI and the Vendor's response will be included as part of the contract by reference. The order of precedence is the Contract, the EOI and the Vendor's response to the EOI.

3.3.7 GOVERNING LAW

This contract shall be governed by the laws of the State of West Virginia. The Vendor further agrees to comply with the Civil Rights Act of 1964 and all other applicable laws (federal, state or local government) and regulations.

3.3.8 COMPLIANCE WITH LAWS AND REGULATIONS

The Vendor shall procure all necessary permits and licenses to comply with all applicable laws, federal, state or municipal, along with all regulations, and ordinances of any regulating body.

The Vendor shall pay any applicable sales, use, or personal property taxes arising out of this contract and the transactions contemplated thereby. Any other taxes levied upon this contract, the transaction, or the equipment, or services delivered pursuant hereto shall be borne by the contractor. It is clearly understood that the State of West Virginia is exempt from any taxes regarding performance of the scope of work of this contract.

3.3.9 SUBCONTRACTS/JOINT VENTURES

The Vendor is solely responsible for all work performed under the contract and shall assume prime contractor responsibility for all services offered and products to be delivered under the terms of this contract. The State will consider the Vendor to be the sole point of contact with regard to all contractual matters. The Vendor may, with the prior written consent of the State, enter into written subcontracts for performance of work under this contract, however, the vendor is totally responsible for payment of all subcontractors.

3.3.10 TERM OF CONTRACT & RENEWALS

Contract approval and award will be in accordance with West Virginia Code Section 5G-1-1, et seq., and this EOI, particularly Section 4 hereof. This contract will be effective on the date set upon award, and shall extend for the period of one (1) year, at which time the contract may, upon mutual consent, be renewed. Such renewals are for a period of up to one (1) year, with a maximum of five (5) one year renewals, or until such reasonable time thereafter as is necessary to obtain a new contract. The "reasonable time" period shall not exceed twelve (12) months. During the "reasonable time" period the vendor may terminate the contract for any reason upon giving the SAMB ninety (90) days written notice. Notice by Vendor of intent to terminate will not relieve Vendor of the obligation to continue to provide services pursuant to the terms of the contract.

Any change in federal or state law, or court actions which constitute binding precedent in West Virginia, and which significantly alters the Vendor's required activities or any change in the availability of funds, shall be viewed as binding and shall warrant good faith renegotiation of the compensation paid to the Vendor by the SAMB and of such other provisions of the contract that are affected. If such renegotiation proves unsuccessful, the contract may be terminated by the State upon written notice to the Vendor at least thirty (30) days prior to termination of this contract.

3.3.11 NON-APPROPRIATION OF FUNDS

If the SAMB is not allotted funds in any succeeding fiscal year for the continued use of the service covered by this contract by the West Virginia Legislature, the State may terminate the contract at the end of the affected current fiscal period without further charge or penalty. The State shall give the Vendor written notice of such non-allocation of funds as soon as possible after the SAMB receives notice. No penalty shall accrue to the SAMB or State in the event this provision is exercised.

3.3.12 CONTRACT TERMINATION

The State may terminate any contract resulting from this EOI immediately at any time the Vendor fails to carry out its responsibilities or to make substantial progress under the terms of this EOI and resulting contract. The State shall provide the Vendor with advance notice of performance conditions which are endangering the contract's continuation. If, after such notice, the Vendor fails to remedy the conditions contained in the notice, within the time period contained in the notice, the State shall issue the Vendor an order to cease and desist any and all work immediately. The State shall be obligated only for services rendered and accepted prior to the date of the notice of termination.

The contract may also be terminated upon mutual agreement of the parties with thirty (30) days prior written notice.

3.3.13 CHANGES

If changes to the original contract become necessary, a formal contract change order will be negotiated by the State, the SAMB and the Vendor, to address changes to the terms and conditions, costs of work included under the contract. An approved contract change order is defined as one approved by the Purchasing Division and approved as to form by the West Virginia Attorney General's Office, encumbered and placed in the U.S. Mail prior to the effective date of such amendment. An approved contract change order is required whenever the change affects the payment provision and/or the scope of the work. Such changes may be necessitated by new and amended federal and state regulations and requirements.

As soon as possible after receipt of a written change request from the SAMB, but in no event more than thirty (30) days thereafter, the Vendor shall determine if there is an impact on price with the change requested and provide the SAMB a written statement to identifying any price impact on the contract or to state that there is no impact. In the event that price will be impacted by the change, the Vendor shall, provide a description of the price increase or decrease involved in implementing the requested change.

NO CHANGE SHALL BE IMPLEMENTED BY THE VENDOR UNTIL SUCH TIME AS THE VENDOR RECEIVES AN APPROVED WRITTEN CHANGE ORDER FROM THE STATE.

3.3.14 INVOICES, PROGRESS PAYMENTS, & RETAINAGE

The Vendor shall submit invoices, in arrears, to the SAMB at the address on the face of the purchase order labeled "Invoice To" pursuant to the terms of the contract. Progress payments may be made at the option of the Agency on the basis of percentage of work completed if so

defined in the final contract. Any provision for progress payments must also include language for a minimum 10% retainage until the final deliverable is accepted.

If progress payments are permitted, Vendor is required to identify points in the work plan at which compensation would be appropriate. Progress reports must be submitted to the Agency with the invoice detailing progress completed or any deliverables identified. Payment will be made only upon approval of acceptable progress or deliverables as documented in the Vendor's report. Invoices may not be submitted more than once monthly and state law forbids payment of invoices prior to receipt of services.

3.3.15 LIQUIDATED DAMAGES: N/A

3.3.16 RECORD RETENTION (ACCESS & CONFIDENTIALITY)

Vendor shall comply with all applicable federal and State of West Virginia rules and regulations, and requirements governing the maintenance of documentation to verify any cost of services or commodities rendered under this contract by Vendor. The Vendor shall maintain such records a minimum of five (5) years and make available all records to Agency personnel at Vendor's location during normal business hours upon written request by the Agency within ten (10) days after receipt of the request.

Vendor shall have access to private and confidential data maintained by Agency to the extent required for Vendor to carry out the duties and responsibilities defined in this contract. Vendor agrees to maintain confidentiality and security of the data made available and shall indemnify and hold harmless the State and Agency against any and all claims brought by any party attributed to actions of breach of confidentiality by the Vendor, subcontractors, or individuals permitted access by Vendor.

3.4 SCOPE OF WORK

The Vendor shall furnish all labor, resources and materials required to develop and deliver digital orthoimagery and planimetric data for the State per the requirements specified.

3.4.1 PROJECT EXTENT

The project encompasses the entire land area of the State of West Virginia, or 24,078 square miles, more or less (Census 2000). The state boundary shall be buffered at a minimum of one thousand feet (1000'). Border areas of the state proximate to Virginia, Pennsylvania (along the Mason-Dixon line) and with Ohio (along the Ohio River), and Kentucky (along the Big Sandy and Tug Rivers), and Maryland (along the Potomac River and Mason-Dixon line) shall be buffered a minimum distance of 1000' or to the opposite river bank, whichever distance is greater. The entire coterminous land area of West Virginia shall be included in the program.

The lower resolution 400' design scale digital orthoimagery and planimetric data shall be developed over the predominantly rural areas of the state covering approximately 25,000 square miles. The **supplemental** higher resolution digital orthoimagery and planimetric data shall be developed over designated urban/suburban or other high priority areas of the state covering approximately 2,500 square miles. The Vendor has the sole responsibility to

determine the true extents of the various mapped areas at all scales with guidance from the State.

3.4.2 PERFORMANCE CRITERIA/ PRODUCT SPECIFICATIONS

The performance criteria / product specifications listed below, define the quality of the product that is required for the SAMB and its capability to support additional (post project) data development by third party vendors. The digital ortho-product is defined here, in terms of traditional photogrammetric processing terminology and specifications. However, ultimately, the final quality of the resultant product, not the processing method, for the purposes of creating an accurate, complete and up-to-date road centerline file and addressing points for the State of West Virginia is the ultimate focus of this EOI. Vendors are encouraged to submit innovative proposals using the latest proven technologies with which they are experienced that will conform to project requirements and produce the intended outcome.

[Instructions to Vendors: The criteria for Vendor's technical proficiency score are set forth in subsection 4.2.2.8. In responding to the technical specifications below, Vendors must specify not only that they will comply, but also clearly articulate their respective specific plans for compliance. Under each subsection for technical criteria below, responses must, in addition to indicating compliance with each technical specification, provide a written statement demonstrating Vendor's ability to meet the technical specifications, including the quality, effectiveness and expertise of equipment, personnel and other resources the Vendor is offering. In addition to such a written statement under subsection 3.5.4 "Project Management, Control and Deliverables," the Vendor shall, under that subsection, fully articulate Vendor's understanding of the scope of SAMB's overall purpose and demonstrate how Vendor will produce a product that will fully integrate into the Board's overall mapping and addressing system (reference also Request for Proposal, EOI # SAM0201, attached hereto). Scores will be based on the quality of the substance of Vendor's written demonstrations, as well as the interview/oral presentation provided for below.]

3.5 TECHNICAL PERFORMANCE CRITERIA

The following specifications and performance criteria are intended to be the minimum required to meet the project objectives. Variations in individual elements of the performance criteria will be considered. However, proposals that include alternative methodologies must conclusively demonstrate that the resulting product will meet or exceed the product quality defined by SAMB using the performance criteria or product specifications listed in this section. All proposals must clearly indicate how each performance criteria / product specification is met or compensated for using alternative methodologies.

The Vendor shall, if necessary, propose alternative processing strategies, image quality specifications, or acceptance standards for digital imagery. State reserves the right to agree to or modify any Vendor-proposed standard prior to commencement of work.

3.5.1 TECHNICAL IMAGERY AND RELATED SPECIFICATIONS

3.5.1.1 Horizontal Accuracy Requirements

The imagery collected for this project shall support the development of digital base mapping that meets or exceeds the **horizontal** accuracy requirement for Class 1 mapping standards in conformance with *ASPRS Accuracy Standards for Large-scale Maps, Class 1 (1990)* at the **specified equivalent map scales** except for any deviations specified in this document.

For the purposes of this EOI, horizontal map accuracy is defined as the root mean square (RMS) error in terms of the project's planimetric survey coordinates (X,Y) for checked points as determined at full (ground) scale of the map. The RMS error is the cumulative result of all errors including those introduced by the processes of ground control surveys, map compilation and final extraction of ground dimensions from the map. The limiting RMS errors established by this standard are the maximum permissible RMS errors for 90% of the check points on a map. These limits of accuracy apply to tests made on well-defined points.

Scale: 1:4,800 (1"=400') ASPRS, Class 1

Limiting RMS for E (X) coordinates = 4.0' = 2*GSD

Limiting RMS for N (Y) coordinates = 4.0'

Optional Scale: 1:1,200 (1"=100') ASPRS Class 1

Limiting RMS for E (X) coordinates = 1.0' = 2*GSD

Limiting RMS for N (Y) coordinates = 1.0'

Accuracy will be reported according to the Federal Geographic Data Committee (FGDC) Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy [NSSDA] (1998).

Circular RMS error:

Circular Root Mean Square Error (RMSE_r) = 1.4142*2*GSD in Easting = 1.4142*2*GSD in Northing

= 5.657' at 400' design scale

= 1.414' at 100' design scale

Absolute accuracy according to NSSDA testing:

NSSDA accuracy (20+ points) such that 1.73 * Circular RMSE < 9.8' at 400' design scale

NSSDA accuracy (20+ points) such that 1.73 * Circular RMSE < 2.4' at 100' design scale

[Note: Vertical accuracy is specified within the Digital Terrain Model (DTM) section of this EOI.]

3.5.1.2 Aerial Imagery

All imagery collected shall conform to the ASPRS Draft Aerial Photography Standards (1995) unless otherwise specified herein.

1. Vendors shall develop a proposed flight plan and otherwise describe in their proposal how the imagery will be captured, including:
 - a. Type of aerial camera, including detailed specifications
 - b. Film type, if used
 - c. Intended flying height
 - d. Focal length
 - e. Intended scan resolution
 - f. Forward lap, side lap, allowable tip, allowable tilt, allowable crab of imagery
2. The camera system shall have the resolving power Average Weighted Area Resolution (AWAR) of at least 90 lines/mm.
3. Flight directions shall preferably be in cardinal directions and orthogonal (either North/South or East/West). It is preferred to include cross flights to tie the ends of flightlines together.
4. Only late-winter/early-spring flying shall be accepted.
5. The Vendor shall prioritize the acquisition of West Virginia imagery and preferably have more than one aircraft standing by (and in their immediate control) for the limited number of days usually acceptable to capture imagery. Vendors shall indicate whether they intend to have aircraft on-site within West Virginia available during clear weather conditions and for what duration aircraft will remain on-site.
6. The SAMB understands that 100' design scale mapping usually occurs before surrounding 400' design scale maps are produced (higher resolution maps should be used to control and connect the lower resolution features). In this project, it may be necessary to contract for some 100' design scale maps after the 400' design scale maps are produced. Where reasonable to do so, the 400' design scale photography should continue through the 100' design scale areas to minimize edge effects during the aerotriangulation process and to facilitate controlling the later 100' design scale mapping.

3.5.1.3 Imagery Type: Natural True Color (24 bit)

Photography or digital imagery shall be the equivalent of natural true color, minimum 24-bit, to include 256 levels of value for each color band (Red, Green, Blue), with 0=black, 255=white. The highest natural color film resolution available or equivalent sensor shall be used.

3.5.1.4 Temporal Requirements

All imagery shall be collected during the Late Winter / Early Spring calendar year 2003 flying season (approximately mid-February to mid-April) during maximum leaf-off conditions for deciduous vegetation in West Virginia. The sun angle shall be 30 degrees or greater unless otherwise negotiated. To the extent possible, no clouds, snow, fog, haze, smoke, or other ground obscuring conditions shall be present at the time of the flights. In the eastern highlands of the state, where there are several ski resorts and natural snow cover can persist through April, final criteria for allowable snow cover and leaf-on conditions will be determined at the Project Initiation meeting. The Vendor is encouraged to offer alternative solutions to counter the potential snow cover problem. Initial film or image processing shall remove the systematic effects of vignetting, lens fall-off, and filtering and shall use the best available dodging techniques to do so.

The State reserves the right to reject and have the Vendor redo any or all photography or imagery pertaining to problems including but not limited to, coverage, overlap & sidelap, Airborne Global Positioning System (ABGPS), quality, resolution, low sun angle, tone or contrast, or artifacts, etc., at no extra cost to the State unless the Vendor and the State had previously agreed in writing that a given condition is allowed.

3.5.1.5 Tile Size by Resolution/Scale

The Vendor shall propose the most appropriate scale or equivalent Ground Sampling Distance (GSD), flying height and number of tiles to accomplish each of the following requirements.

STATEWIDE:

Design or equivalent map scale: 1:4,800 (1"=400');

Medium pixel resolution: 2-foot GSD*;

Tile grid size: 10,000' x 10,000';

Maximum flying height shall be 14,400 feet above terrain if 6" focal length camera is used.

SUPPLEMENTAL URBANIZED AREAS:

Design or equivalent map scale: 1:1,200 (1"=100');

High resolution pixel resolution: 0.5-foot GSD*;

Tile grid size: 2,500' x 2,500';

Maximum flying height shall be 3,600 feet above terrain if 6" focal length camera is used.

[Vendors may offer alternative configurations that meet or exceed the above minimum requirements.]

3.5.1.6 *Extent and distribution of imagery*

Using the master index map concept, the Vendor shall submit planned flight lines depicting approximate exposure centers to the State for review prior to ground control surveys and at least thirty (30) days prior to scheduled image capture. The backdrop as a minimum should depict state, county, and metro area boundaries with names and the major transportation and hydrographic features. A USGS 1:100,000 scale topographic map base is also acceptable.

The Vendor shall describe the optimal estimated distribution and geographic extents for 2-foot GSD and optional 0.5-foot GSD digital orthoimagery. The exact extents and distribution of tiles for each resolution of imagery, will be finalized in consultation with the Board and the SAMB Project Manager during contract negotiations.

The following criteria shall apply:

Mandatory standard mapping: 2-foot GSD: 2-foot GSD orthoimagery shall be collected for the entire co-terminus extent of the State of West Virginia (25,000 square miles, more or less, including minimum buffers along border areas).

[Instructions to Vendor: Use Attachment A to describe standard and optional tasks for 400' design scale mapping statewide.]

Additional 100' design scale areas of 0.5-foot GSD.

Case 1, supplemental urbanized areas having defined mapping extents. These areas are likely to be included as part of the initial contract, scheduled to start in the 2003 spring flying season. Initial coverage at 100' design scale to include the following most populous or high-growth potential counties, divided into these logical project areas:

1. Kanawha Valley: Wayne (north half), Cabell, Putnam, Kanawha*
2. I-77/64 Corridor: Fayette, Raleigh*, Mercer
3. I-79 Corridor: Monongalia, Marion, Harrison
4. Northern Panhandle: Hancock, Brooke, Ohio, Marshall
5. Eastern Panhandle: Berkeley*, Jefferson*, Morgan, Mineral (Cumberland MSA vicinity)
6. Wood County

An asterisk (*) indicates those counties that have acquired aerial photography of recent vintage (two years or less) that the selected vendor in cooperation with the SAMB Project Manager should evaluate for its utility and incorporation into the proposed scope of work before flying commences in Spring 2003. If data from any of these areas are deemed suitable for inclusion, the work associated with the conversion, enhancement and upgrading of these data into deliverables consistent with those specified herein shall be described and otherwise included as part of negotiations

The initial estimation of the extent and distribution of 0.5-foot GSD coverage (defined Supplemental Areas 1-6) were approximated using the Bureau of Census Metropolitan Statistical Area (MSA), Urbanized Areas (UA) and Incorporated Places designations for West Virginia as determined by the 2000 Census. These areas were compiled by the SAMB Project Manager to create a preliminary grid coverage map for the state (see Attachment D). The Vendors shall use the included grid map as a guide to determine the extents of statewide 400' design scale and supplemental 100' design scale in their respective proposals. Reference maps and coverages of the Census data as well as the prepared grid map will be made available for ftp download electronically from the WV GIS Technical Center website. <ftp://ftp.wvgis.wvu.edu/wvsamb/eoi-sam0202/lnaps>. The final extents and distribution of each imagery resolution for this project will be determined during contract negotiations. The index map is currently undergoing review by the counties listed above and may be revised.

[Instructions to Vendors: Use Attachment B to prepare standard and optional tasks for each of the six pre-defined supplemental mapping areas at 100' design scale.]

Case 2, areas having currently undefined mapping extent. These areas are NOT likely to be included as part of the initial contract but may be activated during 2003 or in subsequent project years as interest and funding allows. The SAMB or individual counties may choose to contract these areas separately as well. For estimating purposes, additional optional mapping at 0.5-foot GSD orthoimagery may eventually include the following whole counties or portions thereof, divided into these rational project areas:

1. McDowell, Wyoming
2. Mingo, Logan, Boone
3. Other incorporated areas and county seats not already acquired
4. State Parks and Forests, Significant Physical Features (i.e., New River Gorge), or Cultural or Historic significance (i.e., Moundsville, etc.)
5. Other areas of special significance (mining sites, flood plains, etc.)

It is anticipated that some counties and municipalities, in conjunction with other stakeholder groups (for example FEMA, County Commissions, Public Service Districts [PSDs], etc.) may request, through SAMB, to add additional areas. For these undefined mapping extent areas, the vendor shall be asked to negotiate per square mile estimates including volume discounting based on extent mapped for these types of areas. Unless otherwise negotiated, fees shall remain fixed for a period of 18 months following the end of the initial contract.

[Instructions to Vendor: Use Attachment C to prepare estimates for standard and optional tasks for undefined mapping extent areas at 100' design scale. The Vendor should be prepared to discuss per square mile cost estimates during negotiations. DO NOT include cost estimates in this section.]

3.5.1.7 Orientation and Units

Imagery for the project will be referenced to the North American Datum of 1983 (NAD 83) horizontal datum using the latest adjustment and the North American Vertical Datum of 1988 (NAVD 88) vertical datum. The National Geodetic Survey (NGS) GRFP 99 model shall be used in the derivation of orthometric heights. Imagery shall be oriented to the West Virginia State Plane North and South zones using U.S. Survey Feet.

3.5.1.8 Camera and Focal Length

Cameras or digital sensors shall account for Forward Motion Compensation (FMC). A six-inch focal length camera shall be the nominal requirement. If a 12-inch focal length camera is used, alternative flying heights may be acceptable as long as other requirements can be met. Other sensor types and configurations may be used subject to the Vendor's meeting all relevant and equivalent specifications.

3.5.1.9 Overlap

Imagery shall be near vertical and adhere to the minimum forward and sidelaps as specified within the ASPRS standard. The Vendor is cautioned that the State expects the aerial team shall meet these minimums in spite of large fluctuations in elevation so the aerotriangulation process remains solid.

3.5.1.10 Airborne Global Positioning System (ABGPS)

ABGPS flight navigation system shall be used to accomplish pinpoint color aerial photography on predetermined camera exposure stations resulting in a regular spatial grid format. Vendors shall propose their approach for ABGPS solution.

The accuracy of existing ground reference stations for use with Airborne GPS shall be within 2-centimeters or better as defined in the *FGDC-STD-007.2-1998, Geospatial Positioning Accuracy Standards Part 2: Standards for Geodetic Networks*. Existing control from the National Spatial Reference System (NSRS) database, which meets the FGCS document *Geometric Geodetic Accuracy Standards Specifications For Using GPS Relative Positioning Techniques* (1989), can be used if it is of Second Order, Class I.

Camera exposure station coordinates shall be determined from ABGPS techniques. Two Global Positioning System (GPS) ground reference stations shall be preferred. At least one of these stations shall be in the project aerotriangulation block area.

Standard deviations of GPS coordinates at the exposure stations based on the post processing of the raw AGBPS positions against two or more base stations in both the forward and backward directions shall average to be less than 10 cm. Additionally 95% of the centers shall have deviations under 15 cm and 99% of them shall be less than 20 cm.

Currently only one Continuous Operation Reference Stations (CORS) operates in Beckley, WV (http://www.ngs.noaa.gov/CORS/WVirginia/wvirginia_bkly.html)

3.5.1.11 Alternate Sensor Capabilities

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SAMB will consider the use of compatible digital cameras or multispectral sensors that are demonstrated to be able to produce imagery that meets or exceeds the performance criteria of this solicitation. Regardless of the image capture technology used, the quality of the final orthoimagery product, as specified herein, must be achieved. The Vendor shall describe any proposed alternative technologies and the anticipated risks and benefits to the project. Self calibration and in-situ calibrations may be accepted in lieu of USGS camera calibration for sensors other than analog mapping cameras. Prior calibration data shall be submitted for any non-traditional imaging sensors. The Vendor shall also plan to discuss any associated differences in costs using proposed alternative technologies during the Vendor negotiations. *[However DO NOT include any cost or pricing information in this section. Costs will only be considered during the negotiation phase with the successful vendor].*

3.5.2 PROJECT CONTROL AND ORIENTATION

3.5.2.1 Project Control

All ground control for the project must be tied to the West Virginia High Accuracy Reference Network (West Virginia HARN 2000) and must be established by a professional licensed to practice land surveying in the State of West Virginia.

Any control established for use in the project shall be secured in accordance with the National Geodetic Survey (NGS) standards and all coordinates and data should be of acceptable quality to meet Second Order, Class I specifications unless otherwise specified herein.

The vertical control shall, at a minimum, shall be surveyed to meet the Third Order vertical accuracy specifications in NAVD 88 datum unless otherwise specified herein.

Horizontal accuracy: Expected combined local and network accuracy at 95% confidence of less than or equal to **five (5) centimeters** (approximately 0.20 feet) as determined by the residuals of the network adjustment.

Vertical accuracy: Expected combined local and network accuracy at 95% confidence of less than or equal to **five (5) centimeters** (approximately 0.20 feet) as determined by the residuals of the network adjustment.

3.5.2.2 Ground Control Requirements

The Vendor shall describe in detail how horizontal and vertical ground control will be established, and how the imagery will be referenced to both horizontal and vertical ground control. The Vendor shall be prepared to discuss which control survey specifications or standards may be too cost prohibitive, and if so shall suggest alternative standards during negotiations. ***DO NOT include any cost information in this section.*** The SAMB shall have sole discretion to approve alternative approaches to the survey.

3.5.2.3 Procedures

1. The Vendor shall be responsible for establishing a ground control plan of sufficient density and accuracy to perform the required orthophoto mapping (and if selected, optional contouring) at the required accuracies.

2. The Vendor shall determine whether or not to panel the control points such that the specified accuracies can be met. Paneling is recommended.
3. A minimum of one (1) control point shall be located at the corners and major indentations and inflection points of each block solution. In cases where there are large bodies of water (lakes and rivers) that define the block boundaries, additional control shall be located along the hydrographic features to stabilize the block geometry.
4. The existing CORS stations and other conforming NGS approved stations shall be used to constrain the network adjustment.
5. All coordinates and residuals shall be reported in latitude, longitude and ellipsoidal height and *using the specified datum and projection coordinates and units of measure*.
6. The Vendor shall provide written documentation that the published coordinates for monumented points used to constrain the network are based upon GPS-derived observations adjusted to the existing CORS.
7. Surveys to establish these horizontal control points shall use differential, dual-frequency Global Positioning System (GPS) receivers.
8. Any additional required vertical control shall be derived from GPS surveys using the specified geoid to determine orthometric heights in the specified unit of measure.
9. Offsets to horizontal points shall not be allowed. Aerotriangulation control points shall normally be placed at the elevation of the surface DTM so they can be used to QA the DTM and resultant orthorectified maps.
10. Ground control shall be required for verification and QA, regardless of the orientation sensors available on board the aerial platform used for capture of the digital imagery.
11. In addition to surveying the needed photo control points required for aerotriangulation, and at the Vendor's expense, a minimum of 25 additional, blind, *aerotriangulation (AT)* QA points shall be established and measured in the office and field overall per 400' equivalent scale AT block with at least 6 well-distributed QA points per 100' equivalent scale aerotriangulation block. These points shall be selected for the Vendor's survey team by the project manager and vendor photogrammetrist and approved by the State.
12. AT QA points generally shall be placed at **ground level (also to be used to check the DTM)**, be visible on the photography and resultant orthophotos and be located within stereo models along the edge of each block (generally at the corners) and at least 500 feet from other control points. No offsets to poles or other features are allowed. The GPS coordinate values for these blind QA points shall be delivered *only* to the State and not to the aerotriangulation team. *The survey professional shall sign and certify in writing that the production staff did not and shall not have access to the coordinates of QA points for any reason.*

13. In addition to surveying the needed photo control points and blind QA points required for aerotriangulation, the Vendor shall have the surveyor provide a minimum of 20 additional, blind, photo-identifiable *orthorectification* QA points which shall be established and measured in the field *for each tile delivery lot*. These points shall be interspersed throughout the delivery area away from the QA points used for aerotriangulation. The general layout shall be shown on the master index map for approval by the State. The coordinate values for these blind QA points shall be delivered *only* to the State. *The survey professional shall sign and certify in writing that the production staff did not and shall not have access to the coordinates of orthorectification QA points for any reason.*

3.5.2.4 Processing

1. All GPS surveys shall be performed using post-processed static differential survey techniques.
2. The network or sub-network for each survey shall consist solely of independent, non-trivial baselines. Cross-ties shall be used between stations whenever 10 legs observation lines separate stations or the geometry of the network is such that isolated sub-nets exist.
3. At least half the stations shall have two independent measurements.
4. Only processed baselines that have fixed ambiguity resolutions shall be included in the network.

3.5.3 PHOTOGAMMETRIC PROCESSING

All processing shall be performed in the softcopy environment.

3.5.3.1 Scanning

If film is scanned, the Vendor shall scan using an aperture (pixel size) that is no finer than the effective resolving power of the combined film and lens system. For an 80 line pairs per millimeter color infrared film, the minimum resolving power is 1/80 mm or 0.0125 mm (12.5 microns). Scan resolution shall not exceed 20 microns for aerotriangulation solution.

Where a film-based camera is proposed, image scanning shall be performed directly from the original color aerial film. The same imagery shall be used both for performing aerotriangulation as well as processing for DTMs, compilation and orthophotography.

Scans shall be produced such that the orthorectified imagery can meet the stated specifications for uniform color, tone, contrast and clarity. Any negative systematic effects of exposing, processing and scanning shall be eliminated in the resultant digital files prior to orthorectification. Even if the color balance and contrast of the scanned images are deemed acceptable, the final color and contrast of the orthorectified files may need to be further enhanced and balanced.

3.5.3.2 Analytical Aerial Triangulation

Combined AGPS supported automatic aerotriangulation with all sensors data shall be carried out for photo control point densification using Least Square Matching (LSM) techniques at a

minimum. Large blocks shall be formed as far as possible. The main consideration for block size shall be the efficiency of data processing and management.

The aerotriangulation accuracy measures shall be:

1. Accuracy of image observations $\sigma_o \leq 6 \mu m$ [Over 6 microns is subject to review.]
2. RMSE in height at check points: 1/10,000 of flying height is required.
400' design scale; RMSE = 1.44'
100' design scale; RMSE = 0.36'
3. RMSE in E and N at check points: 1/10,000 of the flying height.
400' design scale; RMSE = 1.44'
100' design scale; RMSE = 0.36'
4. μ_x and $\mu_y < 6 \mu m$ as RMS residuals at the image points.

Aerotriangulation Processing and QA Measurement Requirements:

1. It is highly recommended to use cross flights at the ends of flightlines.
2. The Vendor shall describe the photogrammetric equipment, software, and procedures to be used to accomplish the orientation.
3. The camera or sensor shall use airborne positioning (ABGPS) and may use as necessary angular orientation devices (IMU) to reduce the necessity for extensive ground control.
4. Analytical aerotriangulation using a rigorous bundle block adjustment shall be required if an IMU is not used.
5. Any alternative proposed process to orient imagery to ground control shall be described in detail, including how the alternative process will allow the required accuracies for the delivered orthoimagery to be met.
6. The State shall direct the Vendor to select, document and survey 25 overall or at least 10 blind QA points per aerotriangulation block. The Vendor's survey team shall provide the State, and not the aerotriangulation or production staff, reduced coordinates for these points in spreadsheet format.
7. The QA point field coordinates shall be checked against the aerotriangulated values using NSSDA procedures.
8. Performance criteria is for NSSDA analysis [of 20+ QA points] is for QA points to be within 1.73 RMSE for appropriate scale.

9. The aerotriangulation solution shall be able to output theoretical accuracy of the block adjustment.

3.5.3.3 *Planimetric Vector Compilation*

Limited compilation of planimetric features shall be compiled in stereo to assist the addressing process. These and other map features will be used for developing and maintaining structure addressing, road inventories, designation of emergency service zones (ESZ), Master Street Address Guide (MSAG) & Address Inventory databases, etc. The Vendor shall not be responsible for assigning proper names to identified features.

3.5.3.3.1. *Planimetric Transportation Features (3D)*

Road Centerlines

- *Lines:* This feature shall represent the following road types: interstate, US, state, county, township, and city roads and streets. This feature should also include all exit/entrance ramps, connectors and other methods of egress for limited highway systems.
- Each category of road shall have its own feature type (e.g., Spatial Data Standards for Facilities, Infrastructure and Environment [SDSFIE] entity set, or other equivalent). Information on the SDSFIE can be found at: <http://tsc.wes.army.mil/products/TSSDS-TSFMS/tssds/html/>
- It is preferred, but not required, to stereo digitize transportation features in a consistent direction, i.e., from south to north and from west to east.

Railroad Centerlines

- *Lines:* This feature shall represent all active railroad lines. Abandoned railroad right-of-way and those lines converted to rail-trails shall be identified where possible.
- Each category of rail line shall have its own feature type (e.g., SDSFIE entity set, or other equivalent).

Driveway Centerlines

- *Lines:* This feature shall represent all driveways over 200' in length, driveways leading to two or more addressable or habitable structures, and all "tertiary" roads such as forestry & game land roads, logging roads, utility line roads, mining roads, etc.

Overpasses, Bridges and Tunnels or Ferry Routes

- This feature shall represent all tunnels, bridges and overpasses or ferry routes as 3D closed *polygons*. Multi-level bridges shall each be represented as unique features, one for each level. Railroad tunnels, culverts, trestles and bridges shall be so designated.

- Transportation centerlines shall be continuous when they cross bridges or enter tunnels.

Naming of Features. Above Feature types shall not be named.

3.5.3.3.2. Planimetric Structures

- **3D Centroids:** This feature shall represent the stereo compiler's best effort to recognize and digitize any and all individual "habitable" or "addressable" structures (such as houses, trailers and mobile homes, garages, barns and sheds, office buildings, schools, churches, social halls, sports arenas, stores, hospitals, etc.) **where individuals may reside or gather for business, meetings, entertainment, recreation, religion, or any other social events.** Both single and multi-addressable 'habitable' or 'addressable' structures shall be assigned centroids. No field validation is expected or necessary by the photogrammetrist. However, for the purpose of having the State later estimate the number of occupied floors in multi-addressable structures, building centroid elevations shall be determined. (This is accomplished by placing the floating dot at the level of the higher set of eaves of the structure or at the highest roofline that appears to be at ceiling level of the top floor (not the peak of the roof). After obtaining an intelligent elevation, slide the centroid horizontally such that it is in the building near the center.)
- **Polygons:** Larger and readily identifiable multi-addressable structures such as apartment buildings, shopping malls, industrial complexes, military sites, etc., shall have the footprints stereo digitized as well as having a 3D centroid placed within the bounds of the structure.
- Structure Features shall not be assigned names.

3.5.3.3.3. Planimetric Hydrographic Features

Hydrographic Features

- This feature shall represent all bodies of water such as lakes, reservoirs, ponds, rivers, streams, etc.
- Each category of feature shall have its own unique feature type (e.g., SDSFIE entity set, or other equivalent).
- Streams and Rivers shall be represented as 3D *lines*. Only streams with visible water shall be collected. Streams shall be single line up to 10 feet wide for 100 scale, or 50 feet wide for 400 scale. Double lines, representing left and right bank, shall be collected where those dimensions are exceeded.
- Lakes and Ponds as *polygons*. Lakes and ponds shall not be differentiated. Only lakes and ponds with visible water shall be collected. The minimum dimension for collection shall be 100 feet in length or width. Lakes and ponds shall be level and shall be considered exclusion areas in the Digital Terrain Model (DTM) processing.

- Swamps and Marshes as *polygons*. Swamps and marshes shall be considered the same feature class and shall not be further be differentiated. Only clearly identifiable swamps and marshes shall be collected. The minimum dimension for collection is 1000 feet in length or width.
- Intermittent features (water not present at time of photo) shall not be collected.
- No flow direction will be required, but consistent digitizing in one direction (e.g., upstream) is preferred. In any case, the breaklines will be in 3D so flow direction may be inferred.
- No hydrographic feature names or reach codes shall be required.
- Lines shall have single coordinate triplets where they meet and shall not have undershoots or overshoots where the lines normally come together.
- All hydrographic features shall be collected at the visible land-water interface.
- Edgematch within and between production blocks shall be required.
- Hydrographic features in the DTM, when overlaid on the final orthophoto, shall appear within 3 pixels of the same feature on the orthophoto with 90% confidence.
- Hydro lines shall be continuous (if the feature is continuous, visible and identifiable), but not edited for topological integrity or connectivity. Lines shall be continuous (elevation estimated) when passing under bridges.
- Elevation values shall be within the vertical accuracy specification for the respective scale.

Dams and Spillways

- Dams and Spillways, shall be defined as points or polygons to the extent they are visible and identifiable. Other critical features such locks, canals, etc. shall be identified also.
- Each category of feature shall have its own unique feature type (e.g., SDSFIE entity set, or other equivalent). No names of features shall be assigned.

3.5.3.3.4. General Planimetric Features Delivery Specifications

- All planimetric features shall be delivered in ESRI shapefile and associated .dbf attribution tables compiled as necessary to deliver these planimetric features per 50,000' x 50,000' tile set. Partial tiles containing planimetric data are acceptable. The Vendor shall avoid creating artificial nodes between stereomodels and the smaller tile boundaries. The Vendor will be required to identify unique feature subclasses in transportation, hydrography, and structures. An example of the classification that may be required is the Spatial Data Standards for Facilities Infrastructure and Environment (SDSFIE) for transportation, hydrography, and

buildings entity sets. Final feature class designations will be proposed by the Vendor and shall be approved by the State.

- A second set of transportation centerline features shall also be delivered in a MicroStation .dgn format using the current West Virginia Department of Transportation (WVDOT) CADD Standards. These standards have been incorporated into a MicroStation macro that will place drawing data onto the proper level, with the established line weight, color, style, text sizes, and so on using the WVDOT Resource Files. Inconsistencies between these specifications and the WVDOT standards shall be discussed and resolved in the vendor's response. The WVDOT CADD Standards can be found at:

http://www.wvdot.com/9_consultants/9b_designaids.htm

- Each feature shall be collected with its own unique code to facilitate translations and topological processing. Transportation data shall be processed and edited such that topology builds error-free.
- The 3D elevations associated with the transportation and hydrographic features shall be used to improve the DTM surface. The transportation and hydrographic features shall be placed as coded breaklines within the ASCII text file used to deliver the DTM files as well as being used and delivered in ESRI shapefile format.
- The largest available scale of imagery shall be used to collect all planimetric and elevation features.
- The Vendor shall edit the transportation features for topological integrity and connectivity. Polygon features shall be closed. There shall be 100% coordinate and logical edge matching between and within tiles. Roads shall be broken at true intersections. Overpasses and underpasses shall not break.
- All dangling and pseudo nodes shall be checked for validity. Invalid dangling and pseudo nodes shall be eliminated.
- Digital features shall not extend beyond the neat line of each modular tile as defined in the digital planimetric mapping specifications.
- Line and polygon features shall appear smooth when plotted at the respective design scales.
- Planimetric features shall adhere to the same horizontal and vertical accuracy specifications as the orthophoto products.
- Vendor shall include a QC process that inspects the compilation process for completeness and accuracy and deliver the completed QC forms to the State.

Vendors shall otherwise propose all necessary procedures needed to develop and deliver a digital map base that will assist addressing contractors to graphically locate the source of a 911 call.

3.5.3.3.5. Planimetric performance criteria

Transportation: 99% of identifiable transportation features shall be properly collected.

Structures: 90% of identifiable addressable structures shall be properly collected.

Hydrography: 95% of identifiable hydrographic features shall be properly collected.

Where no size criteria is listed, the maximum allowable omissions are ¼" at map scale in length and/or width.

3.5.3.4 Orthophoto Rectification, Mosaicking and Processing

3.5.3.4.1. Rectification

1. To minimize vertical distortion of above ground features, orthorectification shall be restricted primarily to neat model areas, using the centers of each model rather than every other model.
2. Overpasses/bridges along roadways shall retain correct horizontal location and geometry. Features (especially roads under the overpass) that approach the underside of the overpass/bridge shall be rectified to their correct ground locations. The practice of assuming the DTM under and around the elevated overpass is at the same elevation as the overpass for purposes of orthorectification is unacceptable. Some smears will be allowed where the TIN surface is near vertical between the overpass/bridge and the ground beneath and imagery is missing due to the perspective view. These smears shall be patched from similar nearby imagery whenever practical to do so.
3. Smears shall generally be removed except in situations pre-approved by the State.
4. Cubic convolution sampling shall be used unless otherwise approved by State.

3.5.3.4.2. Radiometric Performance Criteria

The digital orthoimagery within each state plane coordinate zone shall be generally seamless. The imagery will be geometrically and radiometrically correct and match seamlessly without noticeable differences. Ortho-rectification and mosaicking shall result in producing ortho imagery having sharp uniform balanced color contrast, and containing minimum scratches, artifacts, or dust, consistently across the database.

Radiometry acceptance criteria shall be determined jointly through consultations between the Vendor and the SAMB Project Manager by processing small prototype signature areas. These sample areas shall be submitted to the SAMB Project Manager for review. Once the optimal characteristics have been approved by the SAMB Project Manager, all other images shall have their contrast and brightness values adjusted to that of the prototype signatures. The goal is to produce digital imagery of near consistent tone and contrast throughout the state, as well as within single images.

The Vendor shall ensure imagery is quality controlled at all stages and be, edge matched, free from double image 'ghosting' effect at the mosaicking edges, and sharp without blurring effect.

3.5.3.4.3. Radiometry

The difference in average pixel values on either side of a mosaic seamline shall not exceed 70 density units, when measured on a homogeneous surface with similar characteristics (water surfaces are exempt from this requirement). Greater differences may be allowed, upon approval by the SAMB Project Manager, if the correction will cause significant degradation of the image content on either side.

Blemishes, scratches and dust performance criteria: These artifacts, when viewed at the intended mapping scale, shall be generally acceptable within these limits:

If 1 pixel wide but less than 100 pixels in length.

If 2 pixels wide but less than 60 pixels in length.

If 3 pixels wide but less than 20 pixels in length.

If 4 - 8 pixels wide but less than 10 pixels in length.

Clusters of artifacts that do not individually meet these criteria shall be considered unacceptable if more than 10 are visible within a viewing screen at 1:1 zoom.

Artifacts exceeding these limits shall be acceptable if ground feature detail is not obscured, or if the brightness value of the pixels in the artifact is under 170. Otherwise they shall be removed.

3.5.3.4.4. Smears

Smears shall be corrected by adding mass points or breaklines to the delivered DEM as necessary to reflect actual terrain or by image processing where appropriate. Where DTM corrections or image processing will result in reduced horizontal accuracy or misrepresentation of the location or appearance of important features (structures, roads, etc.), the smear may remain untreated.

3.5.3.4.5. Mosaicking

1. Match lines shall be selected interactively. Match lines are only allowed where adjacent rectified images lie at the surface of the DTM used to create the orthoimages and are at the same elevation. Limited exceptions may be allowed in heavy tree cover subject to prior review and approval from the SAMB Project Manager in advance of delivering these areas.
2. Mosaic lines shall not cross through buildings, bridges or other man-made structures not at ground level unless suspended or unavoidable. Join lines between overlapping images shall be interactively selected to minimize tonal variations and visible join lines.
3. 90% edge pixels along tested mosaic lines for well defined features to match within two GSDs. Remaining 10 percent to match within 3 pixels. Tiles shall be mosaicked so the

images appear to be completely seamless when displayed or plotted at equivalent design scales.

4. There shall be no overlap or underlap or slivers of pixels either within or between tiles.
5. A majority of sun flares on water bodies shall be removed prior to delivery by inserting non-flared pixels of similar characteristics.
6. The images shall be edge matched so that tonal values are consistent across the edges and there is minimal evidence of the join. One or more reference images, approved in advance by the State, shall be used as reference.
7. There shall be minimal measurable radiometric seams within or between flightlines, stereomodels, or tiles. Deliverables shall include additional adjustment of radiometric values as necessary to accomplish tonal consistency across images.
8. Radiometric adjustment shall include color balancing, overall tone adjustment and brightness and contrast enhancements of the imagery over the entire project. Dark and light areas shall be evened out.
9. Where a 100' design scale tile meets a 400' design scale tile, maximum relative shift shall be equal to or less than five feet (5') on well defined ground features (roads, sidewalks, curbs) with an overall seven foot (7') maximum on all measurable features.

3.5.3.5 Onboard Sensors

The use of a digital camera, Inertial Measurement Unit (IMU) and other technology such as LIDAR is optional. Regardless of the methods or technologies used, the quality of the final product as specified in this Section must be achieved. The Vendor shall specify what alternative technologies are employed during image acquisition and/or post-processing.

3.5.3.6 Digital Terrain Model (DTM)

The Digital Terrain Model (DTM) developed for this project shall be of the quality required to support development of digital orthophotography at the parameters specified and meet a minimum vertical DTM accuracy. The DTM surface shall be delivered for acceptable use for future image orthorectification (possibly having different perspective centers) and 3D visualization.

3.5.3.6.1. Vertical Accuracy Specification

The elevation data collected for this project shall support the development of digital base mapping that meets a NSSDA vertical DTM accuracy standard sufficiently accurate to meeting the horizontal standards for orthorectification and creates a DTM with the following minimum accuracy. ASPRS vertical accuracy standards shall not be used.

1:4,800 (1"=400' design scale) areas:

DTM data expressed in TIN format shall further be compiled and then tested to meet a vertical accuracy standard of ten (10) feet at 95% confidence level consistent with NSSDA.

Optional 1:1,200 (1"=100' design scale) areas:

DTM data expressed in TIN format shall further be compiled and then tested to meet a vertical accuracy standard of four (4) feet at 95% confidence level consistent with NSSDA.

[According to NSSDA, accuracy at the 95% confidence level is defined to be equal to 1.96 times the RMS error as calculated by using test points to compare elevations interpolated from the delivered TIN with elevations derived from higher order surveys for the same horizontal positions.]

A DTM developed to support contour mapping is not within the scope of this EOI, but shall be considered as an option, and should be stated as an option in the Technical portions of the proposal.

3.5.3.6.2. Elevation Data Specifications

1. The planimetric features (transportation, hydrography) and additional breaklines (such as walls, ditches, ridges, valleys and other prominent visible ground surface features) shall be used to properly define the terrain.
2. Standing water bodies shall be level. Streams and rivers shall have breaklines along the water surfaces and along inflection points along the banks.
3. In order to avoid unnatural visual appearance of bridge decks, interstate overpasses, railroad trestles and similar features in the digital orthoimagery, edge of pavements at all levels shall be included as break lines with the elevation values associated with those features and included in the DTM.
4. DEM data shall have a vertical accuracy sufficient to meet the horizontal accuracy requirement to produce orthophoto maps and create elevation surfaces useful to portray 3D visualization surfaces, further specified below.
5. DTM data expressed in TIN format shall further be used and tested to meet a vertical accuracy stated previously. The State may rely on A/T passpoints and perhaps other field survey points to assess accuracy.
6. Whether photogrammetric compilation, LIDAR, IFSAR, or another sensor technology is used, elevation deliverables shall meet the same vertical accuracy specifications.
7. The Vendor shall deliver a continuous DEM surface with no disjoints, overlap or underlap between models or tiles.
8. The State acknowledges that NON-OPTIONAL, DTMs shall be collected only to meet orthorectification and 3D visualization accuracy and will not be trustworthy to be used for contour generation.

3.5.3.6.3. *Over-Edge*

The DTMs shall be compiled over-edge at least 1 inch at map scale beyond the neat boundary of the project area to eliminate edge effects.

3.5.3.6.4. *Elevation Data QA Process*

1. The Vendor shall otherwise indicate the process used to collect and QA elevation data.
2. Vendors shall use blind AT and ortho QA points to determine the integrity of the elevation surface.
3. Vendors shall later interpolate elevations from the derived TIN surface using the measured **horizontal** locations from the **AT and orthorectification** QA process and report the interpolated TIN elevations to the State QA team, who will compare them with field-derived elevations.
4. Vendors shall not use stereo model measurements to measure Z values. Instead the delivered TIN file data shall be used.

3.5.4 *PROJECT MANAGEMENT, CONTROL AND DELIVERABLES.*

3.5.4.1 *Off-shore labor*

The Vendor shall specify the types and extent to which off-shore labor is utilized in the performance or work related to this EOI. The SAMB has a stated preference for the use of domestic production resources where possible. However, the SAMB understands that in a competitive global economy, the use of exclusively domestic labor may not be feasible or practical, either technically or economically. *Vendors will be required to submit a Federal Form SF-328 pertaining to foreign interests, and during negotiations will be asked to provide separate cost estimates based on the use of domestic versus off-shore labor for specific identified tasks.*

3.5.4.2 *Management Plan*

The Vendor shall propose a management plan for the project, which clearly establishes lines of communication, authority and responsibility with regards to management of the project. The plan must be developed to demonstrate efficient and effective communication on all aspects of the project and to minimize the administrative overhead of SAMB. The plan must also state how the Vendor will ensure that SAMB will receive the deliverables specified above, and in a timely manner that will fit into SAMB's overall purpose and mapping and addressing system. The management plan shall include at a minimum the following items:

3.5.4.3 *On Call Point of Contact*

An individual or a team of individuals shall be identified by Vendor and contact information provided that will allow SAMB to contact the Vendor's "Point of Contact" anytime during regular business hours (i.e., 8:00 AM to 5 PM), Eastern Standard Time.

3.5.4.4 *Project Initiation Meeting and Project Plan*

The Vendor shall meet with SAMB within two (2) weeks subsequent to Contract award to review the required Vendor project plan.

The Vendor will present the project schedule and project plan and if possible, the initial flight plan for review and approval by SAMB at the project initiation meeting. The Vendor shall provide a timeline for final flight plan presentation and approval, control survey plan, delivery schedule for all products, and provide a time frame for the State to respond.

The master index map shall be under development and at a minimum include the preliminary tile boundaries (as polygons), state boundary, county boundaries, major metro areas and associated annotation and flightlines already determined.

The Vendor shall summarize all pertinent issues, clarifications and proposed changes resulting from the meeting and shall distribute them to the SAMB for approval within five (5) working days after the project initiation meeting

3.5.4.5 Post-Flight Evaluation Meeting

The Vendor shall meet with the SAMB immediately following the completion of the Spring 2003 flying season, and no later than May 15, 2003. The purpose of this meeting is to evaluate the success of the spring aerial photography acquisition, and to consider alternatives for gaps where weather conditions or other factors precluded successful acquisition of aerial photography. Any deficient areas shall be included during the Spring 2004 flying season at no expense to the State.

The Vendor shall initially provide the State, as soon as it becomes available, several completed and processed sample frames of imagery (as diapositives) representative of each set of flight conditions that may affect image quality. The State shall select the preferred frame or frames to be used by the Vendor as a template that guides subsequent deliverables and by the State to QA the resultant orthoimagery deliverables.

The Vendor shall summarize all pertinent issues, clarifications and proposed changes resulting from the meeting and shall distribute them to the State for approval within five (5) working days after the initial post-flight evaluation meeting.

3.5.4.6 Status Meetings

The Vendor shall, at a minimum, participate in four (4) additional meetings in Charleston, West Virginia in July 2003, September 2003, November 2003, and January 2004, unless deemed unnecessary by SAMB in consultation with the SAMB Project Manager. Up to two (2) additional meetings may be scheduled as required upon mutual consent of the Vendor and SAMB in consultation with the SAMB Project Manager at no additional cost to the State.

3.5.4.7 Status Reports

The Vendor shall, at a minimum, provide weekly reports to SAMB by email, updating and documenting the status of the project in relation to the project schedule and identifying any issues or concerns. The Vendor shall develop a secure, limited access Project Management Website to assist in the dissemination of project status information to the SAMB, the SAMB project manager, subcontractors, and other project stakeholders where appropriate.

3.5.4.7.1. Bi-weekly Conference Calls

1. The Vendor shall arrange and initiate bi-weekly conference calls, minimally with the SAMB Project Manager. Calls may be suspended after all flying has been completed upon mutual agreement of the SAMB and the Vendor.
2. Calls shall continue until such time as the State is satisfied that all outstanding technical, financial and contractual issues are properly resolved.
3. A draft agenda shall be delivered via e-mail and precede each call by 24 hours.
4. Conference calls shall be coordinated by and paid for by the Vendor.
5. Issues, decisions and outstanding items shall be documented by the Vendor in Microsoft Word (.doc) format and distributed via e-mail within three (3) working days following each call for signature approval by the State.

3.5.4.7.2. Additional Reporting Requirements

For no additional cost, the Vendor shall be responsible for completion of a variety of administrative and reporting requirements, in a format prescribed by the State, and at times as determined necessary by the State.

The Vendor agrees to use Microsoft Office products (i.e., Word, Excel, Access, etc.) to develop textual reports and otherwise document or communicate. ESRI compatible formats (preferably shapefiles) shall be used to depict spatially indexed items. [The Vendor may use other formats if approved in advance by the SAMB.]

1. E-mail attachments shall be delivered in formats readable by Microsoft Outlook, and compressed as necessary (e.g., using WinZip) to reduce file size where applicable.
2. At a minimum, the Vendor shall submit brief, monthly status reports to the State via e-mail, e.g., as a .doc or .pdf file (followed with a mailed paper copy) having these sections:
 - a. Title page indicating project, Vendor, report date, reporting period.
 - b. Report of all outstanding technical, administrative and financial issues or problems, recommendations to solve, and who has the responsibility to fix the problem.
 - c. Updated master index map in electronic form (.pdf or on CD), updated to contain and reflect status of deliveries.
 - d. Table, spreadsheet or chart (e.g. .pdf, Excel or MS Project file) indicating percent of work completed and delivered by process step (survey, imaging, scanning, orientation, elevation compilation, orthorectification, delivered tiles).
 - e. Recommendations that can improve the working relationship between State and Vendor.

3.5.4.7.3. Master Index Map (Web and as a Deliverable)

The Vendor shall create and use (and at the completion of the project, install on State's computers) an electronic master index map in ESRI compatible format. An updated master index map file shall be made available on the web and also be delivered four (4) times during the project via CD to operate on the State's computer. The intent is to use GIS technology to graphically show the interim and final deliverables superimposed over a set of locator base maps.

The file shall include:

1. An ArcGIS project file that includes all of the reference, backdrop, data and index features.
2. When CDs are delivered, a file name strategy that changes each time the file is updated in the form:

WV_Index_yymmdd.ext, where

WV_Index_ = master index map (uses underscores).

yy = last two digits of year (00-99) for this update.

mm = month (01-12) that this version was updated.

dd = day of this update.

ext = ESRI extension appropriate to the data and application to be used.

3. A documented schema and database design able to track work-in-process, deliveries, acceptance timeframes, etc. The index should include GIS query capabilities so status reports can be generated, as required and approved by the State.
4. A backdrop that allows users to know where they are when reviewing deliverables. The Vendor may use the WV GIS clearinghouse website (<http://wvgis.wvu.edu>) to access state and county and transportation feature shapefiles to serve as the georeferenced vector backdrop to the index map. Alternatively, the SAMB will provide the Vendor with an index map.
5. Tile boundaries for each tile (as polygons) for each type of deliverable shall have attribute fields coded with the X-Y georeferenced coordinates of the lower left corner of the tile, the filename, photo date(s), delivery status (flown, processed, rectified, QA complete, delivered, accepted, etc.).
6. An ability to turn on and off all features of detail.
7. Labeled flight lines and eventually the final imagery exposure stations. (The State and the Vendor shall review the master index map and together add or remove full resolution tiles from the index until the State approves the final limits of coverage. This shall be completed before flight maps are developed.)

8. Labeled survey control point locations and attribution.
9. Other indexed points, lines and polygons linked to a relational database having archiving and status attributes and appropriate labeling.
10. Ability to query Relational Database Management System (RDBMS) attribution and highlight appropriate graphic elements.
11. Presentation default mode that allows hardcopy output to depict progress without confused labeling and linework.
12. Installed on the State's networked computer system at the end of the project and before final payment.

3.5.4.8 Data Deliverables

3.5.4.8.1. Incremental deliveries and sign-off

All final products from successfully collected aerial photography shall be incrementally delivered according to the Vendor supplied project plan as approved by SAMB in consultation with the SAMB Project Manager. Final delivery must be submitted and accepted by SAMB within eighteen (18) months of the start date of the Contract.

3.5.4.8.2. File Name conventions

The File naming conventions will be provided by SAMB at the time of the project initiation meeting. In addition to the Digital Orthoimagery files, delivery of all data products produced in the digital ortho-development process required to facilitate the efficient development of additional planimetric and contour features by a third party Vendor is required. This will include but may not be limited to all film, raw scan digital imagery files along with the aerotriangulation solution and set-up and orientation information for the stereo models, ground control, flight lines and control plans, photo indexes, sensors and the DTM data used for rectification. Additionally the flight plan, control report and Aerial Triangulation report (if required) shall be delivered. File formats for digital products will be finalized between the SAMB and the Vendor during negotiations.

3.5.4.9 Project Survey Control and Blind QA Point Deliverables

3.5.4.9.1. Annotated Network Diagram

The Vendor shall submit a detailed control plan superimposed on the flight plan and proposed aerotriangulation blocks prior to fieldwork showing the location of control and blind QA points to be observed. A network diagram should also show the HARN and other NGS points to be tied to and indicate, using symbols and color vectors, the baselines to be independently observed during each session. The vendor shall indicate the survey standard to be used in conducting the survey.

3.5.4.9.2. Session Report

A schedule (in table form) showing the dates, occupation times, and sessions for each station in the survey shall be provided.

3.5.4.9.3. CD-ROM

Ground control and QA control for the project shall be separately documented with all GPS observation data written to CD-ROM in a non-proprietary format agreed upon between the Vendor in consultation with the SAMB Project Manager.

3.5.4.9.4. Observation Logs

An observation form for each temporary ground control station occupation shall be provided that shall include at least the following information: The form is preferred digitally, but paper is acceptable.

1. Project Name
2. Operator's Name
3. Date
4. Julian Day
5. Receiver Serial #
6. Antenna Serial #
7. Brand and name of receiver / antenna
8. Station Name
9. Session #
10. Antenna H.I. and indication for type of measurement
11. File Name
12. Actual start time and actual end time for the occupation
13. Visibility skyplots for each station observed in the network
14. Printed graphical plot indicating the number of satellites above 15 Degrees and the (Position Dilution of Precision) PDOP for each session of field observation
15. Data showing the quality of processed vectors
16. Results of a minimally constrained least squares network adjustment report including (@ 95% confidence region):
17. Statistical results clearly showing which control point is held fixed, and clearly indicating standard errors applied, and the weighting scheme used
18. Station coordinate standard deviations (x, y, z)

19. Station coordinate error ellipses (semi-major axis, semi-minor axis, azimuth of semi-major axis, height)
20. Results of the fully constrained adjustment, clearly showing all values held fixed, and clearly indicating standard errors applied and weighting scheme used
21. Digital ASCII file with minimally constrained coordinate adjustments

3.5.4.9.5. *Delivery as Shapefile*

An ESRI shapefile describing all **horizontal and vertical control points** used for orienting the captured imagery shall be submitted. Separate sets of shapefiles shall be submitted for the West Virginia State Plane Coordinate System (SPCS) North and South Zone versions of the horizontal control points, with each point attributed according to this section.

3.5.4.9.6. *Monumentation*

All ground control points collected shall be documented and marked such that they can be easily relocated by other surveyors and survive throughout the timeframe of the project, including QA by the State.

3.5.4.9.6.1 *Survey Processing Data Deliveries*

The Vendor shall prepare two (2) hard copy bound 8.5" x 11" survey reports, and one (1) copy of the report on CD (e.g., as a .pdf file) that includes:

- a. Title page
- b. Table of contents
- c. Summary of procedures
- d. A post-processing network diagram showing names and locations of all observed points, NGS points, and base stations and color-coded indications of which independent vectors were observed. Include a legend.
- e. Completed GPS observation forms or station logs (digital scans preferred).
- f. NGS documentation for all occupied control points.
- g. Results of a minimally constrained least squares network adjustment report including RMSE (at 95% confidence region) (on CD only preferred):
 - i. Statistical results clearly showing which Continuously Operating Reference Station (CORS) station or compatible control point is held fixed, and clearly indicating standard errors applied and weighting scheme used
 - ii. Station coordinate standard deviations (x, y, z)
- h. Results of the fully constrained least squares adjustment, clearly showing all values held fixed, and clearly indicating standard errors applied and weighting scheme used. All

surveys shall be the result of a constrained 3D adjustment using CORS (on CD only preferred).

- i. Microsoft Excel spreadsheet listing point names used in the field (and/or by the aerotriangulation software) and final coordinates in specified projection and units.
- j. An FGDC compliant metadata file that accompanies the survey data.

3.5.4.9.6.2 Additional Data Delivery Items and Formats

1. Horizontal and vertical control points actually used for orienting the captured imagery shall be submitted as attributed, symbolized, point features within the master index map.
2. Each point shall be named, symbolized, and positioned, (and attributed in Z) using the specified projection along with a brief description of each point in sufficient detail to identify the point for future use.
3. Individual TIFF or jpeg image files (from original film scans or georeferenced TIFF ortho image) shall be delivered for each ground control point or QA point. The file names shall correspond to the survey point names.
4. These files shall contain a 250' x 250' patch of ground derived from the raw or orthorectified imagery, centered around the control point imaged at the highest specified Ground Resolution Distance (GRD). The files shall eventually be linked to the control points within the master index map.
5. The blind QA point field coordinates shall be reported using copies of the accompanying Excel spreadsheet. The blind aerotriangulation QA points shall be placed in one file [named AT_QA (area) (Contractor) yymmdd.xls] while the blind orthorectification QA points are delivered in another [named Ortho_QA (area) (Contractor) yymmdd.xls].

3.5.4.9.6.3 QA Documentation

1. The Vendor shall, at their expense, report accuracy of the horizontal control points according to the *Geospatial Positioning Accuracy Standards, Part 2: Standards for Geodetic Networks* developed by the Federal Geodetic Control Subcommittee (FGCS) and the Federal Geographic Data Committee (FGDC), 1998.
2. A Microsoft Excel spreadsheet shall be designed and used to report calculations and statistics.
3. A statement shall be provided and certified that, "These geodetic control data meet the <insert resultant value> centimeter local accuracy standard for the horizontal coordinate values and the <insert actual value> local accuracy standard for the vertical coordinate values (heights) at the 95% confidence level".
4. The inserted values shall be less than or equal to the stated accuracy standards specified above.

3.5.4.10 Aerial Film and Raw Image File Deliverables

During Aerial Flights. The Vendor shall initially provide the SAMB Project Manager several completed and processed sample frames of imagery (as diapositives) representative each set of flight conditions that may affect image quality as soon as it becomes available. The SAMB in consultation with the SAMB Project Manager shall: select the preferred frame or frames to be used by the Vendor as a template; 2) guide subsequent deliverables, and to be used by the State to QA orthoimagery deliverables.

The roll film and/or raw digital image files shall be delivered once the digital orthoimage products have been delivered and accepted.

Each film roll or digital file shall be labeled, indicating the State as owner, Vendor name, date of photography, flight and exposure numbers, type and serial number of camera, focal length, film roll number, film type, and the nominal scale of the negatives.

Each frame shall be labeled with the acquisition date, focal length, nominal scale, roll and frame number and perhaps 1-2 short additional text items as later specified and at the discretion of the State.

The State, at its option and for no additional cost, may elect to use the Vendor's facilities for long-term storage of roll film or sensor tapes.

Delivery of scanned image files used in the production of the digital orthoimagery product shall be delivered in an untiled, uncompressed, TIFF format delivered in a media format pre-approved and acceptable to the SAMB. Media labels shall include project, client, Vendor, date, order #, contents in readme file. The SAMB will consider an industry standard JPEG compressed scan file as well.

3.5.4.11 Aerial Triangulation

All information related to the image orientation required to facilitate the efficient use of the imagery for additional stereo photogrammetric data development by a third party shall be required for delivery. The exact attribute content and format for the DTM files will be determined by SAMB in consultation with the SAMB Project Manager prior to final delivery.

Deliverables from aerial triangulation shall include at a minimum but not be limited to the following:

1. Two (2) hardcopy, bound, orientation or aerotriangulation (A/T) reports, bound in 8.5" x 11" format, that includes:
 - a. Cover sheet
 - b. Table of contents with tabs
 - c. Narrative description of technique (equipment, software, process, exceptions, problems, resolution)
 - d. Camera calibration reports and listing of which frames used which calibrations

- e. Hardcopy printouts:
- i. Color index map showing tie, control and QA points using separate colors and symbols having sufficient scale to read the text labels. (Shape or .dgn format. Include legend.)
 - ii. Excel spreadsheet of blind QA points including name and coordinates (nearest 0.1 feet ONLY)
 - iii. File content documentation (README.TXT file)
- f. Electronic A/T files (measured, refined, adjusted, ground) on CD, to include:
- i. File containing ground control points used
 - ii. Raw measured fiducial coordinates for each photo image in the photo coordinate system
 - iii. Raw measured controls points and pass points in the photo coordinate system.
 - iv. Final bundle adjustment printout with highlighted residuals, RMSE, final coordinates.
 - v. Adjusted control points, pass points, photo centers and residuals in the NAD83/96 SPCS coordinate system with NAVD88 elevations
 - vi. Standard deviation of the adjusted control point and pass point measurements
 - vii. ASCII file or Oracle database providing exterior orientation parameters of image frame centers. The final frame ID(s) (a frame may have one or more IDs named during various field and office production steps) and six orientation parameters [E, N, elevation (to 0.1 feet) and omega, phi and kappa (decimal degrees to 6 places) as generated from A/T or sensor]
 - viii. Camera focal length used in adjustment
 - ix. RMSE values for all adjustments
- g. One (1) CD containing the above report and orientation data files, plus the following items:
- i. CD labeled to include project, client, author, date, order #, contents.
 - ii. Printout of label and directory and files contained on CD in hardcopy report.
 - iii. Report narrative that explains process, software, problems, and solutions.
 - iv. README.TXT file
 - v. A/T files as specified above, readable in WORDPAD or WORD without line wrap-around.
 - vi. Excel spreadsheet containing all QA points, pass points and control points. Include columns for point ID, E, N, elevation, use code:(QA, control, pass, tie), notes (alternate ID). Report coordinates to nearest 0.1 feet ONLY.
 - vii. Index file features to include control plot diagram (symbolized in color, using different symbols and colors to show H, V and combined H&V control points, QA check points, tie points).

2. If the Vendor creates or uses additional annotated control prints or pugged diapositives, these shall also be delivered.
3. All other materials used by the Vendor to orient the imagery along with sufficient organization and documentation for a trained photogrammetrist to recover the orientation results shall be delivered.

3.5.4.12 Digital Terrain Model (DTM)

All information related to the DTM used for ortho rectification required to facilitate the efficient use of the imagery for additional data development by a third party shall be required for delivery.

3.5.4.12.1. DTM Delivery Tile Format

1. Files exactly encompassing geographic areas of 10,000 feet by 10,000 feet shall be used to deliver elevation data unless the State and the Vendor agree that another size is more practical.
2. CDs or DVDs shall be used as the delivery media.
3. Two (2) separate sets of files shall be delivered.
4. All media shall be clearly labeled to reflect project, client, author, date, order #, contents.

3.5.4.12.2. DEM ASCII Data File Format

1. The Vendor shall deliver an ASCII point file of XYZ coordinates with separate coding for mass points and breaklines expressed in units of measure required both by the mapping deliverables. ASCII file formats shall contain five aligned and space-delimited columns containing X-Coordinate, Y-Coordinate, Z-Coordinate, breakline type, point code.
 - a. Breakline types are:
 - i. Soft
 - ii. Hard
 - iii. Mass
 - iv. Lake or exclusion area
 - v. Spot
 - b. Point code attributes are:
 - i. 1=start of breakline
 - ii. 2=point within breakline
 - iii. 3=not used
 - iv. 4=end of breakline
 - v. 5=mass point, not part of breakline

2. The ASCII format eventually used must contain intelligently coded features to be able to be imported into and delivered in an ESRI TIN format (3D Analyst).
3. An alternative ASCII delivery format may be otherwise defined by the Vendor and approved by the State prior to delivery.

3.5.4.12.3. *TIN Surface Files*

The resultant TIN shall also be delivered as an ESRI TIN file useable in 3D Analyst.

3.5.4.12.4. *Elevation Metadata*

The ASCII DEM file shall be accompanied with an FGDC-compliant metadata file.

3.5.4.13 *Planimetric Data and Digital Orthoimagery Delivery Tile Formats*

For all areas, one resolution of imagery will be developed for any given tile, and each counted tile shall be complete in extent and of a single consistent resolution. In some cases it is understood there will be duplication of tiles due to overlap between areas of different resolution, but overlap of imagery between areas of different resolutions (scale) shall be minimized to the extent practical.

3.5.4.13.1. *Nested Tile Configuration*

2,000' design scale for planimetric deliveries	50,000' x 50,000'
400' design scale orthos, 2-foot GSD, and DTMs	10,000' x 10,000'
100' design scale orthos, 0.5-foot GSD	2,500' x 2,500'

3.5.4.13.2. *Content*

The tile totals for each resolution shall be calculated by summing all 10,000' x 10,000' tiles with 2-foot GSD, summing all 2,500' x 2,500' tiles with 0.5-foot GSD. Tile totals shall represent a conservative estimate of the numbers of tiles for each resolution with considerable overlap of tiles resulting in a total area that exceeds the actual land area of West Virginia. Where the SAMB selects the areas of supplemental or optional high resolution 100' design scale mapping, the underlying whole, medium resolution 400' design scale tiles will be eliminated. Only whole ortho tiles shall be delivered.

3.5.4.13.3. *Orientation*

The grid tiles to be used shall be oriented using the West Virginia State Plane Coordinate System (SPCS), West Virginia State Plane Grid, North and South Zones, NAD83, using the origin point for the West Virginia SPCS (0,0). Tiles shall be aligned with the West Virginia SPCS grid, using either the North or South Zone depending on the extent of the county in the area of coverage. (See Figure 1 for delineation of North and South State Plane Zones.)

Tile overlap will be required along the line separating the North and South SPCS zones. If a full grid tile provides less than 1,000 feet of orthoimagery overlap between the two zones, an additional full grid tile or tiles shall be processed to provide a minimum of 1,000 feet of overlap on each side of the State Plane Zones boundary.

3.5.4.13.4. Nesting

Tiles shall be aligned and referenced to each other so they can be nested for vertical integration at the different scales of orthoimagery. For example, each 10,000' x 10,000' tile will optionally contain sixteen (16) nested 2,500 ft x 2,500 ft tiles. For the purposes of planimetric data, each 50,000' x 50,000' tile will optionally contain exactly twenty-five (25) nested 10,000' x 10,000' tiles.

3.5.4.13.5. Formats

Each final digital orthoimage tile shall be delivered in a GeoTIFF File Format v 6.0 or later, operational using ESRI and Intergraph and a MrSID compressed format operational using ESRI and Intergraph, with one (or more if overlapping delivery areas) file for each neat tile. The exact compression parameters will be decided by SAMB in consultation by the SAMB Project Manager based on file size and image quality prior to delivery of the final product.

Since TIFF World files shall be delivered, the point of origin shall be the center of the upper left pixel in each tile. If Geotiff image files header shall also reference the center of the pixel located in the upper left hand corner of the tile as the point of origin.

Vector data shall be delivered in ESRI shapefile format using a schema developed by the Vendor and approved by the State.

SAMB will require the following deliverable products and media:

**Table 1
Media Deliverables**

Item	Number	Description	Format	Media***
1	1	Statewide Coverage of Digital Ortho Imagery, Digital Terrain Models, Planimetry and all Ancillary Data*	Geotiff ASCII TIN Shape	DVD
2	1	Statewide Coverage of Digital Ortho Imagery, Digital Terrain Models, Planimetry and all Ancillary Data*	Geotiff ASCII TIN Shape	DLT
3	1	Statewide Coverage of Digital Ortho Imagery by 10,000' tiles	Geotiff	DVD
4	1	Statewide Coverage of all planimetry by 50,000' tiles	Shape	DVD
5	1	Statewide Coverage of transportation layer only by 50,000' tiles.	DGN	DVD

Item	Number	Description	Format	Media***
6	1	Statewide Coverage of Digital Ortho Imagery Compressed in MrSID format by Tile	MrSID	DVD
7	1	Statewide Coverage of Digital Terrain Models by 10,000' tile	ARCgrid ASCII	DVD
8	55	1 set of individual county coverages * of Digital Ortho Imagery and planimetry by Tiles	Geotiff	DVD
9	55	1 set of individual County Coverages of Digital Terrain Models by Tile	ASCII TIN	DVD
10	55	1 set of Individual County Coverages of all Planimetric Data**	various	DVD

*55 individual sets of media, each set containing a complete block of tiles covering the extent of each of West Virginia's 55 counties. [one media set for each of West Virginia's counties] buffered by one image tile.

** All data products produced in the digital ortho development process are required to facilitate the efficient development of additional planimetric features for E-911 addressing or to derive elevation contour features by a third-party Vendor at a later date.

*** Given the anticipated large file sizes and advances in storage technology, consideration may be given to replacing described media with stand-alone external devices such as Firewire or USB 2 hard drives, etc. or other approved devices at the time of delivery. Ownership of these devices shall revert to the State upon successful delivery of the data.

3.5.4.13.6. Metadata

The Vendor shall provide metadata compiled to the current standard endorsed by the Federal Geographic Data Committee (FGDC) for each of the data deliverables. Currently, this is the Content Standard for Digital Geospatial Metadata Version 2 (FGDC-STD-001-1998). Metadata shall be provided in ASCII format capable of being parsed by the "mp" metadata parser available from the Federal Geographic Data Committee (FGDC), or equivalent FGDC approved metadata parsers.

3.5.4.13.7. Digital Tile index

If not provided within the master index map, the Vendor shall provide a digital tile index to be delivered as an ESRI shapefile with the following minimum attribution:

- a) File name
- b) Time imagery collected (Eastern Standard Time)
- c) Date of imagery
- d) X-Y State Plane coordinates in lower left hand corner of the tile
- e) Corresponding DTM data file name
- f) Corresponding orientation parameters or file name
- g) Corresponding raw image file names

Additional attributes may be required which will be determined jointly by SAMB in consultation with the SAMB Project Manager and the Vendor during contract negotiations.

3.5.4.13.8. Project Procedures Guide

The Vendor shall prepare a **Project Procedures Guide** detailing production processes and Quality Assurance and Quality Control (QA/QC) procedures employed to insure that all products meet the required accuracy and performance standards of these specifications.

3.5.4.13.9. Optional Map Plotting Package

1. Vendor shall optionally provide or develop a utility program (using the VBA scripting language, written for the ArcGIS platform, or compatible) that allows SAMB or the Project Manager to create and print finished rectangular maps at any scale (nominally 1:1,200, 1:2,400, 1:4,800, 1:12,000, 1:24,000 and 1:100,000 scales).
2. User may specify map extent by a listing a series of tiles or selecting a geographic area by coordinate ranges or by selecting the lower left coordinates and indicating a size and scale of mapsheet. Users shall also have the ability to enter a set of bounding coordinate pair that activates the appropriate tile or tiles to be contained within the map or enter the tile name and activate a plot using default bounding coordinates. The plotting package should also be able to refer to select tiles from the WV project index map when selecting areas to plot.
3. Scripts that pre-establish a given map and its output parameters shall be able to be created and executed in batch mode.
4. A mock-up showing margins, east-west readable content, title block, etc., shall be developed by the Vendor and approved by SAMB or the Project Manager prior to the development of the system. The Vendor understands and agrees that a significant amount of design give and take may be required to finalize the map surround functionality.
5. The map generation program shall include built-in indexing that spatially relates the desired mapsheet-bounding rectangle to the proper inclusive tiles.
6. Margin elements shall include: title block, tile name, verbal and bar scale, coordinate datum and projection, accuracy statement, North arrow, date and scale of photography, date of production, tile location diagram and adjoining tile identification, Vendor name, legend, labeled coordinate tics in English and metric units and corner coordinates.

During negotiations, the Vendor will be asked to indicate how long the price of providing this optional service shall remain in effect.

3.6 VENDOR QUALIFICATIONS, EXPERIENCE AND REFERENCES

Vendors shall specify in detail the experience of the Vendor in similar large scale mapping projects. Scores will be based on successful experience, with special emphasis on successful experience by Vendors on providing deliverables for successful mapping projects and systems, particularly those like the overall project being undertaken by SAMB. Scores will be made on the same basis as for the technical performance criteria set forth in subsection 3.5 above, that is, Technical Imagery and Related Specifications, Project Control and

Orientation, Image Processing, and Project Management and Deliverables. Vendors must separately specify in detail their qualifications and experience in each of those categories, with reference to the specific criteria set forth above. Proposals must include separate sections stating qualifications for each of the above categories, and must list specific, successful mapping projects and systems, with contact names, physical address, email, and telephone and fax numbers.

A minimum of three (3) written references is required.

3.7 LEGAL AND GENERAL TERMS AND CONDITIONS

The winning Vendor must agree to and comply with the terms and conditions of Form WV-96 (Agreement Addendum) and any other terms and conditions that may be required by SAMB, the Purchasing Division, or the West Virginia Attorney General's Office.

PART 4. PROPOSAL FORMAT

4.1 VENDOR'S PROPOSAL FORMAT

- 4.1.1. Section I. Written Narrative, as Section 4.2.2
- 4.1.2. Section II. Vendor Qualifications, as per Part 3 and Section 4.2.2
- 4.1.3. Section III. Specific Plans, as per Part 3 and Section 4.2.2
- 4.1.4 Section IV. Task Check Sheets (Attachments A, B, C)

If applicable, sign and submit an attached West Virginia Resident Vendor Preference Certificate with the proposal. The form is available at <http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>

4.2 EVALUATION PROCESS, SPECIFIC PROPOSAL INSTRUCTIONS AND CRITERIA FOR TECHNICAL PROFICIENCY SCORE

4.2.1 METHOD OF EVALUATION

A committee of three to five (3-5) individuals selected by the SAMB will evaluate the submitted proposals in accordance with the criteria stated in this EOI. The Vendor who meets all of the mandatory specifications and attains the highest point score of all vendors, out of a possible one-hundred (100) points maximum, shall be awarded the contract. The selection of the successful vendor will be made by a consensus of the evaluation committee. *Scores will be based as per Section 4.3 below.*

4.2.2 SPECIFIC PROPOSAL INSTRUCTIONS

Proposals should be as thorough and detailed as possible so that SAMB evaluation committee may properly evaluate the Vendor's capabilities to provide the required services. Vendors are required to submit the following items as a complete proposal:

4.2.2.1 The Company

The Vendor shall provide a written narrative statement to include at a minimum:

- a. Experience in providing the services described herein.
- b. Names, qualifications and experience of personnel to be assigned to the project.
- c. Resumes of staff to be assigned to the project.
- d. Names, addresses, titles and contact numbers for at least three (3) previous clients or customers
- e. Specific plans for providing the proposed services

4.2.2.2 The Services

Proposals shall address the following services, which are generally, but not necessarily, descriptive of those that may be required to complete this project (see also Attachments A-C).

- a. Development of a project schedule
- b. Conduct coordination meetings
- c. Establish project control
- d. Capture Aerial photography or airborne imagery
- e. Convert digital imagery (if required per line d above)
- f. Orient imagery to ground control
- g. Generate Digital Terrain Model (DTM)
- h. Compile planimetric features
- i. Generate digital orthoimagery
- j. Radiometrically balance, edge-match and smooth orthoimages
- k. Tile and compress orthoimages
- l. Process and deliver final deliverables

4.2.2.3 References, Qualifications, and Supporting Materials

Vendors shall submit the following supporting materials detailing their qualifications and relevant experience, including but not limited to (Cross-reference and comply also with subsection 3.6 above):

- a. Submit a minimum of three (3) written references, each confirming successful results in the completion of similar relevant large-scale mapping projects.
- b. Proof of current professional licensure and certification (e.g. ISO9002, NCEES, ACSM, ASPRS, etc.)
- c. Proof of satisfactory performance in existing Qualifications Based Federal contracts (e.g. USGS CSC2, NIMA Omnibus, etc.).

- d. Documented successful completion of comparable statewide mapping projects or other projects of similar scope in size and complexity that were delivered on time and within budget, and using the same subcontractors, if relevant.

Although not required by the State for the purposes of this EOI, Federal Standard Forms SF-254 (Architect-Engineer and Related Services Questionnaire) and SF-255 (Architect-Engineer and Related Services Questionnaire for Specific Project) pertaining to Qualifications Based Selection, may be submitted as supporting documentation. If a Vendor chooses to submit a SF-255, the Vendor's technical approach and response to Parts 3 and 4 of this EOI should be included in Section 10 of SF-255.

4.2.2.4 Specific Plan for Compliance

Vendors shall submit a specific plan for complying with the terms of this EOI, including but not limited to (cross-reference and comply with subsection 3.5 above):

- a. Use of appropriate technology (hardware, software, techniques)
- b. Quality Assurance and Quality Control (QA/QC) strategy
- c. Appropriate and technically sound methods, workflow and data proposed that will produce the required deliverables
- d. Compliance with project specifications, industry standards, etc.
- e. A sound project management plan, including demonstration of the allocation of sufficient resources to complete all aspects of the work on time and within budget

4.2.2.5 Project Plan of the Vendor

Vendors shall submit a detailed project plan for addressing all of the steps in the above process while addressing each of the product specifications indicated in Section 3.

4.2.2.6 Aerial Overflights

The Project Plan of the Vendor shall provide an estimate of the number of aircraft on call and immediately available for the collection of the aerial photography, the total number of aircraft estimated to be used for the duration of photo acquisition, as well as an estimate of the number of personnel needed to establish ground control.

4.2.2.7 Re-Flights

The Vendor shall present a plan for re-visitation of areas in the event of image rejection during the Quality Control (QC) process, or where original imagery could not be collected because weather or groundcover conditions, or other factors outside the control of the Vendor precluded collection at the scheduled time of the flyover. Mechanical or technical problems shall not be considered a legitimate reason for non-collection.

4.2.2.8 Proficiency

Scores for technical proficiency shall be based as specified above and in subsection 3.5 for all Vendors who also meet all minimum requirements.

4.3 EVALUATION CRITERIA

Proposals shall be evaluated by SAMB using the following criteria, as per Section 3 and Sections 4.1 and 4.2 above:

	POINT VALUE
Technical Proficiency	30
References, Qualifications, and Supporting Materials	30
Specific Plan for Compliance	30
Oral Presentation and Interview (Short List Candidates only)*	10*
Scope of Contract Services Total	100

4.3.1 DEVELOPMENT OF "SHORT LIST" OF VENDORS AND INTERVIEWS

The written submissions will be evaluated, and a "short list" of at least three (3) Vendors will be developed based on that evaluation. In the event less than three Vendors bid, the State reserves the right to interview all Vendors or withdraw this EOI, at its sole option. All Vendors on the "short list" will be given an opportunity for an oral presentation/interview, in order to discuss the Vendor's anticipated concepts and proposed method of approach to the assignment, including clarification of qualifications and performance data, the scope of services offered, and the needed time to complete the project.

Any Vendor who is not available for an oral presentation/interview within the schedule of the evaluation committee and SAMB's overall project schedule will be disqualified.

A Vendor's failure to provide complete and accurate information shall be considered grounds for disqualification. The State reserves the right if necessary to ask vendors for additional information to clarify their proposals.

4.3.2 CRITERIA FOR ORAL PRESENTATION / INTERVIEWS

The oral presentation will be evaluated based on the overall impression the Vendor gives as to the Vendor's ability to deliver in accordance with the written proposal, as well as based on other factors related to the oral presentation that may reflect on the Vendor's ability to perform. Evaluations may include, but are not limited to, the following criteria:

- Credibility of the presentation
- Clarity of the presentation
- Persuasiveness of the presentation
- Background understanding of the SAMB and the statewide addressing project
- Subject matter knowledge and expertise shown in the presentation
- Ability to adapt standard practices and technology to meet the demands and unique characteristics of orthoimagery acquisition, planimetric mapping, and addressing for E-911 purposes to West Virginia
- Participation of principle Vendor personnel at the presentation meeting
- Ability to answer questions clearly and concisely

- Other factors that may reflect on the Vendor's ability to perform

Presenters are permitted (and, where effective, encouraged) to use multi-media forms of presentation, including PowerPoint, videotape, computer animation, etc. Vendors should identify any special needs for equipment in advance of the presentation. A copy of presentation materials shall be requested by the SAMB for its use. Information in the Vendor presentation of a proprietary or sensitive nature shall be avoided.

4.3.3 NEGOTIATIONS AND CONTRACT AWARD

After the oral presentation/interviews have been completed, the evaluation committee will commence negotiations as to scope of services and price with the firm or team of firms determined by consensus evaluation by the evaluation team to be the highest qualified Vendor. At the start of negotiations, the Vendor will be expected to provide immediate and detailed pricing for the projected eighteen (18) month completion schedule, including costs for any preliminary planning and project wrap-up, per the format provided as Attachments A, B, C in Section 4.3.4 below.

If SAMB fails to negotiate a satisfactory contract with the highest qualified vendor at a fee to be determined by SAMB, in its sole discretion, to be fair and reasonable, negotiations will commence with the firm of second choice. Failing that, negotiations will commence with the third most qualified firm, and so on until negotiations have failed, in turn, with all firms on the short list. In no situation, after negotiations have been terminated with a firm, will negotiations be reopened with that firm. Should the agency be unable to negotiate a satisfactory contract with any of the originally selected professional firms, it shall select additional professional firms in order of their competence and qualifications and it shall continue negotiations in accordance with this section until an agreement is reached.

4.3.4 ATTACHMENTS

Vendors shall use each of the following Attachments as a guide to define the Tasks for the proposed project:

ATTACHMENT A: TASKS (400' DESIGN SCALE ONLY, STATEWIDE COVERAGE).

ATTACHMENT B: TASKS (100' DESIGN SCALE ONLY, SUPPLEMENTAL AREAS 1-6).

ATTACHMENT C: TASKS (100' DESIGN SCALE ONLY, UNDEFINED URBANIZED AREAS).

ATTACHMENT D: GRID MAP TEMPLATE (400' and 100'; WV STATE PLANE NORTH AND SOUTH ZONES, NAD83).

NO "COST," "PRICE," OR "FEE" QUOTATION SHALL BE REQUESTED, INCLUDED OR PERMITTED IN THE EOI RESPONSE.

4.3.4.1 ATTACHMENT A: TASKS (400' DESIGN SCALE ONLY, STATEWIDE COVERAGE):

[Instructions to Vendors: The following list of tasks will allow the SAMB to evaluate the level of effort required to of mapping at 400' mapping scale for the contiguous areas of West Virginia with the product specifications and the project development life-cycle described in Parts 3 and 4 above of the EOI. The State will use this list to calculate an independent government cost estimate associated with mapping other areas in the state at 400' mapping scale and provide a template to equitably compare the individual Vendor proposals. The list shall also form the basis of negotiating costs with the successful vendor. The Vendor shall acknowledge that the Vendor can comply with the REQUIRED mapping tasks identified in ATTACHMENT A TASKS 1-13. Failure to acknowledge compliance with each of the REQUIRED TASKS 1-13 shall be considered grounds for rejection of the Vendor proposal. Secondly, the Vendor shall provide verification that the Vendor can comply with the three OPTIONAL TASKS A 14-16 (map plotting, compile structure footprints & generate contour grade DTMs). The listed Tasks will be used to guide the discussions during the negotiations, when the Vendor will be asked to describe any and all subtasks and costs associated with the major tasks in as much detail as possible, and include appropriate intermediate QA/QC steps within each task and description. DO NOT include costs in the response to this section]

REQUIRED TASKS (400' design scale, statewide)	VENDOR COMPLIANCE (Y/N)
TASK 1. Development of a project schedule and preliminary project planning	_____
TASK 2. Conduct project coordination meetings	_____
TASK 3. Establish Project Control and blind QA	_____
TASK 4. Capture Aerial photography or airborne imagery	_____
TASK 5. Convert (scan) to digital imagery (if required per TASK 4)	_____
TASK 6. Orient imagery to ground control (AT)	_____
TASK 7A. Compile transportation features	_____
TASK 7B. Compile structures features	_____
TASK 7C. Compile hydrographic features	_____
TASK 8. Generate Digital Terrain Model (DTM)	_____
TASK 9. Generate digital orthoimagery	_____
TASK 10. Radiometrically balance, edge-match and smooth orthoimages	_____
TASK 11. Tile and compress orthoimages	_____
TASK 12. Process and deliver final deliverables	_____
TASK 13. Project wrap-up meetings	_____

OPTIONAL TASKS (AT 400' DESIGN SCALE ONLY):

[Instructions to Vendor: Describe any other work that the Vendor considers may be needed that was not included in the above Required Tasks 1-13 (itemize as needed). Note: Optional Items may NOT be included in final evaluations or negotiations at the discretion of the EOI evaluation committee.]

OPTIONAL TASKS (400' design scale):

VENDOR COMPLIANCE (Y/N)

TASK 14. Map Plotting Package (compatible with ESRI ArcGIS).
(shall be able to be used at all scale combinations)

TASK 15. Optional work to compile all structure footprints, inhabited or not, without centroids, statewide [SAMB will add this work to TASK 6B, Attachment A if this option is selected]

TASK 16. Optional work to upgrade DTM integrity to deliver ten foot (10'), labeled ASPRS, class 2 contours, statewide. [SAMB will add this work to TASK 7, Attachment A if this option is selected.]

OTHER OPTIONAL TASKS. Specify below. (For 400' design scale only.)

NO "COST," "PRICE," OR "FEE" QUOTATION SHALL BE REQUESTED, INCLUDED OR PERMITTED IN THE EOI RESPONSE.

End ATTACHMENT A: TASKS (400' DESIGN SCALE ONLY, STATEWIDE COVERAGE):

4.3.4.2 ATTACHMENT B: TASKS (100' DESIGN SCALE ONLY, SUPPLEMENTAL AREAS 1-6)

[Instructions to Vendors: The following lists of tasks will allow the SAMB to evaluate the level of effort required to of mapping at 100' mapping scale for the six pre-defined areas of West Virginia with the product specifications and the project development life-cycle described in Parts 3 and 4 above of the EOI. The SAMB will use this list to calculate an independent government cost estimate associated with mapping pre-defined areas in the State at 100' mapping scale and provide a template to equitably compare the individual Vendor proposals. The list shall also form the basis of negotiating costs with the successful Vendor. The Vendor shall provide verification that the Vendor can comply with the standard mapping tasks identified in ATTACHMENT B REQUIRED TASKS 1-13. Secondly, the Vendor shall provide verification that the Vendor can comply with the two OPTIONAL TASKS B 14-15 (compile structure footprints & generate contour grade DTMs). The listed tasks will be used to guide the discussions during the negotiations, when the Vendor will be asked to describe any and all subtasks and costs associated with the major tasks in as much detail as possible, and include appropriate intermediate QA/QC steps within each task and description. DO NOT include costs in the response to this section. Please use a separate sheet for each of the pre-defined supplemental 100' design scale areas. Name Attachments B 1, B2, B3, etc.]

Supplemental Areas: Counties

1. Kanawha Valley: Wayne (north half), Cabell, Putnam, Kanawha
2. I-77/64 Corridor: Fayette, Raleigh, Mercer
3. I-79 Corridor: Monongalia, Marion, Harrison
4. Northern Panhandle: Hancock, Brooke, Ohio, Marshall
5. Eastern Panhandle: Berkeley, Jefferson, Morgan, Mineral (Cumberland MSA vicinity)
6. Wood County

REQUIRED TASKS (100' design scale only)	VENDOR COMPLIANCE (Y/N)
TASK 1. Development of a project schedule and preliminary project planning	_____
TASK 2. Conduct project coordination meetings	_____
TASK 3. Establish Project Control and blind QA	_____
TASK 4. Capture Aerial photography or airborne imagery	_____
TASK 5. Convert (scan) to digital imagery (if required per TASK 4)	_____
TASK 6. Orient imagery to ground control (AT)	_____
TASK 7A. Compile transportation features	_____
TASK 7B. Compile structures features	_____
TASK 7C. Compile hydrographic features	_____
TASK 8. Generate Digital Terrain Model (DTM)	_____
TASK 9. Generate digital orthoimagery	_____

TASK 10. Radiometrically balance, edge-match
and smooth orthoimages

TASK 11. Tile and compress orthoimages

TASK 12. Process and deliver final deliverables

TASK 13. Project wrap-up meetings

OPTIONAL TASKS (100' DESIGN SCALE ONLY)

[Instructions to Vendor: Describe any other work that the Vendor considers may be needed that was not included in Attachment A Tasks 1-12 (itemize as needed). Please use a separate sheet for each of the pre-defined supplemental 100' design scale areas. Name Attachments B1, B2, B3, etc. Vendors are permitted to identify additional Supplemental Areas for consideration. However, additional areas may NOT be included in final evaluations or negotiations at the discretion of the EOI evaluation committee. The Vendor shall be prepared to discuss estimates of the reduction in 400' design scale costs due to eliminating 400' design scale maps in the 100' design scale areas during the Vendor negotiations. DO NOT include any costs in the response to this section. Note: Optional Items may NOT be included in final evaluations or negotiations at the discretion of the EOI evaluation committee.]

OPTIONAL TASKS (100' design scale only)

VENDOR COMPLIANCE (Y/N)

TASK 14. Optional work to compile all structure footprints, inhabited or not, without centroids, per area.

[SAMB will add this work to TASK 6B, Attachment B (per area) if this option is selected]

TASK 15. Optional work to upgrade DTM integrity to deliver two-foot (2'), labeled ASPRS, class 2 contours, per area. [SAMB will add this work to TASK 7, Attachment B (per area) if this option is selected.]

Additional Supplemental areas: (Specify below)

OTHER OPTIONAL TASKS. SPECIFY BELOW (FOR 100' DESIGN SCALE ONLY).

NO "COST," "PRICE," OR "FEE" QUOTATION SHALL BE REQUESTED, INCLUDED, OR PERMITTED IN THE EOI RESPONSE.

End: ATTACHMENT B: TASKS (100' DESIGN SCALE ONLY , SUPPLEMENTAL AREAS 1-6):

4.3.4.3 ATTACHMENT C: TASKS (100' DESIGN SCALE ONLY, UNDEFINED URBANIZED AREAS.)

[Instructions to Vendors: The following list of tasks will allow the SAMB to evaluate the level of effort required to complete mapping at 100' mapping scale for the remainder of currently undefined urbanized areas West Virginia with the product specifications and the project development life-cycle described in Parts 3 and 4 above of the EOI. The SAMB will use this list to calculate an independent government cost estimate associated with mapping currently undefined urbanized areas in the State at 100' mapping scale and provide a template to equitably compare the individual Vendor proposals. Estimated work effort shall be calculated on a per square mile basis. The list shall also form the basis of negotiating costs with the successful Vendor. The Vendor shall provide verification that the vendor can comply with the REQUIRED TASKS identified in TASKS 1-13. Secondly, the vendor shall provide verification that the vendor can comply with the two OPTIONAL TASKS 14-15 (compile structure footprints & generate contour grade DTMs). The listed tasks will be used to guide discussions during negotiations, when the Vendor will be asked to describe any and all subtasks and costs associated with the major tasks in as much detail as possible, and include appropriate intermediate QA/QC steps within each task and description. DO NOT include any costs in the response to this section]

REQUIRED TASKS (100' DESIGN SCALE ONLY) VENDOR COMPLIANCE (Y/N)

- TASK 1. Development of a project schedule and preliminary project planning _____
- TASK 2. Conduct project coordination meetings _____
- TASK 3. Establish Project Control and blind QA _____
- TASK 4. Capture Aerial photography or airborne imagery _____
- TASK 5. Convert (scan) to digital imagery (if required per TASK 4) _____
- TASK 6. Orient imagery to ground control (AT) _____
- TASK 7A. Compile transportation features _____
- TASK 7B. Compile structures features _____
- TASK 7C. Compile hydrographic features _____
- TASK 8. Generate Digital Terrain Model (DTM) _____
- TASK 9. Generate digital orthoimagery _____
- TASK 10. Radiometrically balance, edge-match and smooth orthoimages _____
- TASK 11. Tile and compress orthoimages _____
- TASK 12. Process and deliver final deliverables _____
- TASK 13. Project wrap-up meetings _____

OPTIONAL TASKS (AT 100' DESIGN SCALE ONLY):

[Instructions to Vendor: Describe any other work that the Vendor considers may be needed that was not included in Attachment C Tasks 1-13 (Itemize as needed). Estimated work effort shall be calculated on a per square mile basis. Note: Optional Items may NOT be included in final evaluations or negotiations at the discretion of the EOI evaluation committee.]

OPTIONAL TASKS (100' design scale only)

VENDOR COMPLIANCE (Y/N)

TASK 14. Optional work to compile all structure footprints, inhabited or not, without centroids.
(calculate on a per square mile basis)
[SAMB will add this work to TASK 6B, Attachment C if this option is selected.]

TASK 15. Optional work to upgrade DTM integrity to deliver two foot, labeled ASPRS, class 2 contours.
(calculate on a per square mile basis)
[SAMB will add this work to TASK 7B, Attachment C if this option is selected.]

OTHER OPTIONAL TASKS. Specify below
(for 100' design scale only)

NO "COST," "PRICE," OR "FEE" QUOTATION SHALL BE REQUESTED, INCLUDED OR PERMITTED IN THE EOI RESPONSE.

End ATTACHMENT C: TASKS (100' DESIGN SCALE ONLY, UNDEFINED URBANIZED AREAS).

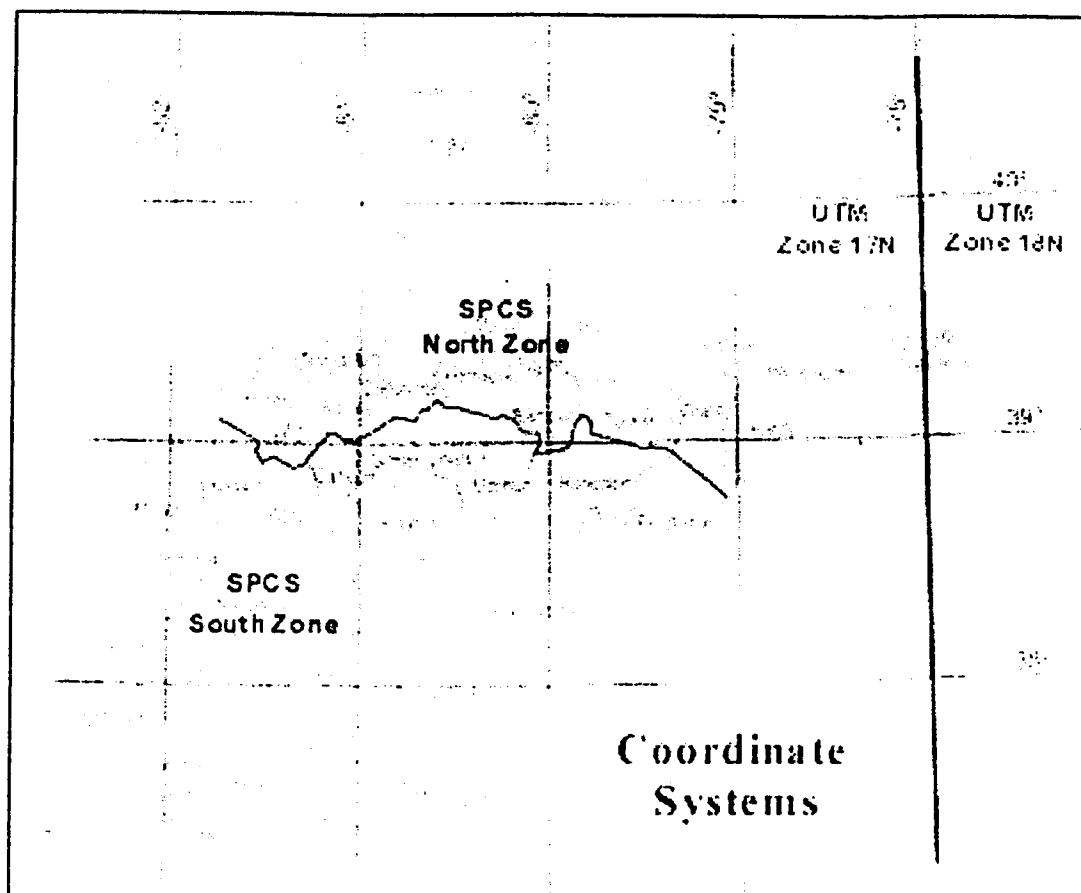
4.3.4.4 ATTACHMENT D: GRID MAP TEMPLATE (400' AND 100'; WV STATE PLANE NORTH AND SOUTH ZONES, NAD83)

SEE MAP INSERT. If hard copy insert is not included obtain a .pdf copy from:

<ftp://ftp.wvgis.wvu.edu/wvsamb/eoi-sam0202/maps>

End ATTACHMENT D: GRID MAP TEMPLATE (400' AND 100'; WV STATE PLANE NORTH AND SOUTH ZONES, NAD83)

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FIGURE 1. WEST VIRGINIA STATE PLANE NORTH AND SOUTH ZONES

For a specific list of counties, also see:

http://wvgis.wvu.edu/otherdocs/standardsandpubs/spcs_wvcode.pdf

PART 4 EVALUATION & AWARD

4.1 Evaluation & Award Process:

Expressions of Interest will be evaluated and awarded in accordance with §5G-1-3 "Contracts for architectural and engineering services; selection process where total project costs are estimated to cost two hundred fifth thousand dollars or more."

"In the procurement of architectural and engineering services for projects estimated to cost two hundred and fifty thousand dollars or more the director of purchasing shall encourage such firms engaged in the lawful practice of the profession to submit and expression of interest, which shall include a statement of qualifications, and performance data and may include anticipated concepts and proposed methods of approach to the project. All such jobs shall be announced by public notice published as a Class II legal advertisement in compliance with the provisions of article three [§59-3-1 et seq.] A committee comprised of three to five representatives of the agency initiating the request shall evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select a minimum of three firms which in their opinion are the best qualified to perform the desired service.

Interviews with each firm selected shall be conducted and the committee shall conduct discussions regarding anticipated concepts and the proposed methods of approach to the assignment. The committee shall then rank in order of preference no less than three professional firms deemed to be the most highly qualified to provide the services required, and shall commence scope of service and price negotiations with the highest qualified professional firm for architectural or engineering services or both. Should the agency be unable to negotiate a satisfactory contract with the professional form considered to be the most qualified, at a fee determined to be fair and reasonable, price negotiations with the firm of second choice shall commence. Failing accord with the second most qualified professional firm, the committee shall undertake price negotiations with the third most qualified professional firm. Should the agency be unable to negotiate a satisfactory contract with any of the selected professional firms, it shall select additional professional firms in order of their competence and qualifications and it shall continue negotiations in accordance with this section until an agreement is reached."



WEST VIRGINIA
STATEWIDE ADDRESSING AND MAPPING BOARD
1124 Smith St., Room LM-10
Charleston, WV 25301

BOB WISE
GOVERNOR

CRAIG A. NEIDIG
CHAIR

MEMORANDUM

TO: Ron Price, Senior Buyer, WV Purchasing Division
FROM: Craig A. Neidig, Chair WVSAMB
DATE: 7 November 2002
SUBJECT: Attachment D Map for EOI SAM-0202

For vendors who did not receive an original hard copy printed map of Attachment D of the EOI, they can find and download a .pdf file of it at the website below. Warning this is an E-size plot.

4.3.4.4 ATTACHMENT D: GRID MAP TEMPLATE (400' AND 100'; WV STATE PLANE NORTH AND SOUTH ZONES, NAD83)

SEE MAP INSERT. If hard copy insert is not included obtain a .pdf copy from:

<ftp://ftp.wvgis.wvu.edu/wvsamb/eoi-sam0202/maps>

Respectfully submitted,

A handwritten signature in cursive script that reads "Craig A. Neidig".

Craig A. Neidig
Chair, WVSAMB

Attachment B

County Addressing Status (as of June 30, 2003)

County	FIPS	County Seat	Pop2000	TelLines	Contractor	Addressing Status
Barbour	54001	Philippi	15,935	6,732		No activity
Berkeley	54003	Martinsburg	74,587	37,835	Private	Complete
Boone	54005	Madison	26,326	11,482	County	70% complete - 30% in process of being changed
Braxton	54007	Sutton	13,393	6,432		No activity
Brooke	54009	Wellsburg	25,744	12,176	Private	Conversion in process with USPS-AMS PIT
Cabell	54011	Huntington	92,883	53,483		No activity
Calhoun	54013	Grantsville	7,996	3,484	Private	In process; partially complete
Clay	54015	Clay	10,692	4,278	Private	Will be completed June 2003
Doddridge	54017	West Union	7,486	3,692		No activity
Fayette	54019	Fayetteville	46,447	20,998	Unknown	In process
Gilmer	54021	Glennville	7,134	3,421	County	In process with USPS
Grant	54023	Petersburg	11,157	5,130		No activity
Greenbrier	54025	Lewisburg	35,250	17,837		No activity
Hampshire	54027	Romney	19,679	10,820		No activity
Hancock	54029	New Cumberland	33,479	16,877	Private	Conversion in process with USPS-AMS PIT
Hardy	54031	Moorefield	12,086	6,942	Private	Converted with USPS Winter 2003
Harrison	54033	Clarksburg	70,010	35,876		No activity
Jackson	54035	Ripley	28,613	12,624		Awaiting SAMB support
Jefferson	54037	Charles Town	42,953	25,111	Private	Ready for USPS Conversion
Kanawha	54039	Charleston	197,481	118,208		Awaiting SAMB support
Lewis	54041	Weston	17,414	8,014	County	Almost complete as of March 2003
Lincoln	54043	Hamlin	22,447	9,170	Unknown	In process
Logan	54045	Logan	39,604	12,919		Awaiting SAMB support
Marion	54049	Fairmont	55,497	28,592	County	In process
Marshall	54051	Moundsville	35,651	16,103		Conversion in process with USPS-AMS PIT
Mason	54053	Point Pleasant	26,096	11,526	County	Converted with USPS Winter 2003
McDowell	54047	Welch	28,652	14,237	County	In process; awaiting SAMB support
Mercer	54055	Princeton	63,902	36,268	Unknown	Partially complete
Mineral	54057	Keyser	27,078	12,305		No activity
Mingo	54059	Williamson	31,044	12,540		Had started some activity but stopped
Monongalia	54061	Morgantown	76,662	45,384	County	Nearly complete
Monroe	54063	Union	13,397	5,897		Awaiting SAMB support
Morgan	54065	Berkeley Springs	14,078	7,918	Unknown	Almost complete
Nicholas	54067	Summersville	27,516	12,252	Private	USPS conversion April 2003
Ohio	54069	Wheeling	47,271	26,263	County	Conversion in process with USPS-AMS PIT
Pendleton	54071	Franklin	8,033	4,411		No activity
Pleasants	54073	St. Marys	7,542	3,685	Private	Almost complete
Pocahontas	54075	Marlinton	9,071	5,957		Awaiting SAMB support
Preston	54077	Kingwood	29,825	13,617		No activity
Putnam	54079	Winfield	52,744	24,445		Awaiting SAMB support
Raleigh	54081	Beckley	79,240	38,346	Unknown	Complete
Randolph	54083	Elkins	28,633	13,154	Private	Awaiting SAMB support
Ritchie	54085	Harrisville	10,569	5,489		No activity
Roane	54087	Spencer	15,449	6,612	Unknown	Complete
Summers	54089	Hinton	13,854	6,122		Awaiting SAMB support
Taylor	54091	Grafton	15,376	6,711		Had started some activity but stopped
Tucker	54093	Parsons	7,438	4,593		No activity
Tyler	54095	Middlebourne	9,631	4,104		No activity
Upshur	54097	Buckhannon	23,526	10,748		Recently contacted USPS-AMS
Wayne	54099	Wayne	41,749	16,575		Awaiting SAMB support
Webster	54101	Webster Springs	9,907	4,368	Unknown	Complete
Wetzel	54103	New Martinsville	18,100	8,836		No activity
Wirt	54105	Elizabeth	5,814	2,718		No activity
Wood	54107	Parkersburg	85,992	44,123	Private	In process
Wyoming	54109	Pineville	26,679	10,942		Awaiting SAMB support

West Virginia Postal Addresses

County Name	Total Del	City Del	RR/HC Del	PO Box	%City	%RR/HC	%POB
Barbour	7,867	1,394	3,941	2,532	17.72%	50.10%	32.19%
Berkeley	39,304	32,071	92	7,141	81.60%	0.23%	18.17%
Boone	12,025	2,844	2,778	6,403	23.65%	23.10%	53.25%
Braxton	6,478	3,125	1,770	1,583	48.24%	27.32%	24.44%
Brooke	12,106	7,700	2,040	2,366	63.60%	16.85%	19.54%
Cabell	52,047	41,855	3,869	6,323	80.42%	7.43%	12.15%
Calhoun	3,727	439	2,040	1,248	11.78%	54.74%	33.49%
Clay	4,710	751	1,785	2,174	15.94%	37.90%	46.16%
Doddridge	2,371	487	1,586	298	20.54%	66.89%	12.57%
Fayette	24,083	8,180	5,335	10,568	33.97%	22.15%	43.88%
Gilmer	3,204	719	1,721	764	22.44%	53.71%	23.85%
Grant	5,567	1,482	2,535	1,550	26.62%	45.54%	27.84%
Greenbrier	17,246	5,426	6,353	5,467	31.46%	36.84%	31.70%
Hampshire	10,327	1,217	5,145	3,965	11.78%	49.82%	38.39%
Hancock	16,396	10,581	3,435	2,380	64.53%	20.95%	14.52%
Hardy	6,552	3,922	711	1,919	59.86%	10.85%	29.29%
Harrison	34,966	17,785	9,712	7,469	50.86%	27.78%	21.36%
Jackson	13,431	6,114	5,079	2,238	45.52%	37.82%	16.66%
Jefferson	22,196	9,917	5,281	6,998	44.68%	23.79%	31.53%
Kanawha	106,542	81,325	5,731	19,486	76.33%	5.38%	18.29%
Lewis	8,855	7,149	125	1,581	80.73%	1.41%	17.85%
Lincoln	10,074	4,471	2,490	3,113	44.38%	24.72%	30.90%
Logan	17,562	3,452	1,460	12,650	19.66%	8.31%	72.03%
Marion	28,796	16,012	7,398	5,386	55.60%	25.69%	18.70%
Marshall	14,751	9,038	4,640	1,073	61.27%	31.46%	7.27%
Mason	12,114	4,074	4,536	3,504	33.63%	37.44%	28.93%
McDowell	12,814	1,097	2,264	9,453	8.56%	17.67%	73.77%
Mercer	32,256	19,298	5,329	7,629	59.83%	16.52%	23.65%
Mineral	13,157	3,930	5,773	3,454	29.87%	43.88%	26.25%
Mingo	13,778	2,251	3,607	7,920	16.34%	26.18%	57.48%
Monongalia	41,168	35,329	256	5,583	85.82%	0.62%	13.56%
Monroe	5,890	388	3,446	2,056	6.59%	58.51%	34.91%
Morgan	7,800	5,793	252	1,755	74.27%	3.23%	22.50%
Nicholas	12,698	6,011	1,488	5,199	47.34%	11.72%	40.94%
Ohio	25,810	20,260	3,103	2,447	78.50%	12.02%	9.48%
Pendleton	3,973	221	2,233	1,519	5.56%	56.20%	38.23%
Pleasants	3,351	1,426	1,191	734	42.55%	35.54%	21.90%
Pocahontas	4,662	564	2,602	1,496	12.10%	55.81%	32.09%
Preston	13,749	2,745	7,160	3,844	19.97%	52.08%	27.96%
Putnam	24,376	15,699	3,502	5,175	64.40%	14.37%	21.23%
Raleigh	39,997	22,044	1	17,952	55.11%	0.00%	44.88%
Randolph	13,430	4,778	4,055	4,597	35.58%	30.19%	34.23%
Ritchie	5,474	1,441	2,953	1,080	26.32%	53.95%	19.73%
Roane	7,605	6,409	85	1,111	84.27%	1.12%	14.61%
Summers	6,330	1,542	2,603	2,185	24.36%	41.12%	34.52%
Taylor	7,042	2,415	3,599	1,028	34.29%	51.11%	14.60%
Tucker	3,781	880	1,400	1,501	23.27%	37.03%	39.70%
Tyler	4,475	2,313	1,314	848	51.69%	29.36%	18.95%
Upshur	10,967	4,257	4,763	1,947	38.82%	43.43%	17.75%
Wayne	19,224	9,142	4,851	5,231	47.56%	25.23%	27.21%
Webster	4,648	2,099	690	1,859	45.16%	14.85%	40.00%
Wetzel	8,502	3,684	2,775	2,043	43.33%	32.64%	24.03%
Wirt	2,560	414	1,212	934	16.17%	47.34%	36.48%
Wood	43,972	33,847	5,573	4,552	76.97%	12.67%	10.35%
Wyoming	11,479	1,240	1,378	8,861	10.80%	12.00%	77.19%
Totals	898,265	493,047	171,046	234,172	54.89%	19.04%	26.07%

Verizon ALI Update Format Requirements

E9-1-1 Addressing Template	MSAG Requirements	Type	Comments	Req
HSE NUM		10 A/N		Required
HSE # SUFX		A/N		
PRE DIR		2 A	Drop down menu	
STREET NAME		A/N		Required
SUFX (THOR)	48 includes street name and thorofare suffix	A	Drop down menu and Free flow	Required
POST DIR		2 A	Drop down menu	
UNIT TYPE		A	Drop down menu	
UNIT NUM		N		
STRUCTURE TYPE			Drop down menu	
STRUCTURE NUM				
ELEVATION			Drop down menu	
ELEVATION NUM				
POSTAL COMM		32 A		Required
COUNTY ALPHA TAR		4 A		Required
STATE		2 A		Required
ZIP		N		Required
(+4)		N		Required
MSAG COMM (if not Postal)		32 A		Required
FIRST NAME		A		
MID INIT		A		
LAST NAME		A/N		Required
LINEAL DESCENT or DEGREE		A/N		
BUSINESS NAME		A/N		Required
NPA		N		Required
NNX		N		Required
XXXX		N		Required
OLD HSE #				Required
OLD PRE DIR				
OLD Street Name (address)				Required
OLD SUFX (THOR)				Required
OLD SUFX (THOR)				Required
OLD POST DIR				
OLD UNIT TYPE				
OLD UNIT NUM				
OLD STRUCTURE TYPE				
OLD STRUCTURE NUM				
OLD ELEVATION				
OLD ELEVATION NUM				
OLD COMMUNITY				Required

Attachment F

West Virginia Division of Highways Database Requirements

The following fields in the WVDOH *Coding Instructions For Road Inventory Log* will be included, at a minimum, in building database files for linking old road names to new road names:

1. County (Columns 1-2)
4. Route Number (Columns 5-7)
5. Sub-Route Number (Column 8-9)
6. Supplemental Route Designation (Columns 10-11)
7. Starting Milepoint (Columns 12-16)
8. Length (Columns 17-20)
9. Ending Milepoint (Columns 21-25)

Additional files may be required for linking GIS road centerline files to WVDOH databases as determined by the SAMB Project Manager.

A F F I D A V I T**West Virginia Code §5A-3-10a states:**

No contract or renewal of any contract may be awarded under this article to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor as defined in this section and the debt owed is an amount greater than five thousand dollars in the aggregate.

Definitions:

"Debt" means any assessment, penalty, fine, tax or other amount of money owed to the state because of a judgement, fine, permit violation, license assessment, penalty or other assessment presently due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon;

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions;

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor, so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

Exception:

The prohibition does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the West Virginia Code, worker's compensation premium, permit fee or environmental fee or assessment, and the matter has not become final, or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (West Virginia Code §61-5-3), it is hereby certified that the bidder and all related parties do not owe any debts or, if a debt is owed, that the provisions of the exception clause (above) apply.

Vendor's Name: _____

Authorized Signature: _____ Date: _____