

Request for Proposals

**CONSULTING AND TECHNICAL SERVICES +  
(CATS+)**

PROJECT NO. 060B2490023



**DEPARTMENT OF  
INFORMATION TECHNOLOGY  
(DoIT)**

Version 1.4

**Minority Business Enterprises are encouraged to respond to this Solicitation**

**STATE OF MARYLAND  
NOTICE TO OFFERORS/CONTRACTORS**

In order to help us improve the quality of State Proposals solicitations, and to make our procurement process more responsive and business friendly, we ask that you take a few minutes and provide comments and suggestions regarding the enclosed solicitation. Please return your comments with your Proposals. If you have chosen not to submit a Proposal on this Contract, please email this completed form to catsplus.doit@maryland.gov.

Title: **Consulting and Technical Services+ (CATS+) Expansion**  
Project No: **060B2490023**

1. If you have responded with a "no proposal", please indicate the reason(s) below:
  - Other commitments preclude our participation at this time.
  - The subject of the solicitation is not something we ordinarily provide.
  - We are inexperienced in the work/commodities required.
  - Specifications are unclear, too restrictive, etc. (Explain in REMARKS section.)
  - The scope of work is beyond our present capacity.
  - We cannot be competitive. (Explain in REMARKS section.)
  - Time allotted for completion of the Proposals is insufficient.
  - Proposals requirements (other than specifications) are unreasonable or too risky. (Explain in REMARKS section.)
  - Prior State of Maryland Contract experience was unprofitable or otherwise unsatisfactory. (Explain in REMARKS section.)
  - Other: \_\_\_\_\_
  
2. If you have submitted a Proposal, but wish to offer suggestions or express concerns, please use the Remarks section below.

REMARKS:

\_\_\_\_\_  
\_\_\_\_\_

Offeror Name: \_\_\_\_\_ Date: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Address: \_\_\_\_\_

STATE OF MARYLAND  
DEPARTMENT OF INFORMATION TECHNOLOGY (DoIT)  
**KEY INFORMATION SUMMARY SHEET**

<b>RFP Title:</b>	<b>Consulting and Technical Services + (CATS+) Expansion</b>
<b>RFP Number:</b>	060B2490023
<b>RFP Version #</b>	1.4
<b>Closing Date and Time:</b>	Open and Continuous
<b>RFP Issuing Department:</b>	Department of Information Technology (DoIT) IT Procurement Office
<b>Send Questions (e-mail only) to:</b>	<a href="mailto:Itpo.doit@maryland.gov">Itpo.doit@maryland.gov</a>
<b>Send Proposals to:</b>	<a href="mailto:Itpo.doit@maryland.gov">Itpo.doit@maryland.gov</a>
<b>Contract Manager:</b>	Sini Jacob
<b>Contract Type</b>	Indefinite Quantity Fixed Price and Time and Materials
<b>Contract Duration:</b>	Upon final execution of the Contract through 4/21/2028
<b>MBE Goal:</b>	20% with sub-goals for Women-owned of 8 percent, African American-owned of 7 percent and Hispanic American-owned of 2 percent
<b>VSBE Subcontracting Goal</b>	0%
<b>Small Business Reserve</b>	No
<b>Pre-Proposal Conference:</b>	N/A

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## 1 SECTION 1 - GENERAL INFORMATION

### 1.1 Summary Statement

1.1.1 The Department of Information Technology (DoIT or the “Department”) is issuing this Request for Proposals (RFP) to procure information technology (IT) consulting and technical services for the State of Maryland. The Master Contracts awarded as a result of this solicitation will provide the State with a flexible means of obtaining IT resources quickly and efficiently through the issuance of Task Order Requests for Proposals (TORFP) or Requests for Resumes (RFR) specific to its needs.

1.1.2 The scope of this solicitation encompasses 17 primary functional areas. The functional areas are as follows:

- 1) Enterprise Service Provider
- 2) Web and Internet Services
- 3) Electronic Document Management
- 4) Geographical Information Systems
- 5) Software Engineering
- 6) Systems/Facilities Management and Maintenance
- 7) Information System Security
- 8) Application Service Provider
- 9) IT and Telecommunications Financial and Auditing Consulting Services
- 10) IT Management Consulting Services
- 11) Business Process Consulting Services
- 12) Tower Site Preparation
- 13) Tower Installation
- 14) Tower Equipment Installation and Services
- 15) Electronic Benefits Transfer
- 16) Media and Training Center Support
- 17) Documentation/Technical Writing

1.1.3 DoIT intends to award Master Contracts to all Offerors that the State determines to be qualified. Offerors may propose to one, several or all functional areas.

Specific TORFPs or RFRs will be issued, as needed, throughout the term of the Master Contract. All eligible Master Contractors will be invited to compete. Based on the evaluation of responses, and as specified in the TORFP/RFR, a single or multiple Master Contractor(s) will be selected for award. A specific TO Agreement will then be entered into between the State and the selected Master Contractor(s), which will bind the Master Contractor(s) to the contents of its Proposal, including its price. A TORFP, RFR, TO Agreement, or Proposal may not in any way conflict with or supersede the CATS+ Master Contract.



## 1.2 Background

This CATS+ Program, which began in 2012, is comprised of multiple Master Contracts with select Master Contractors. The Expansion will remain open throughout the term of the Master Contract to allow new Offerors to propose to enter the program and allow existing Master Contractors to add functional areas to their current offering.

## 1.3 Abbreviations and Definitions

For purposes of this RFP, the following abbreviations or terms have the meanings indicated below:

Agency Point of Contact (Agency POC)	Requesting Agency contact listed in a TORFP
Business Beneficial	Type of payment whereby the exclusive payment to the TO Contractor will be a designated portion of the monies saved by the State as a direct result of the service provided by the TO Contractor under the TO Agreement.
Business Day	Monday through Friday (excluding State holidays)
COMAR	Code of Maryland Regulations available on-line at <a href="http://www.dsd.state.md.us">www.dsd.state.md.us</a>
Commission Only	Type of payment for performing under a TO Agreement whereby the exclusive payment to the TO Contractor is a percentage of monies owed to the State and actually recovered as a result of the TO Contractor's findings. Contractor's commission rate may not exceed 35% of recoveries. The commission percentage rate shall be applied against the amount owed by the audited party to the State and subsequently recovered by the State. In the event that an audit indicates that the audited party owes an amount to the State and that the State owes an amount to the audited party, the discovery of the amount owed by the State to the audited party shall not reduce the commission due to the Contractor. Additionally, the TO Contractor's commission shall not be affected by the form of recovery (i.e. cash, check, or credit to the State). The commission percentage rate will not be applied against or paid for any amount of future cost avoidance or increased revenues (excluding credits to the State made for reimbursement of errors and past overbilling identified by the Contractor) that result from Contractor's findings.
Consulting and Technical Services + (CATS+)	This Request for Proposals (RFP) for the Department of Information Technology, Project Number 060B2490023 Expansion, including any amendments.
Contract or Master Contract	The contract awarded to the successful Offeror(s) pursuant to this RFP, the form of which is attached to this RFP as Attachment A.
Contract Manager (State CM)	The State representative for the Master Contract who is

	primarily responsible for contract administration functions, including issuing written direction, invoice approval, monitoring the Master Contract to ensure compliance with the terms and conditions of the Master Contract, monitoring MBE and VSBE compliance, and achieving completion of the Master Contract on budget, on time, and within scope.
Contractor or Master Contractor	An Offeror awarded a Contract pursuant to this RFP.
Contractor Personnel	Employees and agents and subcontractor employees and agents performing work at the direction of the Contractor under the terms of the Contract awarded from this RFP.
Contractor's Point of Contact (Contractor's POC)	Person designated at the time of Contract award by the Contractor as the single point of contact with the authority and knowledge to resolve contract issues.
COTS	Commercial-Off-the-Shelf Software
Custom Software	Software, including source code, developed in whole or in part, to meet the project requirements for a TO Agreement, and also means the computer program that results from that development.
Data	A collection of organized information, usually the result of experience, observation or experiment, other information within a computer system, or a set of premises. This may consist of numbers, words or images, particularly as measurements or observations of a set of variables.
Department	The unit of the Maryland State government procuring equipment and services through the Master Contract issued as a result of this RFP
Distributor	First tier agent authorized by the requisite parties that own rights to the Hardware product, to sell and/or service the Hardware product
DGS	Maryland Department of General Services
DoIT	Maryland Department of Information Technology
EBT	Electronic Benefit Transfer (EBT) is an electronic system that allows a recipient to authorize transfer of their government benefits from a Federal account to a retailer account to pay for products received.
eMM	eMaryland Marketplace and its replacement
Expansion	New Offerors proposing to join DoIT's Master Contract pool or existing Master Contractors proposing to add new functional areas to their Master Contracts.
Fixed-Price	Type of payment for performing under a TO Agreement whereby the exclusive payment to the TO Contractor for product delivered or performance of services is at a firm price or a price that is subject to contractually specified adjustments.
Fixed Hourly Labor Category Rates	Fully loaded hourly rates established in the Master Contract that include all direct and indirect costs and profit for the Master Contractor to perform Installation services required in a TORFP.
Fully Loaded	The inclusion in labor category billing rates of all profit, direct and indirect costs associated with performing

	Installation services required in a TORFP. The indirect costs shall include all costs that would normally be considered general and administrative costs and/or routine travel costs, or which in any way are allocated by the Master Contractor against direct labor hours as a means of calculating profit or recouping costs which cannot be directly attributable to services required in a TORFP. Non-routine travel costs will be identified in a TORFP, when appropriate.
Installation	Transferring Manufacturer's electronic media to computer systems so that the hardware will provide the features and functions generally described in user documentation
IT	Information Technology
Letter of Authorization	A document issued by the manufacturer or distributor authorizing the Offeror / Master Contractor to sell and/or provide services for the manufacturer's product line
Local Time	Time in the Eastern Time zone as observed by the State of Maryland. Unless otherwise specified, all stated times shall be Local Time, even if not expressly designated as such
Manufacturer	All entities engaged in the production, preparation, assembly, or construction of desktops, laptops and/or monitors and owning the right thereto.
Master Contract	The Master Contract between the DoIT and each of the Offerors determined technically capable of performing the requirements of this RFP.
Master Contractor ( MC)	An Offeror who is awarded a Master Contract under this RFP
Minority Business Enterprise (MBE)	A Minority Business Enterprise certified by the Maryland Department of Transportation under COMAR 21.11.03
MSRP	Manufacturer's Suggested Retail Price
Normal State Business Hours	Normal State business hours are 8:00 a.m. – 5:00 p.m. Monday through Friday except State Holidays, which can be found at: <a href="http://www.dbm.maryland.gov">www.dbm.maryland.gov</a> – keyword: State Holidays
Notice To Proceed	A formal notification from the agency TO manager that the specific TO Contractor selected to perform under a TO Agreement should immediately, or as of a date contained in the notice, begin performance of the TO Agreement. An agency Purchase Order may also serve as an NTP.
Offeror	An entity that submits a proposal in response to this RFP
POC	Point of Contact
Procurement Officer	The State representative who is responsible for the Contract, determining scope issues and is the only State representative that can authorize changes to the Contract.
Proposal	As appropriate, either or both an Offeror's Technical or Financial Proposal
Purchase Order (PO)	Authorizes the selected Master Contractor to proceed with delivery of products and/or any services requested via a PORFP
Request for Proposals (RFP)	This Request for Proposals for the Maryland Department of

	Information Technology, including any amendments / addenda thereto
Request for Resume (RFR)	A solicitation document that describes specifics regarding acquisition of dedicated resource(s) to supplement State staff on a temporary basis. A single support staff or support groups of up to five (5) members may be engaged for up to six (6) months, without renewal options. A single award for a Major IT Development Project Manager may have tenure of up to the DoIT-approved project closure or the end of the term of the CATS+ Master Contract, whichever is earlier. An RFR is limited to only labor categories defined in this RFP.
Requesting Agency	The unit of the Executive Branch of Maryland State government issuing the PORFP The Requesting Agency for an SBR PORFP shall be a “designated procurement unit” pursuant to §14-501(b) of the State Finance and Procurement Article of the Maryland Annotated Code as amended from time to time.
Revenue Neutral	Procurement of services without charge to the State, regardless of the actual costs incurred, since costs are paid by one or more third parties.
SBR	Small Business Reserve - A procurement in accordance with Title 14, Subtitle 5 of the State Finance and Procurement Article of the Annotated Code of Maryland, as amended. See Section 1.25 for details.
Software Source Code Documentation	All design tools, documents and diagrams used in the development of the source code including but not limited to data flow diagrams, entity relationship diagrams, work flow diagrams, window layouts, report layouts, process flows, interface designs, logical and physical database design diagram, technical and user manuals, data dictionary, and a copy of the development software used to write and compile the source code.
State	The State of Maryland
System Source Materials	Those materials necessary to wholly reproduce and fully operate the most current deployed version of the System (or any component part thereof) in a manner equivalent to the original System including [12-41] , but not limited to: <ul style="list-style-type: none"> <li>a. The executable instructions in their high level, human readable form and a version that is in turn interpreted, parsed and or compiled to be executed as part of the computing system ("source code"). This includes source code created by the Contractor or Subcontractor(s) and source code that is leveraged or extended by the Contractor for use in the project.</li> <li>b. All associated rules, reports, forms, templates, scripts, data dictionaries and database functionality.</li> </ul>

	<p>c. All associated configuration file details needed to duplicate the run time environment as deployed in the current deployed version of the system.</p> <p>d. All associated design details, flow charts, algorithms, processes, formulas, pseudo-code, procedures, instructions, help files, programmer’s notes and other documentation.</p> <p>e. A complete list of third party, open source, or commercial software components and detailed configuration notes for each component necessary to reproduce the system (e.g., operating system, relational database, and rules engine software).</p> <p>f. All associated user instructions and/or training materials for business users and technical staff.</p>
Task Order Manager (TO Manager)	The State’s representative who is identified in a TORFP/RFR or a TO Agreement, who will supervise the TO Contractor rendering services for that respective TO Agreement.
Task Order Agreement (TO Agreement)	A signed contract between DoIT and the Master Contractor selected for award via a TORFP/RFR. A TO Agreement will deal only with the specific TORFP performance aspects. All general terms and conditions contained in the CATS+ Master Contract shall apply to all TO Agreements.
Task Order Contractor (TO Contractor)	A Master Contractor awarded a TO Agreement
Task Order Procurement Officer (TO Procurement Officer)	The TO Procurement Officer has the sole responsibility for the management of the TORFP/RFR process, for the resolution of TO Agreement scope issues, and for authorizing any changes to each TO Agreement.
Task Order Request for Proposals (TORFP)	A solicitation document that describes all specifics regarding the performance of IT consulting and technical services as required by a State agency.
Time and Material (T&M)	Type of payment to the TO Contractor specific to TO Agreement performance, based on direct labor hours billed at specific hourly rates, plus non-routine travel costs as may be identified in a TO Agreement, plus the actual cost of any materials provided. The labor category hourly rates may not exceed the hourly rates specified in the Master Contract. The TO Contractor will be required to provide time records and/or other documentation documenting that all direct hours billed have actually been expended by its principals or employees, or those of subcontractors, totally and productively in the performance of the specific TO Agreement. In addition, the TO Contractor must also provide documentation of the actual cost of materials or other activities directly used in the performance of a TO Agreement. The fixed hourly labor category rates, plus the actual cost of materials, and non-routine travel will be the only payment made for this type of TO Agreement.

Veteran-owned Small Business Enterprise (VSBE)	A business that is verified by the Center for Verification and Evaluation (CVE) of the United States Department of Veterans Affairs as a veteran-owned small business. See Code of Maryland Regulations (COMAR) 21.11.13 and <a href="http://www.vetbiz.gov">http://www.vetbiz.gov</a> .
Working Day(s)	Same as “Business Day”

#### 1.4 Master Contract Type

The Master Contract shall be an Indefinite Quantity Contract with Firm Fixed Prices in accordance with COMAR 21.06.03.02 and COMAR 21.06.03.06, and Time and Materials in accordance with COMAR 21.06.03.05. Fixed Price (FP) and Time and Material (TM) TO Agreements, as described in each respective TORFP/RFR, will be issued under the Master Contract, as appropriate to the type of services being requested. In addition, revenue neutral, or commission-only concepts may be applied.

#### 1.5 Master Contract Duration

The term of the Master Contract shall be for a period beginning with final execution of the Master Contract and terminating on April 21, 2028.

The Expansion will remain open and continuous and will expire simultaneously with the Master Contract. Under the Expansion, new Offerors may propose to become Master Contractors and existing Master Contractors may propose to add functional areas to their Master Contracts.

At specified intervals throughout the term of the Master Contract, DoIT may issue updated contractual language to reflect changes in program procedures, policies and applicable law. Master Contractors will be required to execute contract modifications that incorporate these changes in order to remain in the CATS+ program.

#### 1.6 Procurement Officer

The sole point of contact in the State for purposes of this RFP prior to the award of a contract is [itpo.doit@maryland.gov](mailto:itpo.doit@maryland.gov). DoIT will assign a Procurement Officer to a proposal once the proposal is in receipt.

DoIT may change the Procurement Officer at any time by written notice to the Master Contractors.

#### 1.7 Contract Manager

The DoIT Contract Manager for the Contract is listed in the Key Information Summary Sheet.

DoIT may change the State CM at any time by written notice to the Master Contractors.

## 1.8 Pre-Proposal Conference

There is no pre-proposal conference.

## 1.9 eMarylandMarketplace (eMM)

- 1.9.1 eMM is an electronic commerce system administered by the Maryland Department of General Services. In addition to using the DoIT web site, <https://doit.maryland.gov/contracts/Pages/How-to-Get-a-Contract.aspx>, and possibly using other means for transmitting the RFP and associated materials, the RFP, Offeror questions and the Procurement Officer's responses, addenda, and other solicitation related information will be made available via eMM
- 1.9.2 In order to receive a Contract award, an Offeror must be registered on eMM. Registration is free. Guidelines can be found on the eMaryland Marketplace website at <https://emaryland.buyspeed.com>. Click on "Registration" to begin the process and follow the prompts.

## 1.10 Questions

- 1.10.1 All questions shall be submitted via e-mail toITPO at the address in the Key Information Summary Sheet. Please identify in the subject line the Solicitation Number and Title. Answers to all questions that are not clearly specific only to the requestor will be distributed via the same mechanism as for RFP amendments and posted on eMM.
- 1.10.2 Only answers that have been answered in writing by the State can be considered final and binding.

## 1.11 Proposal Submission

This Expansion will remain open throughout the entire term of the Master Contract. Proposal submissions must be in accordance with the instructions located at <https://doit.maryland.gov/contracts/Pages/How-to-Get-a-Contract.aspx>. Proposals may not be modified or withdrawn following submission.

## 1.12 Duration of Proposal

Proposals submitted in response to this RFP are irrevocable for the latest of the following: 180 days following the Proposal submission date or the date any protest concerning this RFP is finally resolved. This period may be extended at the Procurement Officer's request only with the Offeror's written agreement.

## 1.13 Revisions to the RFP

If it becomes necessary to revise this RFP, the revisions will be posted on <https://doit.maryland.gov/contracts/Pages/How-to-Get-a-Contract.aspx> and through eMM. It remains the responsibility of all prospective Offerors to check all applicable websites for any revisions issued prior to the submission of Proposals.



**1.14 Cancellations**

The State reserves the right to cancel this RFP, accept or reject any and all Proposals, in whole or in part, received in response to this RFP, to waive or permit cure of minor irregularities, and to conduct discussions with all qualified or potentially qualified Offerors in any manner necessary to serve the best interests of the State. The State also reserves the right, in its sole discretion, to award a Contract based upon the written Proposals received without prior discussions or negotiations.

**1.15 Incurred Expenses**

The State will not be responsible for any costs incurred by an Offeror in preparing and submitting a Proposal, in making an oral presentation, in providing a demonstration, or in performing any other activities related to submitting a Proposal in response to this solicitation.

**1.16 Economy of Preparation**

Proposals should be prepared simply and economically, providing a straightforward and concise description of the Offeror's Proposal to meet the requirements of this RFP.

**1.17 Protests/Disputes**

Any protest or dispute related respectively to this solicitation or the Contract shall be subject to the provisions of COMAR 21.10 (Administrative and Civil Remedies).

**1.18 Multiple or Alternative Proposals**

Neither multiple nor alternate Proposals will be accepted. Submitting Proposals for more than one functional area is not considered a multiple or alternate Proposal.

**1.19 Public Information Act Notice**

- 1.19.1 Offerors should give specific attention to the clear identification of those portions of their Proposals that they deem to be confidential, proprietary commercial information or trade secrets and provide justification why such materials, upon request, should not be disclosed by the State under the Public Information Act, General Provisions Article, Title 4, Md. Code Ann. This confidential and/or proprietary information should be identified by page and section number and placed after the Title Page and before the Table of Contents in the Technical Proposal and, if applicable, separately in the Financial Proposal.
- 1.19.2 Offerors are advised that, upon request for this information from a third party, the Procurement Officer is required to make an independent determination whether the information must be disclosed.

**1.20 Offeror Responsibilities**

- 1.20.1 The successful Offeror(s) shall be responsible for rendering products and services for which it has been selected as required by this RFP within the functional area proposed. All subcontractors shall be identified and a complete description of their role relative to the Proposal shall be included in the



Offeror's Proposal. If applicable, subcontractors utilized in meeting the established MBE or VSBE participation goal(s) for this solicitation shall be identified as provided in the appropriate Attachment(s) of this RFP (see Section 1.24 "Minority Business Enterprise Goals" and Section 1.37 "Veteran-Owned Small Business Enterprise Goals").

- 1.20.2 If an Offeror that seeks to perform or provide the products/services required by this RFP is the subsidiary of another entity, all information submitted by the Offeror, such as but not limited to, references, financial reports, or experience and documentation (e.g. insurance policies, bonds, letters of credit) used to meet minimum qualifications, if any, shall pertain exclusively to the Offeror, unless the parent organization will guarantee the performance of the subsidiary. If applicable, the Offeror's Proposal shall contain an explicit statement that the parent organization will guarantee the performance of the subsidiary.

### **1.21 Mandatory Contractual Terms**

By submitting a Proposal in response to this RFP, an Offeror, if selected for award, shall be deemed to have accepted the terms of this RFP and the Contract, attached hereto as Attachment A. Any exceptions to this RFP or the Contract shall be clearly identified in the Executive Summary of the Technical Proposal. A Proposal that takes exception to these terms may be rejected.

### **1.22 Bid/Proposal Affidavit**

A Proposal submitted by an Offeror must be accompanied by a completed Bid/Proposal Affidavit. A copy of this Affidavit is included as Attachment B of this RFP.

### **1.23 Contract Affidavit**

All Offerors are advised that if a Contract is awarded as a result of this solicitation, the successful Offeror will be required to complete a Contract Affidavit. A copy of this Affidavit is included for informational purposes as Attachment C of this RFP. This Affidavit shall be provided within five (5) business days from notification of recommended award.

### **1.24 Minority Business Enterprises**

A minimum overall MBE subcontractor participation goal of 20% has been established for the aggregate of all TO Agreements awarded pursuant to this RFP with sub-goals of 8% for Women-owned businesses, 7% for African American owned businesses, and 2% for Hispanic American owned businesses. The State shall assess the potential for an MBE subcontractor participation goal for each TORFP/RFR issued (including any TORFP/RFR designated as a Small Business Reserve) and shall set a goal, if appropriate.

#### **1.24.1 RFP Requirements**

Each Offeror shall complete, sign and submit, without edits, Attachment D-A-CATS+ Master Contract, Master Contractor, Acknowledgement of Task Order MBE Requirements at the time it submits its technical response to the RFP. Failure to do so will result in the State's rejection of the Offeror's Proposal to the RFP as not susceptible for award.

#### **1.24.2 TORFP Requirements**

Master Contractors responding to a TORFP with an assigned MBE goal shall complete, sign and submit all required MBE documentation with the TO Proposal, in accordance with the TO Proposal instructions. Failure to do so will result in the State's rejection of the Master Contractor's Proposal to the TORFP.

Each Master Contractor, once awarded a TO, may be responsible for submitting the following forms to provide the State with ongoing monitoring of MBE Participation:

- Attachment D-1A MBE Utilization and Fair Solicitation Affidavit & MBE Participation Schedule  
**(must submit with Proposal)**
- Attachment D-1B Waiver Guidance
- Attachment D-1C Good Faith Efforts Documentation to Support Waiver Request
- Attachment D-2 Outreach Efforts Compliance Statement
- Attachment D-3A MBE Subcontractor Project Participation Certification
- Attachment D-3B MBE Prime Project Participation Certification
- Attachment D-4A Prime Contractor Paid/Unpaid MBE Invoice Report
- Attachment D-4B MBE Prime Contractor Report
- Attachment D-5 Subcontractor/Contractor Unpaid MBE Invoice Report

The most current directory of certified MBEs is available on <http://www.mdot.state.md.us> through MDOT, Office of Minority Business Enterprise, 7201 Corporate Center Drive, Hanover, MD 21076, phone number 410-865-1269.

#### 1.24.3 MBE Compliance and Liquidated Damanges

It is critical to the success of the State's MBE Program that its contractors make good faith efforts to comply with the Program and contract provisions. To that end, COMAR 21.11.03.10 requires all contracts containing certified MBE participation goals to also contain a liquidated damages provision in the event the contractor fails to comply in good faith with the provisions of the State MBE laws or the pertinent contract terms.

By submitting a response to this solicitation, the Master Contractor agrees to make good faith efforts to comply with the MBE program, and agrees that it shall be subject to the Liquidated Damages provision set forth at §18.14.2 of the Master Contract (Attachment A).

### 1.25 Small Business Reserve

- 1.25.1 The State reserves the right to designate any qualifying TORFP/RFR issued pursuant to this RFP as a Small Business Reserve (SBR) TORFP/RFR. The Requesting Agency for a SBR TORFP/RFR must be a "designated procurement unit" pursuant to §14-501(b) of the State Finance and Procurement Article of the Maryland Annotated Code as amended from time to time. In such event, the resulting TO Agreement may only be awarded to a Contractor that meets the qualifications set out in §14-501(c), State Finance & Procurement Article, Annotated Code of Maryland, and is registered with the State's SBR Program. The State shall assess the potential for an MBE subcontractor participation goal, if applicable, for each SBR TORFP/RFR.
- 1.25.2 Throughout the term of the Master Contract, SBR Contractors shall notify the Contract Manager of any change in their status with the program. Should a Master Contractor become SBR certified

after award, that Master Contractor shall notify the Contract Manager and provide the Contract Manager with its DGS-assigned Small Business Qualification number.

## **1.26 Living Wage Requirement**

- 1.26.1 Maryland law requires that contractors meeting certain conditions pay a living wage to covered employees on State service contracts over \$100,000. Maryland Code, State Finance and Procurement, § 18-101 et al. The Commissioner of Labor and Industry at the Department of Labor, Licensing and Regulation requires that a contractor subject to the Living Wage law submit payroll records for covered employees and a signed statement indicating that it paid a living wage to covered employees or receive a waiver from Living Wage reporting requirements. See COMAR 21.11.10.05
- 1.26.2 If subject to the Living Wage law, Contractor agrees that it will abide by all Living Wage law requirements, including but not limited to reporting requirements in COMAR 21.11.10.05. Contractor understands that failure of Contractor to provide such documents is a material breach of the terms and conditions and may result in Contract termination, disqualification by the State from participating in State contracts, and other sanctions. Information pertaining to reporting obligations may be found by going to the Maryland Department of Labor, Licensing and Regulation (DLLR) website <http://www.dllr.state.md.us/labor/prev/livingwage.shtml>
- 1.26.3 Additional information regarding the State's living wage requirement is contained in Attachment G. Offerors must complete and submit the Maryland Living Wage Requirements Affidavit of Agreement (Attachment G-1) with their Proposals. If an Offeror fails to complete and submit the required documentation, the State may determine an Offeror to not be responsible under State law.
- 1.26.4 Contractors and subcontractors subject to the Living Wage Law shall pay each covered employee at least the minimum amount set by law for the applicable Tier area. The specific Living Wage rate is determined by whether a majority of services take place in a Tier 1 Area or Tier 2 Area of the State. If the Contractor provides more than 50% of the services from an out-of-State location, the State agency determines the wage tier based on where the majority of the service recipients are located. See COMAR 21.11.10.07.
- 1.26.5 The Offeror shall identify in the Proposal the location from which services will be provided.
- NOTE: Whereas the Living Wage may change annually, the Contract will not change because of a Living Wage change.

## **1.27 Compliance with Laws/Arrearages**

- 1.27.1 By submitting a Proposal in response to this RFP, the Offeror, if selected for award, agrees that it will comply with all federal, State, and local laws applicable to its activities and obligations under the Contract.
- 1.27.2 By submitting a response to this solicitation, the Offeror also represents that it is not in arrears in the payment of any obligations due to the State of Maryland, including the payment of taxes and employee benefits, and that it shall not become so in arrears during the term of the Master Contract if selected for award.

**1.28 Procurement Method**

The Contract will be awarded in accordance with the Competitive Sealed Proposals procurement method as described in COMAR 21.05.03.

**1.29 Verification of Registration and Tax Payment**

- 1.29.1 Before a business entity can do business in the State of Maryland it must be registered with the Department of Assessments and Taxation, State Office Building, Room 803, 301 West Preston Street, Baltimore, Maryland 21201. The SDAT website is <http://sdatcert3.resiusa.org/ucc-charter/>.
- 1.29.2 It is strongly recommended that any potential Offeror should complete registration prior to the due date for receipt of Proposals. An Offeror's failure to complete registration with the Department of Assessments and Taxation may disqualify an otherwise successful Offeror from final consideration and recommendation for award.

**1.30 False Statements**

Offerors are advised that section Md. Code Ann., of the State Finance and Procurement Article, § 11-205.1 provides as follows:

- 1.30.1 In connection with a procurement contract a person may not willfully:
- Falsify, conceal, or suppress a material fact by any scheme or device;
  - Make a false or fraudulent statement or representation of a material fact; or
  - Use a false writing or document that contains a false or fraudulent statement or entry of a material fact.
- 1.30.2 A person may not aid or conspire with another person to commit an act under subsection (1) of this section.
- 1.30.3 A person who violates any provision of this section is guilty of a felony and on conviction is subject to a fine not exceeding \$20,000 or imprisonment not exceeding five (5) years or both.

**1.31 Non-Visual Access**

- 1.31.1 By submitting a TO Proposal in response to a TORFP, the Master Contractor warrants that the information technology offered under the TO Proposal (1) provides equivalent access for effective use by both visual and non-visual means; (2) will present information, including prompts used for interactive communications, in formats intended for both visual and non-visual use; (3) if intended for use in a network, can be integrated into networks for obtaining, retrieving, and disseminating information used by individuals who are not blind or visually impaired; and (4) is available, whenever possible, without modification for compatibility with software and hardware for non-visual access. The Master Contractor further warrants that the cost, if any, of modifying the information technology for compatibility with software and hardware used for non-visual access will not increase the cost of the information technology by more than five percent (5%). For purposes of this Master Contract, the phrase "equivalent access" means the ability to receive, use and manipulate information and operate controls necessary to access and use information

technology by non-visual means. Examples of equivalent access include keyboard controls used for input and synthesized speech, Braille, or other audible or tactile means used for output.

- 1.31.2 The Non-visual Access Clause noted in COMAR 21.05.08.05 and referenced in this solicitation is the basis for the standards that have been incorporated into the Maryland regulations, which can be found at: [www.DoIT.maryland.gov](http://www.DoIT.maryland.gov) – keyword: NVA.

### **1.32 Payments by Electronic Funds Transfer**

- 1.32.1 By submitting a response to this solicitation, the Offeror agrees to accept payments by electronic funds transfer (EFT) unless the State Comptroller’s Office grants an exemption. Payment by EFT is mandatory for contracts exceeding \$200,000. The successful Offeror shall register using the COT/GAD X-10 Vendor Electronic Funds (EFT) Registration Request Form.
- 1.32.2 Any request for exemption shall be submitted to the State Comptroller’s Office for approval at the address specified on the COT/GAD X-10 form and shall include the business identification information as stated on the form and include the reason for the exemption. The COT/GAD X-10 form can be downloaded at:  
[http://comptroller.marylandtaxes.com/Vendor\\_Services/Accounting\\_Information/Static\\_Files/GAD\\_X10Form20150615.pdf](http://comptroller.marylandtaxes.com/Vendor_Services/Accounting_Information/Static_Files/GAD_X10Form20150615.pdf).

### **1.33 Contract Extended to Include Other Non-State Governments or Agencies**

For the purposes of an information technology or telecommunications procurement, pursuant to sections 3A-401(b) and 13-110 of the State Finance and Procurement Article of the Annotated Code of Maryland, county, municipal, State entities that are not subject to DoIT’s authority, including State non-executive branch entities, and non-State governments or agencies may purchase from the Contractor goods or services covered by this Contract at the same maximum prices to which the State would be subject under the resulting Contract. All such purchases:

- (1) Shall constitute Contracts between the Master Contractor and that government agency or organization;
- (2) For non-State entities, shall not constitute purchases by the State or State agencies under this Contract;
- (3) For non-State entities, shall not be binding or enforceable against the State; and
- (4) May be subject to other terms and conditions agreed to by the Master Contractor and the purchaser. The Master Contractor bears the risk of determining whether or not a government or agency with which the Contractor is dealing is a State agency.

### **1.34 Conflict of Interest Affidavit and Disclosure**

- 1.34.1 The successful Offeror(s) will provide IT consulting and technical services for State agencies, or component programs with those agencies and shall do so impartially and without any conflicts of interest.
- 1.34.2 Master Contractors are required to complete a Conflict of Interest Affidavit with its Proposal. A copy of this Affidavit is included as Attachment I of this RFP. If the Procurement Officer makes a determination before award of a TO agreement pursuant to a respective TORFP that facts or

circumstances exist that give rise to or could in the future give rise to a conflict of interest within the meaning of COMAR 21.05.08.08A, the Procurement Officer may reject a TO Proposal under COMAR 21.06.02.03B.

- 1.34.3 By submitting a Conflict of Interest Affidavit and Disclosure, the Contractor shall be construed as certifying all personnel and subcontractors are also without a conflict of interest as defined in COMAR 21.05.08.08A.

### **1.35 Prompt Pay Policy**

This procurement and the Contract to be awarded pursuant to this solicitation are subject to the Prompt Payment Policy Directive issued by the Governor's Office of Minority Affairs (GOMA) and dated August 1, 2008. Promulgated pursuant to Md. Code Ann., State Finance and Procurement Article, §§ 11-201, 13-205(a), and Title 14, Subtitle 3, and COMAR 21.01.01.03 and 21.11.03.01, the Directive seeks to ensure the prompt payment of all subcontractors on non-construction procurement contracts. The Contractor must comply with the prompt payment requirements outlined in the Contract, Sections 8 "Prompt Pay Requirements" and 18.14.3 "MBE Prompt Pay Requirements" (see Attachment A), should an MBE goal apply to this RFP. Additional information is available on GOMA's website at: <http://goma.maryland.gov/Pages/Legislation-and-Policy.aspx>.

### **1.36 Electronic Procurements Authorized**

- 1.36.1 Under COMAR 21.03.05, unless otherwise prohibited by law, a primary procurement unit may conduct procurement transactions by electronic means, including the solicitation, bidding, award, execution, and administration of a contract, as provided in Md. Code Ann., Maryland Uniform Electronic Transactions Act, Commercial Law Article, Title 21.
- 1.36.2 Participation in the solicitation process on a procurement contract for which electronic means has been authorized shall constitute consent by the Offeror to conduct by electronic means all elements of the procurement of that Contract which are specifically authorized under the solicitation or the Contract.
- 1.36.3 "Electronic means" refers to exchanges or communications using electronic, digital, magnetic, wireless, optical, electromagnetic, or other means of electronically conducting transactions. Electronic means includes facsimile, e-mail, internet-based communications, electronic funds transfer, specific electronic bidding platforms (e.g., <https://emaryland.buyspeed.com/bsol/>), and electronic data interchange.
- 1.36.4 In addition to specific electronic transactions specifically authorized in other sections of this solicitation (e.g., § 1.32 "Payments by Electronic Funds Transfer") and subject to the exclusions noted in section 1.36.5 of this subsection, the following transactions are authorized to be conducted by electronic means on the terms as authorized in COMAR21.03.05:
1. The Procurement Officer may conduct the procurement using eMM, or e-mail to issue:
    - a. the solicitation (e.g., the RFP)
    - b. any amendments
    - c. pre-proposal conference documents



- d. questions and responses
  - e. communications regarding the solicitation or Proposal to any Offeror or potential offeror
  - f. notices of award selection or non-selection
  - g. the Procurement Officer's decision on any solicitation protest or Contract claim
2. An Offeror or potential Offeror may use e-mail to:
    - a. ask questions regarding the solicitation
    - b. reply to any material received from the Procurement Officer by electronic means that includes a Procurement Officer's request or direction to reply by e-mail, but only on the terms specifically approved and directed by the Procurement Officer
    - c. submit a "No Bid/Proposal Response" to the solicitation
  3. The Procurement Officer, the Contract Manager, and the Contractor may conduct day-to-day Contract administration, except as outlined in Section 1.36.5 of this subsection, utilizing e-mail, or other electronic means if authorized by the Procurement Officer or Contract Manager.
- 1.36.5 The following transactions related to this procurement and any Contract awarded pursuant to it are *not authorized* to be conducted by electronic means:
- a. submission of initial Proposals;
  - b. filing of protests;
  - c. filing of Contract claims;
  - d. submission of documents determined by the Department to require original signatures (e.g., Contract execution, Contract modifications); or
  - e. any transaction, submission, or communication where the Procurement Officer has specifically directed that a response from the Contractor or Offeror be provided in writing or hard copy.

### **1.37 Veteran-Owned Small Business Enterprise Goals**

There is no Veteran-Owned Small Business Enterprise (VSBE) subcontractor participation goal for this procurement.

### **1.38 HIPAA - Business Associate Agreement**

A HIPAA Business Associate Agreement is not required for this procurement.

### **1.39 Federal Funding Acknowledgement**

The Contract does not contain federal funds.

### **1.40 Location of the Performance of Services Disclosure**

The Contract does not require a Location of the Performance of Services Disclosure

**1.41 Department of Human Resources (DHR) Hiring Agreement**

This solicitation does not require a DHR Hiring Agreement.

**1.42 Non-Disclosure Agreement**

A Non-Disclosure Agreement (Offeror) is not required for this procurement.

**1.43 Award Basis**

A Contract shall be awarded to the responsible Offerors submitting a Proposal that has been determined to meet Proposal requirements, considering evaluation factors set forth in this RFP (see COMAR 21.05.03.03F), for providing the products/services as specified in this RFP. See RFP Section 4 for further award information.



## 2 SECTION 2 – SCOPE OF WORK

### 2.1 Scope

2.1.1 The scope of this solicitation encompasses the following 17 functional areas:

- 1) Enterprise Service Provider – (Section 2.3.1)
- 2) Web and Internet Systems – (Section 2.3.2)
- 3) Electronic Document Management – (Section 2.3.3)
- 4) Geographical Information Systems – (Section 2.3.4)
- 5) Software Engineering – (Section 2.3.5)
- 6) Systems/Facilities Management and Maintenance – (Section 2.3.6)
- 7) Information System Security– (Section 2.3.7)
- 8) Application Service Provider – (Section 2.3.8)
- 9) IT and Telecommunications Financial and Auditing Consulting Services – (Section 2.3.9)
- 10) IT Management Consulting Services – (Section 2.3.10)
- 11) Business Process Consulting Services – (Section 2.3.11)
- 12) Tower Site Preparation – (Section 2.3.12)
- 13) Tower Installation – (Section 2.3.13)
- 14) Tower Equipment Installation and Services - (Section 2.3.14)
- 15) Electronic Benefits Transfer – (Section 2.3.15)
- 16) Media and Training Center Support – (Section 2.3.16)
- 17) Documentation/Technical Writing - (Section 2.3.17)

The scope of services contained herein is intended to outline the general requirements under this RFP. Specific details of scope, time and budget will be provided in each individual TORFP/RFR. Examples of actual TORFPs may be found on the CATS+ web site:

<http://doit.maryland.gov/contracts/Pages/CATSPplusTORFPStatus.aspx>

### 2.2 General Requirements

Depending upon the requirements of individual TORFPs, the following applies:

#### 2.2.1 Hardware (Equipment), Software and Data

2.2.1.1 Equipment and COTS Software

Any material provided by the Master Contractor shall only be approved for cost. No additional fees or markups shall be allowed. The Master Contractor shall provide all invoices for material (see procedure in Section 2.9.4).

- A) In responding to any TORFP for which a Master Contractor proposes the purchase of any equipment and/or COTS software in its TO Proposal, a Master Contractor shall specifically identify in its TO Proposal the brand name, model, and other specifics of each different piece of equipment and/or COTS software proposed for use by the State, the quantity needed and a selling price for which it will provide the equipment and/or COTS software.
- B) By responding to this RFP and accepting a Master Contract award, a Master Contractor specifically agrees that for any equipment and/or COTS software that it proposes for use by the State in response to a TORFP, the State will have the right to purchase the proposed equipment and/or COTS software from another source, instead of from the selected Master Contractor.
- C) If the State chooses to purchase any equipment or COTS software from a source other than the selected Master Contractor, provided the State purchases the same equipment or COTS software as proposed by the Master Contractor in its TO Proposal, the Master Contractor must agree to accept the equipment and/or COTS software provided by the State and shall integrate it with its service delivery the same as if the Master Contractor had provided the equipment and/or COTS software itself. Barring conclusive evidence of faulty installation or the installation of substandard or defective equipment and/or COTS software by another party, including the State, the TO Contractor may not use the fact that it did not directly provide the equipment and/or COTS software as an excuse for non-performance of any deliverable under a TO Agreement.
- D) A TORFP shall not be issued under this CATS+ Master Contract, if equipment and/or COTS software costs are anticipated to exceed 49% of the value of the resulting TO Agreement.

#### 2.2.1.2 Delivery of COTS Software

If applicable, Master Contractors shall provide delivery of COTS Software in the manner specified in the TORFP, as further described below.

##### 2.2.1.2.1 Physical Delivery

- A) Master Contractors shall provide prepaid delivery, FOB (the delivery destination specified in the TORFP) to any State eligible customer located within the State's geographic boundaries. Unless specified otherwise in a TORFP, all COTS software is to be delivered, prepaid, to the location specified in a TORFP within three (3) business days from the date of the TO. The MSRP will be construed to include delivery within three (3) business days from the date of the TO. Similarly, provided a TORFP allows at least three (3) business days delivery time, any price proposed in response to a TORFP that is lower than the MSRP will be construed to include delivery within three (3) business days from the date of the TO.
- B) Title does not pass until the shipment reaches the destination, and the goods belong to seller while in transit. If expedited shipping is required by the State, additional charges may apply for:
  - 1. Standard Overnight (delivery by 3:00 PM the next day)
  - 2. Priority Overnight (delivery by 10:30 AM the next business day)
  - 3. Saturday Delivery (delivery by 12:00 PM)

#### 2.2.1.2.2 Electronic Delivery

- A) Master Contractors shall provide electronic delivery in a manner that permits the Requesting Agency to download the COTS software. The electronic delivery shall include a full version of the software that is identical to, or is the fully functional equivalent of, the version of the software that would be available on physical media. Unless specified otherwise in a TORFP, electronic download should be available within (3) business days from the date of the TO.
- B) Unless otherwise specified in a TORFP, “Electronic Delivery” shall include delivery, by email, of: (1) a link to a secured and verified download site or portal, (2) permanent product or license key(s) as required to access and/or install the COTS software, (3) full download and installation instructions, (4) all product documentation that would be provided with a physical delivery, and (5) detailed information as to the length of time Requesting Agencies have to access and download the COTS software. Should the download link, portal access, and/or product or license expire before the Requesting Agency completes installation, the Master Contractor shall provide a replacement.
- C) In the event that a Requesting Agency is unable to access, download, and/or install COTS software that has been delivered electronically, Master Contractors shall provide or facilitate limited technical assistance to resolve the issue. If successful download and installation of electronically-delivered COTS software cannot be completed, Master Contractors shall, at the Requesting Agency’s discretion, provide expedited physical delivery at no cost to the Requesting Agency (as described in Section 2.2.1.2.1 above) or issue a full refund of the purchase price. Substitute expedited delivery or refund shall be completed within two (2) business days.

#### 2.2.1.3 Custom Software

Upon a Master Contractor's voluntary or involuntary filing of bankruptcy or any other insolvency proceeding, Master Contractor’s dissolution, Master Contractor’s merger with or acquisition by another company or contractor, discontinuance of support of any software or system, the Master Contractor shall convey to the State all rights, title, and interests in all custom software, licenses, software source codes, and all associated Software Source Code Documentation that comprises any solutions proposed as a part of the Master Contract or TO Agreement. These rights include, but are not limited to, the rights to use, and cause others to use on behalf of the State, said software, software documentation, licenses, software source codes, and Software Source Code Documentation.

#### 2.2.1.4 Custom Source Code

- A) For all Custom Software provided to the State pursuant to any TO Agreement, the TO Contractor shall either provide the source code directly to the State in a form acceptable to the State, or deliver two copies of each custom software source code and custom software source code documentation to a State-approved escrow agent at no additional cost to the State following the term set forth in the sample contract (Attachment A) and in Section 2.2.1.6 below. The TO Contractor shall cause the escrow agent to place the software source code in the escrow agent’s vaulted location that is located in the Baltimore/ Washington area of Maryland that is acceptable to the State. Two copies of the source code shall be stored on compact discs or other media designated by the State in a format acceptable to the State, and shall be easily readable and understandable by functional analysts and technical personnel with the skill set for that type of component, subcomponent, or software code.

- B) The TO Contractor shall provide the following:
1. Name, address, and telephone number of the third party who acts as escrow agent;
  2. Source code escrow procedures;
  3. Name, address, telephone number of party who audits the escrow account;
  4. Frequency of updates and maintenance of source code at escrow agent; and
  5. Description of licensing arrangements and associated costs.
- C) The State shall have the right to audit Custom Software source code and corresponding software source code documentation for each software product that comprises the solution as represented by the TO Contractor. This audit shall be scheduled at any time that is convenient for the parties to be present. The State shall be provided with software or other tools required to view all software source codes.
- D) The TO Contractor shall provide the current source code and documentation for all Custom Software to the State at the time of Contract termination.

#### 2.2.1.5 System Source Materials

- A) As more fully described in the sample Contract (Attachment A) at Section 5, the State shall solely own all System Source Materials (the foregoing constituting Work Product as defined therein). At the State's request, the Contractor shall, along with any software or other tools required to view all Source Materials: (a) provide the State access to all System Source Materials and (b) deliver the same to the State. The Contractor shall deliver System Source Materials to the State upon the expiration or termination of the Contract.
- B) The State shall have the right to audit System Source Materials. This audit shall be scheduled at any time that is convenient for the parties to be present. The State shall be provided with software or other tools required to view all System Source Materials.

#### 2.2.1.6 Data

- A) Data, databases and derived data products created, collected, manipulated, or directly purchased as part of a TORFP shall become the property of the State. The purchasing State agency is considered the custodian of the data and shall determine the use, access, distribution and other conditions based on appropriate State statutes and regulations.
- B) Licensed and/or copyrighted data shall be governed by the terms and conditions identified in the TO Agreement or the license.

### 2.2.2 Required Project Policies, Guidelines and Methodologies

A) The Master Contractor shall keep itself informed of and comply with all applicable Federal, State and local laws, regulations, ordinances, policies, standards and guidelines affecting information technology projects applicable to its activities and obligations under this Contract, as those laws, policies, standards and guidelines may be amended from time to time, and it shall obtain and maintain, at its expense, all licenses, permits, insurance, and governmental approvals, if any, necessary to the performance of its obligations under this Contract. It is the responsibility of the Master Contractor to ensure adherence and to remain abreast of new or revised laws, regulations, policies, standards and guidelines affecting project execution. The following policies, guidelines and methodologies can be found at <http://doit.maryland.gov/policies/Pages/ContractPolicies.aspx> under "Policies and Guidance."

B) The Master Contractor shall follow the project management methodologies that are consistent with the Project Management Institutes (PMI) Project Management Body of Knowledge (PMBOK) Guide. Master Contractor's staff and subcontractors are to follow a consistent methodology for all TORFP activities.

C) The Master Contractor shall apply a structured methodology to identify, evaluate, and select hardware, software, and services (e.g., telecommunications services, Internet access services, software maintenance) to meet specific requirements and when warranted, adjusting the methodology, including prototypes and pilots, to mitigate risk. This shall include, but not be limited to providing recommendations and assessments for all systems and technologies in areas such as the following:

1. COTS evaluations and comparisons,
2. COTS integration strategies and feasibility,
3. Technology insertion,
4. Technology upgrades,
5. System concept feasibility, and
6. Projected return on investment.

### **2.2.3 Financial Accounting Solutions**

The Master Contractor shall ensure that any financial accounting for fixed and capital assets or assets management performed under any TORFP, shall comply with Government Accounting Standards Board Statement No. 34 (GASB 34). See applicable accounting principles at:

[http://www.gasb.org/jsp/GASB/Document\\_C/GASBDocumentPage?cid=1176160029121&acceptedDisclaimer=true](http://www.gasb.org/jsp/GASB/Document_C/GASBDocumentPage?cid=1176160029121&acceptedDisclaimer=true)

### **2.2.4 Travel Reimbursement**

2.2.4.1 There shall be no reimbursement for Routine Travel. Contractor shall not be reimbursed for Non-routine Travel without prior Contract Manager approval.

2.2.4.2 Routine Travel is defined as travel within a 50-mile radius of the requesting agency's base location, as identified in the TORFP/RFR, or the Master Contractor's facility, whichever is closer to the consulting site. There will be no payment for labor hours for travel time or reimbursement for any travel expenses for work performed within these radiuses or at the Master Contractor's facility.

2.2.4.3 Non-routine travel is defined as travel beyond the 50-mile radius of Requesting Agency's base location, as identified in the TORFP/RFR, or the Master Contractor's facility, whichever is closer to the consulting site. Non-routine travel will be identified within a TO Agreement, if appropriate, and will be reimbursed according to the State's travel regulations and reimbursement rates, which can be found at: [www.DBM.maryland.gov](http://www.DBM.maryland.gov) - search: Fleet Management. If non-routine travel is conducted by automobile, the first 50 miles of such travel will be treated as routine travel and as described in section 2.2.4.2 of this definition, and will not be reimbursed. The Master Contractor may bill for labor hours expended in non-routine traveling beyond the identified 50-mile radius, only if so specified in the TORFP/RFR.

### **2.2.5 Warranties**

2.2.5.1 In submitting a response to this RFP, Offeror representatives warrant that all services provided hereunder shall be performed in a professional manner or shall be corrected at no additional cost to the State.

2.2.5.2 All manufacturers' warranties shall be passed through to the State.

## 2.3 Functional Area Descriptions

Secondary competition documents, such as a TORFP or RFR, will be issued to Master Contractors of as single functional area only. Scope of a TORFP may cross over into more than one functional area. However, the State will make a determination of the most appropriate functional area, prior to release of the TORFP/RFR. In general, a TORFP will address the broad process/scope of the project, such as doing research and recommendation for a system replacement, or the system replacement in itself, whereas an RFR may address the need for temporary staff to implement a process.

DoIT, on a case-by-case basis, will determine which solicitation product is the most appropriate.

The examples of services listed in this section are not all inclusive of the services available under the Master Contract.

### 2.3.1 Functional Area One - Enterprise Service Provider (ESP)

- A) Description - Services to ensure that information systems are designed to capitalize on agency architectures and State IT standards, provide interoperability with other systems and networks, be reliable and maintainable, and make the most cost-effective use of COTS technology and agency-wide and government-wide resources.
- B) Examples of Potential Services:
  - 1. Deliver stated levels of performance, interoperability, and maintenance support within the known constraints of an agency's IT infrastructure; and
  - 2. Testing the appropriate configurations of two or more hardware or software components of information systems or telecommunications networks.

### 2.3.2 Functional Area Two – Web and Internet Systems

- A) Description – A broad range of business solutions and support using the capabilities of the web and Internet; design, develop, test, implement and maintain web sites, portals, web applications and web services and the associated hardware, software, network and security components that comprise these solutions.
- B) Examples of Potential Services:
  - 1. Design, develop, test, implement and maintain secure and accessible web and internet solutions such as web site portals, web applications and web services for various business processes including requisitions, quotes, purchase orders, notices of award, electronic payments, etc.;
  - 2. Provide scalable security solutions for web and internet services at the network and application level such as secure sockets layer certificates, user authentication and single sign on (SSO), application firewalls, intrusion detection system (IDS) monitoring, public key infrastructure (PKI) and digital signatures;
  - 3. Design, develop, implement and maintain web graphics and site content, including electronic catalogues of goods and services, to ensure accuracy and timeliness of information published to the web;



4. Create web-based applications that are a front-end to traditional mainframe system;
5. Apply new and emerging technologies to establish current and scalable web development platforms;
6. Assist in the implementation and customization of web services and other COTS solutions for the internet including, but not limited to electronic commerce/electronic data interchange (EC/EDI);
7. Provide data transformation solutions between disparate systems;
8. Monitor performance of web-based solutions including, but not limited to, traffic, usage statistics and surveys; and
9. Provide configuration management control services and solutions.

### 2.3.3 Functional Area Three - Electronic Document Management

- A) Description – Service to establish or maintain electronic document imaging, document management, document workflow, and associated technologies.
- B) Examples of Potential Services:
1. Workflow analysis;
  2. Document indexing/queuing and workload management;
  3. System/application/network design;
  4. Application prototyping;
  5. Implementation and support services;
  6. System interface development;
  7. System migration strategies;
  8. Document conversion (hardcopy to electronic or electronic to new system/media);
  9. Performance monitoring/measurement;
  10. System stress testing/benchmarking; and
  11. Document and records retention/archiving.

### 2.3.4 Functional Area Four - Geographical Information Systems (GIS)

- A) Description –Service to integrate, store, edit, analyze, and display geographically-referenced information in a client/server or web-based environment.
- B) Examples of Potential Services:
1. Cost-benefit analysis of migrating/integrating exiting databases with GIS;
  2. Systems analysis, design and spatial database development;
  3. Spatial referencing of spatial and non-spatial data;
  4. Integration of spatially referenced data with other functional areas in an organization;
  5. GIS system and data maintenance;
  6. Data quality assurance (e.g. data accuracy, precision, consistency, completeness) according to data quality standards/guidelines of the State;
  7. Collect, create or acquire digital spatial data such as orthophotography, elevation data, transportation features, streams, or parcel maps;
  8. Create maps using spatial data for web content, publication or other uses;
  9. Linking data with maps using geocoding;
  10. Define, develop, configure, implement and maintain GIS solutions, including COTS packages;
  11. Manipulate geographical data;

12. Perform queries, analysis and visualization;
13. Leverage existing data sets and data assets of the State, as necessary;
14. Interface disparate GIS data sets to GIS solution; and
15. Custom GIS application development to present data in standalone and web based environments.

### 2.3.5 Functional Area Five - Software Engineering

A) Description – Service to provide full life cycle of a software system development. Process definition; requirements management (project planning, quality assurance, project tracking and oversight, organizational process focus); software metrics; software process assessments; software capability evaluations; software project management; software certification; software validation and verification; open systems; software architecture; software reengineering; software reuse; component based software; software security; supervising software configuration management; and CASE tools.

B) Examples of Potential Services:

1. Provide ongoing system, applications maintenance and troubleshooting;
2. Analyze and document complex system requirements;
3. Design software tools and subsystems to support software reuse and domain analyses and manage their implementation;
4. Interpret software requirements, design specifications to code, manage software development and support (using formal specifications, data flow diagrams, and other accepted design techniques and tools), integrate and test software components;
5. Estimate software development costs and schedules;
6. Review existing programs and assist in making refinements, performance improvements, and improving current techniques; and
7. Estimate and track software quality attributes.

### 2.3.6 Functional Area Six - Systems/Facilities Management and Maintenance

Systems/Facilities Management and Maintenance services include: Data Center Technical Support/Operations, and Help Desk. At the State's discretion, these services may be required to be provided externally to the requesting agency.

#### 2.3.6.1 Data Center Technical Support

A) Description - Planning, analysis, troubleshooting, integration, acquisition, installation, operations, maintenance, training, documentation, and administration services for computer centers.

B) Examples of Potential Services:

1. Develop/provide user manuals, programmer maintenance manuals, system design documentation;
2. Provide operations and maintenance support;
3. Analyze and assess equipment and performance degradation, including determination of hardware, software, and/or other technical changes necessary to meet operational requirements;



4. Perform data entry;
5. Provide support services to maintain operational data storage and retrieval applications resident on diverse computer platforms including, but not limited to, mainframes, and minicomputers;
6. Implement and maintain backup and disaster recovery systems and processes;
7. Develop standard operating procedures for the data center and associated systems/applications;
8. Provide alternative sources of computer operations support and/or data center facilities;
9. Provide assistance and help to users in areas, including, but not limited to, personalized assistance, telephone assistance and limited training;
10. Perform hardware/software testing, installation, and maintenance;
11. Collect and maintain statistics on hardware and software problems, maintenance service calls, and user base;
12. Migrate data from system A to system B, which may require data QA/QC, data cleansing, data conversion and manipulations management;
13. Monitor system performance and coordinate with office system vendors and users on efficient and effective use of the system;
14. Provide technical training on all functions of the system;
15. Develop requirements/specifications for hardware, software, and/or services;
16. Develop special applications as required;
17. Maintain system architecture/schematic on hardware, software, circuits, and codes for each system and user(s);
18. Develop and maintain a configuration management program for all supported applications;
19. Develop and maintain a lifecycle management program for all hardware and software applications;
20. Centrally administer software licenses, including dynamic allocation;
21. Perform network-based detection of viruses and unauthorized software and facilities to counter/eliminate/control;
22. Centrally distribute electronic software;
23. Migrate systems between State-owned and/or commercial facilities
24. Manage and administer user identifications; passwords; and security keys; and
25. Provide secure data center facility to host mission critical applications.

#### 2.3.6.2 Facilities Maintenance

- A) Description – Cleaning of equipment, fire suppression, heating, ventilation and air conditioning (HVAC) installation and maintenance, and Uninterruptible Power Supply (UPS).
- B) Examples of Potential TORFPs:
  1. Installation and maintenance of UPS and HVAC systems;
  2. Installation and testing of fire suppression system; and
  3. Cleaning of facilities equipment.

#### 2.3.6.3 Help Desk

- A) Description - Centralized technical assistance service to supports end user problem resolution, and the distribution of general information concerning the effective use of IT.
- B) Examples of Potential Services:

1. Troubleshoot problems encountered using microcomputer software;
2. Develop/provide user manuals, programmer maintenance manuals, and system design documentation;
3. Provide user training in a variety of areas (e.g., desktop publishing, end-user security awareness training, telecommunications, operating systems, software packages);
4. Analyze and assess equipment and performance degradation, including determination of hardware, software, and/or other technical changes necessary;
5. Provide assistance in maintaining inventory control and location records of State-owned IT equipment/software and disposal of property as required;
6. Collect statistics on hardware/software/system problems, security incidents, maintenance service calls, and user base;
7. Analyze new applications, perform software maintenance, and make appropriate enhancements to existing systems;
8. Assist customer personnel in identifying their requirements and/or problems;
9. Review implementation plans for applications to ensure that the system resources are available to support applications in both the long and short term;
10. Perform configuration management of software and hardware, including computers and network equipment across the enterprise; and
11. Centrally administer software licenses, including dynamic allocation.

### **2.3.7 Functional Area Seven - Information System Security**

The security of information and computing resources at all organizational levels; including software/application and data security support, as well as disaster recovery planning and risk assessment.

#### **2.3.7.1 Hardware/Software/Application Security Support**

- A) Description –Strategies and solutions to defend hardware and software IT and telecommunications resources against adversaries such as viruses, worms and hackers for operating systems and applications in a mainframe, client/server, or networked environment.
- B) Examples of Potential Services:
1. Provide operational and analytical support related to security for computing platforms (i.e. PC, servers, mainframe) and networks;
  2. Analyze and evaluate new and emerging security technologies as well as vendor security products for their applicability and feasibility of use in securing hardware/software IT and telecommunications resources;
  3. Support customer security operations, including assisting customers with analyzing, developing and implementing security methodologies and safeguards to protect their IT and telecommunications assets;
  4. Provide technical training for all aspects of information security relative to personal computers, file servers, and networks;
  5. Design, test, install and support wireless network security systems; and
  6. Provide virus detection, elimination, and prevention support.

#### **2.3.7.2 Disaster Recovery and Risk Assessment.**

- A) Description - Disaster recovery planning and risk assessment in support of the mitigation of risks to IT and telecommunications systems and infrastructure. Through quantitative risk analyses establish recovery time and recovery point objectives, effective mitigation strategies, and documented disaster recovery plans. Assess adequacy of existing management, operational, and technical controls in safeguarding assets against waste, loss, unauthorized access/use, misappropriation to establish the consequences/impact of the potential threats on operations and service delivery requirements.
- B) Examples of Potential Services:
1. Review, develop, update and/or integrate disaster recovery, continuity of operations plans, contingency plans, and risk assessments; and
  2. Identify, develop and/or implement mitigation strategies to increase the effectiveness of operations and the continuity of service.

### **2.3.8 Functional Area Eight - Application Service Provider**

- A) Description - Combination of software, hardware and networking technologies to offer hosted service-based applications.
- B) Examples of Potential Services - Application and support of applications such as, but not limited to:
1. Finance;
  2. Human resources;
  3. E-commerce;
  4. Procurement;
  5. Materials management;
  6. Production;
  7. Order management and other legacy systems;
  8. Collaboration and automation tools;
  9. Web-hosting;
  10. Knowledge management;
  11. Back-office solutions;
  12. e-business and e-commerce applications;
  13. Data warehousing;
  14. Information services (e.g., financial information, and legal research) and
  15. Implementation and customization of hosted applications (e.g. Salesforce.com)

### **2.3.9 Functional Area Nine - IT and Telecommunications Financial and Auditing Consulting Services**

The IT and Telecommunications Financial and Auditing Consulting include the following types of services: cost and financial analyses, information systems auditing and quality assurance and telecommunications systems management.

#### **2.3.9.1 Cost and Financial Analyses**

- A) Description – An independent “third-party” review of cost factors associated with the recommended solutions contained in Proposals from contractors to develop IT and telecommunications solutions. Independent third-party reviews may include such analyses as

project return on investment, total cost of ownership, IT project portfolio analysis and payments made or revenues received by State agencies under various contracts for telecommunications activities.

B) Examples of Potential Services:

1. Verify charges and credits on telecommunications invoices that the State has received for various telecommunications equipment, systems and services, or amounts received under revenue producing contracts (may include inventory of equipment, lines, circuits and other telecommunications facilities). Assist in obtaining cash refunds from vendors for any erroneous charges, credits, or revenue shortages identified through audits.
2. Perform independent reviews of proposed IT projects, products, and cost for services and benefits to determine cost-effectiveness;
3. Perform independent analyses of cost proposals and cost benefit analyses for solutions submitted by Master Contractors in response to agency solicitations;
4. Provide total cost of ownership analysis that includes the entire range of cost categories required for any given project being reviewed. The cost categories subject to analysis will depend on the particular IT project and may include: acquisition, facilities, equipment, operations, maintenance and repairs, and other costs such as, nonrecurring, recurring, direct and indirect, fixed and variable, and research and development;
5. Establish baseline cost and benefits for IT projects based on historical data to serve as benchmarks for planning and evaluating proposed IT projects; and
6. Provide financial management IT for projects and recommend procedures and processes for improving project financial management.

2.3.9.2 Information Systems Auditing and Quality Assurance

A) Description - Quality assurance audits of IT systems to ensure that systems perform to documented specifications in areas such as: data security, customer privacy, data accuracy, business processes, and customer satisfaction. In support of these efforts, auditing expertise to either perform or validate internal quality assurance audits for large- and medium-scale information technology projects in various environments (i.e., mainframe, mini computers, client/server, WAN/LAN).

B) Examples of Potential Services:

1. Perform or validate quality assurance audits (including IV&V) of IT systems during the development process and report to a State agency on findings and recommend mechanisms to correct the issues identified in the audits; and,
2. Develop an action plan that corrects audit findings and report to a State agency on the results of these corrective actions.

2.3.9.3 Telecommunications Systems Management

A) Description - Auditing services for quality control and for recommendations on consolidating activities spread among several contracts to obtain operational and cost efficiencies through consolidation and other means for telecommunication systems.

B) Examples of Potential Services:

1. Evaluate and report on how State telecommunications contracts may be combined, streamlined, or otherwise improved to maximize operational and cost efficiencies in the State;
2. Provide assessments of configuration and performance of telecommunications systems and contract vehicles;
3. Analyze costs and benefits for telecommunications systems and provide recommendations based on maximizing return on investments for alternatives to current and proposed systems; and
4. Monitor the implementation of accepted recommendations or improvements and provide feedback on level of improvements.

### **2.3.10 Functional Area Ten - IT Management Consulting Services**

The IT Management Consulting Services include any of the following types of services: IT enterprise architecture, systems review for architectural consistency, strategic planning assistance, project management services, Master Contractor assessments and risk assessment analysis.

#### **2.3.10.1 Systems Review for Architectural Consistency**

- A) Description - Engineering assistance to integrate systems based on architectural standards and common infrastructures. In particular, recommendations for systems development, acquisition, and operations and to leverage common infrastructures effectively among various agency missions and services. Such application reviews may cover a variety of IT system environments from simple personal computer (microprocessor) and workstation applications; to local area networks (LAN) and wide area networks (WAN), to distributed processing systems; to web-based interactive systems; to large and very complex mainframe database and file management systems that utilize remote batch processing and interactive teleprocessing.
- B) Examples of Potential Services:
1. Assess system design of applications to ensure consistency between systems and enterprise architectures and best integration with common infrastructure before development (i.e., code generation);
  2. Evaluate and determine the adequacy and appropriateness of the proposed systems architecture and applications for the planned systems; and
  3. Assess risks related to systems development plans and change proposals to existing and target architecture at the systems and enterprise levels.

#### **2.3.10.2 Strategic Planning Assistance**

- A) Description - Assistance in developing long-range IT plans, IT-enabled business plans, and program effectiveness measures related to proposed IT investments. Assistance with agency-level strategic planning for IT to ensure consistency with State-level (i.e., enterprise) plans and initiatives.
- B) Examples of Potential Services:
1. Analyze customer and citizen demand for IT-enabled services;

2. Evaluate current and emerging technologies and assist agencies with planning the tactical and strategic migration of business services to these technologies;
3. Develop IT strategic plans that align agency business and technology plans with State business technology and goals and objectives; and
4. Perform strengths, weaknesses, opportunities, and threats (SWOT) analyses, critical success factor analyses, strategic business planning, strategic information systems planning, electronic government assessments, and other techniques used to establish strategic information technology plans.

#### 2.3.10.3 Project Management Services

- A) Description - Successful IT project management services to ensure that IT project goals and objectives are met and that products are delivered on time, on budget and within scope, as well as meet the business objectives originally intended.
- B) Examples of Potential Services:
  1. Ensure strategic alignment of IT projects by establishing project goals and objectives that are consistent with stated agency business drivers;
  2. Provide project planning, task prioritization, budget/cost analysis, scheduling, projections of staffing requirements, and performance measurements; and
  3. Assist State agencies with project management of IT project by assessing and modifying Project Management Plans (PMP), schedules, contracts and manages resources; delegating tasks; receiving, gathering, analyzing and disseminating information; setting goals and objectives; organizing project team and governance structures; understanding technology projects and preparing action and contingency plans.

#### 2.3.10.4 Master Contractor Assessments

- i. Description - Independent, third party assessment of Master Contractor products, capabilities and experiences.
- ii. Examples of Potential Services – Provide a review, evaluation and rating of IT Master Contractor performance on topics such as:
  1. Code of ethics and business practices;
  2. Financial status including assets, liabilities, operating capital, cash flow, insurance coverage, annual reports, legal history;
  3. Ranking among peers in the industry;
  4. Personnel qualifications;
  5. Reputation in the industry;
  6. Customer satisfaction levels in performing projects;
  7. Strengths and weaknesses in performing projects;
  8. Project management methodologies applied to projects and results; and
  9. Projects performed on time, on budget and within scope and meeting the business requirements originally intended.

#### 2.3.10.5 Risk Assessment Analysis

- A) Description – Assess the risks associated with costs, benefits, schedule, technical performance, human factors, safety and security. The analysis may include provisions for identifying risk areas, assessing risk factors, recommending appropriate resources to reduce risk factors, identifying and analyzing alternative actions available, identifying the most promising alternatives, and planning for implementation of risk reduction.
- B) Examples of Potential Services:
1. Assess risks and review technical risk assessments of an IT project, including subsystem designs, architectures, and computer systems in terms of their impact on costs, benefits, schedule and technical performance;
  2. Perform cost and schedule risk assessments to support various alternatives to meet mission need, recommend alternative courses of action when one or more interdependent segment(s) or phase(s) experience a delay, and recommend opportunities for new technology insertions;
  3. Provide fraud detection and prevention expertise on services to internal and external customers;
  4. Perform technical risk assessments at various points in the system life cycle;
  5. Identify areas of technical risk when translating operational requirements into system level requirements;
  6. Develop and/or evaluate potential methods of mitigating technical risks;
  7. Update evaluations in order to determine and forecast operational needs and changes;
  8. Provide presentations on reporting and operational enhancements;
  9. Develop operational management reporting tools and programs to prevent or mitigate risks; and
  10. Provide and/or develop risk management policies, procedures and guidelines.

### **2.3.11 Functional Area Eleven - Business Process Consulting Services**

- A) Description - Streamlining business processes and the development, implementation and support of process improvements to eliminate redundancy; increase productivity and reduce cost.
- B) Examples of Potential TORFPs:
1. Collect information sharing and business requirements from State agencies to use in the development of new systems and the reengineering of legacy systems.
  2. Analyze existing work flow processes and define business requirements and recommend improvements to or reengineering of business work flow processes in order to meet identified business requirements;
  3. Coordinate business process improvement initiatives across the lines of business of either a single agency or multiple State agencies;
  4. Analyze the operational, technical and economic risks of reengineering efforts;
  5. Assist State agencies with change management planning and the execution of reengineered business processes;
  6. Document the reengineering methodologies used to recommend improvements in business processes and the methods of implementation; and



7. Assist agencies in developing technical solutions for IT projects for recommended business process improvements.

### **2.3.12 Functional Area Twelve –Tower Site Preparation**

The Proposed Tower Site Preparation FA include the following types of services: Determination of Eligibility (DOE) and Photo Simulations.

#### **2.3.12.1 Determination of Eligibility (DOE) of Proposed Tower Sites**

- A) Description - Conduct historic properties survey investigations that meet the rules implementing compliance with Section 106 (36 CFR § 800), delimit the undertaking's Area of Potential Effects, identify historic properties, evaluate the effects of the undertaking to historic properties, and provide documentation to the State Historic Preservation Officer and the State.
- B) Examples of Potential Services:
  1. Provide historic properties survey reports, National Register of Historic Places Determinations of Eligibility reports, Criteria of Adverse Effect reports, completed State historic properties inventory forms, photographic documentation, line of sight profiles, and photographic simulations;
  2. Determination of Effects/Adverse Effects shall include a Tower Viewshed Analysis and Impact Determination to include the effects on existing or potentially eligible Rural Historic Landscapes;
  3. Provide visual impact assessments and expert application of the Criteria of Adverse Effect on historic properties and Rural Historic Landscapes within the Area of Potential Effect; and
  4. Provide photographic documentation of existing tower assets.

#### **2.3.12.2 Photo Simulations for Proposed Tower Sites**

- A) Description - Provide photographic simulation services and resulting photographic prints of radio tower projects, which will be used during public information hearing presentations.
- B) Example of Potential Services:
  1. Photograph an existing radio tower of the structural type and height selected for the location identified (typically 330-foot or 180-foot) and the radio tower sites selected for photo simulation; provide photographic simulation through superimposition of an image of the appropriate height and structural type of the tower projected onto photographs of the selected radio tower site(s) from a minimum of three different identified locations; and provide electronic images of the photo simulations taken from three different identified locations/view points for each proposed tower site.

### **2.3.13 Functional Area Thirteen – Tower Installation**

- A) Description – Provide and install self-supporting towers; additionally, provide and install prefabricated concrete equipment shelters with associated liquid propane fueled generators with fuel tanks and installation services.



- B) Examples of Potential Services:
1. Provide and install 80' to 105' monopole;
  2. Provide and install 180', 330' or 450' self-supporting tower; and
  3. Provide and install lighting, fencing, and concrete equipment shelters as specified with any of the above.
- C) The successful Offeror must submit a Performance Bond (see Attachment N), or other suitable security in the amount equal to the TO Agreement value. Acceptable security shall be as described below, identified within and excerpted from COMAR 21.06.07.10:

Acceptable security for bid, performance, and payment bonds is limited to:

- (1) A bond in a form satisfactory to the State underwritten by a surety company authorized to do business in this State;
- (2) A bank certified check, bank cashier's check, bank treasurer's check, cash, or trust account;
- (3) Pledge of securities backed by the full faith and credit of the United States government or bonds issued by the State;
- (4) An irrevocable letter of credit in a form satisfactory to the Attorney General and issued by a financial institution approved by the State Treasurer"

The cost of this bond, or other suitable security, is to be included in the total prices proposed and is not to be proposed and will not be recoverable as a separate cost item. The successful Offeror shall deliver the Performance Bond, or other suitable security, to the State within 10 working days after being notified of the proposed TO Agreement award.

#### **2.3.14 Surety Bond Assistance Program**

Assistance in obtaining bid, performance and payment bonds may be available to qualifying small businesses through the Maryland Small Business Development Financing Authority (MSBDFDA). MSBDFDA can directly issue bid, performance or payment bonds up to \$750,000. MSBDFDA may also guaranty up to 90% of a surety's losses as a result of a contractor's breach of contract; MSBDFDA exposure on any bond guaranteed may not, however, exceed \$900,000. Bonds issued directly by the program will remain in effect for the duration of the contract, and those surety bonds that are guaranteed by the program will remain in effect for the duration of the surety's exposure under the contract. To be eligible for bonding assistance, a business must first be denied bonding by at least one surety on both the standard and specialty markets within 90 days of submitting a bonding application to MSBDFDA. The applicant must employ fewer than 500 full-time employees or have gross sales of less than \$50 million annually, have its principal place of business in Maryland or be a Maryland resident, must not subcontract more than 75 percent of the work, and the business or its principals must have a reputation of good moral character and financial responsibility. Finally, it must be demonstrated that the bonding or guarantee will have a measurable economic impact, through job creation and expansion of the state's tax base. Applicants are required to work through their respective bonding agents in applying for assistance under the program. Questions regarding the bonding assistance program should be referred to:

Maryland Department of Commerce  
Maryland Small Business Development Financing Authority  
217 E. Redwood Street, 22nd Floor  
Baltimore, Maryland 21202  
Phone: (410) 333-4270

Fax: (410) 333-6931

### **2.3.15 Functional Area Fourteen – Tower Equipment Installation and Services**

- A) Description – Support services for wireless communication sites and related equipment
- B) Examples of potential Services:
  - 1. Antenna and transmission line installation, , dish alignment, removal and repair;
  - 2. Tower lighting systems installation and repair;
  - 3. Tower inspection services;
  - 4. Generator maintenance;
  - 5. Tower site upkeep;
  - 6. Tower site audit and documentation services; and
  - 7. Radio equipment installation, testing, and configuration

### **2.3.16 Functional Area Fifteen – Electronic Benefits Transfer (EBT)**

- A) Description – Services to provide intra-agency technical infrastructure components to create a new or update an existing EBT system.
- B) Example of potential Services:
  - 1. System design to include functional design document, life cycle testing, back-up and recovery, system security;
  - 2. Enhancement to operational performance;
  - 3. Improvements in baseline functionality; and
  - 4. Optimization of system software and network communications.

### **2.3.17 Functional Area Sixteen – Media and Training Center Support**

- A) Description – Services to support multi-media and education centers including, but not limited to: planning, analysis, troubleshooting, integration, acquisition, installation, operations, maintenance, training, documentation, and administration; professional training expertise, including instructional systems design capabilities to improve job performance of employees utilizing the learning/media center.
- B) Examples of Potential Services:
  - 1. Develop technical and non-technical training materials and documentations;
  - 2. Analyze and assess equipment and performance degradation, including determination of hardware, software, and/or other technical changes necessary to meet operational requirements;
  - 3. Assist in the planning and logistics of conferences (including local, remote, tele-conferences, nationwide, and/or global), presentations, and classes;
  - 4. Prepare video recordings of presentations, meetings, and course topics;
  - 5. Provide and maintain a training environment conducive to effective training. May include facility, multimedia presentation capabilities and curriculum specific hardware and software;

6. Maintain a centralized technical assistance service that supports problem resolution and distributes general multi-media and learning information;
7. Provide qualified small to medium enterprises to effectively train technical and non-technical staff; and
8. Develop curricula.

### 2.3.18 Functional Area Seventeen – Documentation/Technical Writing

- A) Description –Develop and/or maintain the following types of documentation: system documentation; user manuals; computer operations and program maintenance manuals; plans for training, testing, quality assurance, and contingency operations; and backup, recovery and restart procedures; technical writing for proposals, presentations, standard operating procedures (SOP), policies and procedures.
- B) Examples of Potential Services:
1. Develop system documentation that captures functional, interface, integration, date, security, and internal control requirements, data sensitivity and criticality description, system/subsystem or modules, program, database design, security and internal control specifications;
  2. Document security specifications;
  3. Develop system documentation for a new or existing system;
  4. Develop technical specifications for a proposal;
  5. Develop standard operating procedures;
  6. Update SDLC documentation;
  7. Develop agency security policy and procedures; and
  8. Develop SOP for administration of a master contract.

## 2.4 Security Requirements

### 2.4.1 Employee Identification.

2.4.1.1 Each person who is an employee or agent of the Master Contractor or subcontractor (Contractor Personnel) shall display his or her company identification badge at all times while on State premises. Upon request of authorized State personnel, each such Contractor Personnel shall provide additional photo identification.

2.4.1.2 At all times at any facility, the Master Contractor’s Personnel shall cooperate with State site requirements that include but are not limited to being prepared to be escorted at all times, providing information for badge issuance, and wearing the badge in a visual location at all times.

### 2.4.2 Information Technology

2.4.2.1 The Master Contractor and Contractor Personnel shall comply with and adhere to the State IT Security Policy and Standards. These policies may be revised from time to time and the Contractor shall comply with all such revisions. Updated and revised versions of the State IT Policy and Standards are available online at: [www.doit.maryland.gov](http://www.doit.maryland.gov) – keyword: Security Policy.

2.4.2.2 The Master Contractor and Contractor Personnel shall not connect any of its own equipment to a State LAN/WAN without prior written approval by the State. The Master Contractor shall

complete any necessary paperwork as directed and coordinated with the TO Manager to obtain approval by the State to connect Contractor-owned equipment to a State LAN/WAN.

2.4.3 Security Clearance / Criminal Background Check (**May be required by some State agencies and will be identified as such in the TORFP/RFR**):

- A. The Master Contractor shall obtain at its own expense a Criminal Justice Information System (CJIS) State and Federal criminal background check, including fingerprinting, for each Contractor Personnel performing services under a TO Agreement. This check may be performed by a public or private entity. A successful CJIS State criminal background check shall be completed prior to any Master Contractor employee providing services on-site at any location covered by the TO Agreement. A CJIS Federal background check is necessary for each employee assigned to work on the TO Agreement,
- B. The Master Contractor shall provide certification to the agency that the Master Contractor has completed the required CJIS criminal background checks described in this TO Agreement and that the Master Contractor's employees assigned to this TO Agreement have successfully passed this check. The State reserves the right to refuse any individual employee to work on State premises, based upon certain specified criminal convictions, as specified by the State.
- C. The CJIS criminal record check of each Contractor Personnel who will work on State premises shall be reviewed by the Master Contractor for convictions of any of the following crimes described in the Annotated Code of Maryland, Criminal Law Article:
  - (a) §§ 6-101 through 6-104, 6-201 through 6-205, 6-409 (various crimes against property);
  - (b) any crime within Title 7, Subtitle 1 (various crimes involving theft);
  - (c) §§ 7-301 through 7-303, 7-313 through 7-317 (various crimes involving telecommunications and electronics);
  - (d) §§ 8-201 through 8-302, 8-501 through 8-523 (various crimes involving fraud);
  - (e) §§9-101 through 9-417, 9-601 through 9-604, 9-701 through 9-706.1 (various crimes against public administration); or
  - (f) a crime of violence as defined in CL § 14-101(a).
- D. Contractor Personnel of the Master Contractor who has been convicted of a felony or of a crime involving telecommunications and electronics from the above list of crimes shall not be permitted to work on State premises pursuant to this Master Contract; Contractor Personnel of the Master Contractor who has been convicted within the past five (5) years of a misdemeanor from the above list of crimes shall not be permitted to work on State premises.
- E. A particular on-site agency location may require more restrictive conditions regarding the nature of prior criminal convictions that would result in Contractor Personnel of the Master Contractor not being permitted to work on that agency's premises. Upon receipt of an agency's location more restrictive conditions regarding criminal convictions, the Master Contractor shall provide an updated certification to that agency regarding the Contractor Personnel working at or assigned to that agency's premises.

2.4.4 On-site Security Requirement(s) (**May be required by some State agencies and will be identified as such in the TORFP/RFR**):

For all conditions noted below, the Master Contractor's personnel may be barred from entrance or leaving any site until such time that the State conditions and queries are satisfied.

- A. Any Contractor Personnel who is an employee or agent of the Master Contractor or subcontractor and who enters the premises of a facility under the jurisdiction of the agency may be searched, fingerprinted (for the purpose of a criminal history background check), photographed and required to wear an identification card issued by the Department or Agency.
- B. Further, the Master Contractor Personnel shall not violate Md. Code Ann., Criminal Law Art. Section 9-410 through 9-417 and such other security policies of the agency that controls the facility to which access by the Master Contractor Personnel will be necessary. The failure of any of the Master Contractor's Personnel or subcontractor's employees or agents to comply with any provision of the Contract that results from award of this solicitation is sufficient grounds for the State to immediately terminate that Contract for default.
- C. Some State sites, especially those premises of the Department of Public Safety and Correctional Services, require each person entering the premises to document and inventory items (such as tools and equipment) being brought onto the site, and to submit to a physical search of his or her person. Therefore, the Master Contractor's personnel shall always have available an inventory list of tools being brought onto a site and be prepared to present the inventory list to the State staff or an officer upon arrival for review, as well as present the tools or equipment for inspection. Before leaving the site, the Master Contractor's Personnel will again present the inventory list and the tools or equipment for inspection. Upon both entering the site and leaving the site, State staff or a correctional or police officer may search Master Contractor Personnel.

## 2.5 Reports

### 2.5.1 MBE Reporting

The Master Contractor shall provide the TO Manager MBE reports as required in Attachment D.

### 2.5.2 Contract Management Oversight Activities Report

DoIT will be performing DoIT contract management oversight on the CATS+ Master Contract. As part of that oversight, DoIT has implemented a process for self-reporting contract management activities of CATS+ TO Agreements. This process shall typically apply to active TO Agreements for operations and maintenance services valued at \$1 million or greater, but all CATS+ TOs are subject to review.

TO Contractors shall comply with oversight requirements as specified in a TORFP/RFR, and as currently posted on the CATS+ web site.

### 2.5.3 Specialized Reports

Additional reports may be requested in the TORFP/RFR.

## 2.6 Retainage

- 2.6.1 The State reserves the right to establish retainage for any TORFP/RFR issued under this Master Contract, provided that no retainage exceeds 10%. Retainage conditions, including the percentage of retainage, whether retainage is cumulative, and the timeframe(s) and conditions(s) for release of retainage will be defined in the TORFP. Retainage will not be held by the State for any material costs. The Master Contractor shall note the material costs (estimated if necessary) on their response to the TORFP.

## **2.7 Insurance Requirements**

### **2.7.1 General Liability**

The Master Contractor shall maintain Commercial General Liability Insurance with limits sufficient to cover losses resulting from, or arising out of, Contractor action or inaction in the performance of the Contract by the Contractor, its agents, servants, employees, or subcontractors, but no less than a Combined Single Limit for Bodily Injury, Property Damage, and Personal and Advertising Injury Liability of \$1,000,000 per occurrence and \$3,000,000 aggregate.

### **2.7.2 Automobile and/or Commercial Truck Insurance**

The Master Contractor shall maintain Automobile and/or Commercial Truck Insurance as appropriate with Liability, Collision, and PIP limits no less than those required by the State where the vehicle(s) is registered, but in no case less than those required by the State of Maryland.

### **2.7.3 Employee Theft Insurance**

The Master Contractor shall maintain Employee Theft Insurance with minimum limits of \$1,000,000 per occurrence.

### **2.7.4 Workers' Compensation Insurance**

The Master Contractor shall maintain such insurance as necessary and/or as required under Workers' Compensation Acts, the Longshore and Harbor Workers' Compensation Act, and the Federal Employers' Liability Act.

### **2.7.4 Certificates of Insurance**

The recommended awardee must provide a certificate of insurance with the prescribed limits set forth in Section 2.7 of this RFP naming the State as an additional insured if required, within five (5) Business Days from notice of recommended award. The Master Contractor shall update certificates of insurance from time to time but no less than annually in multi-year contracts, as directed by the Contract Manager.

### **2.7.5 Other Insurance**

The Master Contractor shall obtain and maintain such coverages and provide such certificates of insurance as may be required in a TORFP.

### **2.7.6 State Inclusion on Insurance**

The State shall be listed as an additional insured on the policies with the exception of Worker's Compensation Insurance and Professional Liability Insurance. All insurance policies shall be endorsed to include a clause that requires that the insurance carrier provide the Contract Manager, by certified mail, not less than 45 days' advance notice of any non-renewal, cancellation, or expiration. In the event the Contract Manager receives a notice of non-renewal, the Contractor shall

provide the Contract Manager with an insurance policy from another carrier at least 30 days prior to the expiration of the insurance policy then in effect. All insurance policies shall be with a company licensed by the State to do business and to provide such policies.

### 2.7.7 Subcontractor Insurance

The Master Contractor shall require that any subcontractors providing products/services under this Contract obtain and maintain similar levels of insurance and shall provide the Contract Manager with the same documentation as is required of the Contractor.

## 2.8 Invoicing

2.8.1 All invoices shall be submitted monthly no later than 30 calendar days after the end of the invoice period, unless specified differently in the TORFP/RFR, and include the following information:

- a. Name and address of the State agency being billed,
- b. Master Contractor name,
- c. Products(s) and/or service(s) purchased listed separately including the amount for each individual charge (i.e., 5 – ABC Hardware @ \$2,000 Total \$10,000.00, 2 - CD Training @ \$100.00 Total \$200.00, Installation one-time cost \$300.00)
- d. Supporting Documentation
- e. E-mail address/phone number of Contractor's POC
- f. Remittance address,
- g. Federal taxpayer identification or (if owned by an individual) his/her social security number,
- h. Invoice period,
- i. Invoice date,
- j. Invoice number,
- k. Amount due,
- l. Retainage (if applicable), and
- m. Purchase order number(s) being billed.

Additional information may be required in the future. Invoices submitted without the required information will not be processed for payment until the Master Contractor provides the required information.

2.8.2 The Master Contractor shall submit the invoices to the agency identified in the TORFP/RFR. The State is generally exempt from Federal excise taxes, Maryland sales and use taxes, District of Columbia sales taxes and transportation taxes. The Master Contractor(s), however, is/are not exempt from such sales and use taxes and may be liable for the same.

2.8.3 Additional invoicing requirements for T&M, Fixed Price and Revenue Neutral will be established in each TORFP/RFR.

2.8.4 Material invoices can only be approved for cost. No additional fees or markups shall be allowed. All material invoices must be signed and dated by the Master Contractor and the original supplier's invoice shall be submitted and attached along with the applicable monthly invoice.



**2.9 Personnel Qualifications**

- 2.9.1 **Minimum qualifications.** In response to each TORFP/RFR, Master Contractors shall provide personnel that satisfy the personnel qualifications specified within Section 2.10 (the “Minimum Qualifications”) for each of the labor categories required under the specific solicitation. In the event that labor categories are not identified in a TORFP, Master Contractors shall provide the appropriate labor categories from those specified in Section 2.10. The Master Contractors shall certify that all candidates meet the required qualifications.
- 2.9.1.1 Substitution of Education for Experience. A Bachelor’s Degree or higher may be substituted for the general and specialized experience for those labor categories requiring a High School Diploma. A Master’s Degree may be substituted for two years of the general and specialized experience for those labor categories requiring a Bachelor’s Degree. Substitution shall be reviewed and approved by the State.
- 2.9.1.2 Substitution of Experience for Education. Substitution of experience for education may be permitted at the discretion of the State. For labor categories where a College Degree in a specific discipline is required, experience equivalent to two (2) years per year of college plus a college degree in any discipline may be substituted. The State TO Manager shall approve or disapprove substitutions.
- 2.9.1.3 Substitution of Professional Certificates for Experience: Professional certification (e.g., Certified Novell Engineer, SQL Certified Database Administrator) may be substituted for up to two (2) years for general and specialized experience. For labor categories where a specific Professional Certification is required (e.g., PMP) an equivalent Professional Certification may be substituted. The State TO Manager shall approve or disapprove substitutions. Equivalence of Professional Certification will be determined at the sole discretion of the State.
- 2.9.1.4 Proof of professional certification should be provided by the Master Contractor with the response to the TORFP/RFR and must be provided prior to TO award.
- 2.9.2 Master Contractors shall only propose staff available at the time and duration of the TORFP/RFR performance period. At the option of the State, Master Contractor personnel may be approved for performance in multiple skill categories for which they are qualified; however, one person shall never perform duties of multiple labor categories at the same time in any given TORFP/RFR performance period.
- 2.9.3 Managers, seniors, and other lead labor categories may serve as a Task Leader on one or more TO Agreement. Task Leaders shall have supervisory or project leader experience. This experience is not in addition to the experience requirements for the skill category.
- 2.9.4 **Preferred qualifications.** Specific areas of preferred expertise may be further requested in a TORFP/RFR. Offerors proposing personnel that demonstrate such preferred qualifications may receive a higher technical evaluation score. The TORFP will define specific project requirements. The TO Proposal shall clearly identify applicable experiences related to projects and technologies being used.
- 2.9.5 Substitution of Personnel.**
- A) Individuals proposed and accepted as personnel for TO Agreements are expected to remain dedicated throughout the TO Agreement commitment. Substitutions will be allowed only when the State TO Manager specifically agrees to the substitution in writing or due to an emergency

- circumstance as described in Section B) of this Section. All proposed substitutes of personnel must have qualifications at least equal to that of the person initially proposed and evaluated and accepted in the TO Agreement. The burden of illustrating this comparison shall be the Master Contractor's. The resumes of the initially proposed personnel shall become the minimum requirement for qualifications for successor personnel for the duration of the total TO Agreement term. If one or more of the personnel are unavailable for work under a TO Agreement for a continuous period exceeding 15 calendar days, the Master Contractor shall immediately notify the State TO Manager and propose to replace personnel with personnel of equal or better qualifications within 15 calendar days of notification to the State TO Manager. All substitutions shall be made in accordance with this provision.
- B) During the performance period for a TO Agreement, no substitutions of personnel will be permitted unless such substitutions are necessitated by an individual's sudden illness, death, or as otherwise approved by the State TO Manager. In any of these events, the Master Contractor shall promptly notify the State TO Manager and provide the information required by paragraph C). All proposed substitutions of personnel for other than emergency situations must be submitted in writing, at least 15 business days in advance of the proposed substitution, to the State TO Manager, with the information required in paragraph C). The State TO Manager must agree to the substitution in writing before such substitution shall become effective.
- C) All requests for substitutions must provide a detailed explanation of the circumstances necessitating the proposed substitutions, a resume of the proposed substitute (see paragraph D), and any other information requested by the State TO Manager to make a determination as to the appropriateness of the proposed substitution. All proposed substitutes must have educational qualifications and work experience equal to or better than the resume initially proposed for personnel; the burden of illustrating this comparison shall be the Master Contractor's.
- D) Resumes shall be signed by all substituting individuals and their formal supervisor, and the official resume of the previous employee shall be provided for comparison purposes.

## 2.10 Labor Categories and Qualifications

The following section describes the labor categories to be provided under the RFP.

### 2.10.1 Accountant, Cost (Senior)

**Duties:** Provides cost estimating and financial management support, including all activities, which occur during the life cycle of an information technology application or system. Conducts investment analyses or other complex operational analyses. Provides expertise and support in conducting a full range of investment analyses activities, including market surveys, cost analyses, benefits analyses, risk analyses, economic analyses, requirements definitions, schedule development, and tradeoff studies. Supports architecture efforts including economic analyses of architecture alternatives, architecture issues resolutions, and affordability analyses. Conducts analytical studies involving complex technical analyses, schedule constraints, and system benefits and system cost factors. Identifies cost accounting or financial problems and recommends solutions. Presents plans, analyses, and other advice within functional areas.

**Education:** Bachelor's Degree from an accredited college or university in Economics, Business, Accounting, Finance, or related discipline. A Master's degree and CPA are preferred.

**General Experience:** A minimum of eight (8) years relevant experience as a cost analyst or involved in analysis in business-related subject areas such as accounting, finance or economics.

**Specialized Experience:** At least five (5) years of experience in financial cost accounting with demonstrated success in analyzing information systems.

#### 2.10.2 Administrator, Systems

**Duties:** Monitor and coordinate all data system operations, including security procedures, and liaison with end users. Ensure that necessary system backups are performed and storage and rotation of backups is accomplished. Monitor and maintain records of system performance and capacity to arrange vendor services or other actions for reconfiguration and anticipate requirements for system expansion. Assist managers to monitor and comply with State data security requirements. Coordinate software development, user training, network management and minor installation and repair of equipment.

**Education:** An Associate's degree from an accredited college or university in Computer Science, Information Systems, Business or other related technical discipline. A Bachelor's Degree in one of the above disciplines equals one-year specialized and two (2) years general experience. An additional year of specialized experience may be substituted for the required education.

**General Experience:** Two (2) years of experience in a computer-related field.

**Specialized Experience:** One (1) year of experience administering multi user, shared processor systems and data communications networks.

#### 2.10.3 Analyst, Computer Software/Integration (Senior)

**Duties:** Must be knowledgeable in implementing computer systems in a phased approach of requirements analysis and conceptual design, site survey, system design review, critical design review, installation, integration, and testing. Must be knowledgeable in performing requirements analysis for a wide range of users in areas such as office automation, and finance and accounting. Must be able to present system designs for user approval at formal reviews. Must be capable of performing configuration management, software integration, interpreting software test results, and recommending solutions for unsatisfactory test results. Must be knowledgeable in life-cycle support, including maintenance, administration, and management. Must be able to provide solutions to identified software problem reports.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** Must have eight (8) years of progressive working experience as a computer specialist or a computer systems analyst.

**Specialized Experience:** At least five (5) years of experience as a Computer Systems Analysts

#### 2.10.4 Analyst, Computer Systems (Junior)

**Duties:** Develops requirements for information systems from a project's inception to conclusion. Develops required specifications for simple to moderately complex systems. Assists senior computer systems analyst in preparing input and test data for the proposed system.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have three (3) years of computer experience in assignments of a technical nature working under close supervision and direction.

**Specialized Experience:** At least one (1) year of experience in analyzing and programming applications on large-scale or mid-tier computers (or LAN-based) with a minimum of one (1) year of design and programming of moderately complex IT systems.

#### 2.10.5 Analyst, Computer Systems (Senior)

**Duties:** Provides technical and administrative direction for personnel performing software development tasks, including the review of work products for correctness, adherence to the design concept and to user standards and for progress in accordance with schedules. Must be able to coordinate with the Program Manager to ensure problem solution and user satisfaction. Makes recommendations, if needed, for approval of major systems installations. Prepares milestone status reports and deliveries/presentations on the system concept to colleagues, subordinates, and end user representatives. Provides daily supervision and direction to support staff.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have eight (8) years of computer experience working independently or under general direction on complex application problems involving all phases of systems analysis.

**Specialized Experience:** At least five (5) years of experience in analysis and design of business applications for complex large-scale or mid-tier computer systems, or LAN-based systems, to include experience in Database Management Systems (DBMS), and use of programming languages. Knowledge of current storage and retrieval methods and demonstrated ability to formulate specifications for computer programmers to use in coding, testing, and debugging of computer programs.

#### 2.10.6 Analyst, Financial

**Duties:** Must be able to clearly define government financial business practices and Electronic Commerce/Electronic Data Interchange (EC/EDI) opportunities, and incorporate the defined processes into an automated solution that includes relational databases and distributed systems for integration into the government financial business system. Identifies potential problems and solutions through analysis identifying recommended solutions. Must be able to work with functional specialists, automation specialists, Master Contractors, vendors, and customers to effectively automate the customer's requirements into an automated application. Acts as a focal point to coordinate all disciplines in the recommended solution. Must be able to communicate with both IT and financial oriented individuals to document the flow, recommend opportunities, impact recommendations, and serve as the liaison between the financial specialist and automation specialist that do not have both disciplines. Must be able to apply state-of-the-art applications that will effectively automate financial applications in the most effective manner while adhering to the established Accounting Principles and Practices.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Finance, Business, or other related technical discipline. A Master's Degree is preferred.

**General Experience:** Must have five (5) years of financial management experience.

**Specialized Experience:** At least three (3) years of experience in financial management with demonstrated ability in analyzing, designing, and developing automated applications for unique business practices in a fee-for-service environment.

#### 2.10.7 Analyst, Financial (Senior)

**Duties:** Provides financial management planning and execution support. Has knowledge of theories, principles and practices of financial management, including time value analyses, cash flow analyses and cost/benefit and return on investment analyses. Conducts investment analyses or other complex operational analyses. Provides expertise and support in conducting a full range of investment analyses activities, including market surveys, cost analyses, benefits analyses, risk analyses, economic analyses, requirements definitions, schedule development, and tradeoff studies. Supports architecture efforts including economic analyses of architecture alternatives, architecture issues resolutions, and affordability analyses. Classifies and summarizes financial data for the preparation and submission of reports on a recurring basis. Must be able to apply financial analysis to information systems issues.

**Education:** Bachelor's Degree from an accredited college or university in Economics, Business, Accounting, Finance, or related discipline. A Master's degree and CPA are preferred.

**General Experience:** At least eight (8) years progressive experience as an analyst or involved in analyst type functions in a business related subject area such as accounting, finance or economics.

**Specialized Experience:** At least five (5) years of financial management experience with demonstrated ability in analyzing information systems.

#### 2.10.8 Analyst, Research

**Duties:** Analyzes existing and potential product and service information, prospective customers and markets. Collates information into meaningful reports and presentation material. Maintains any technical information in a systems library.

**Education:** High School Diploma or Associate's Degree in Business, or related field. A Bachelor's degree is preferred.

**General Experience:** A minimum of one (1) year of work experience in a business environment.

**Specialized Experience:** At least one (1) year of demonstrated experience word processing, using electronic spreadsheets and other administrative software products. General knowledge of governmental documents and procedures.

#### 2.10.9 Analyst, Systems (Senior)

**Duties:** Serves as a computer systems expert on assignments that typically involve establishing automated systems, where concern is with overall life cycle structure; and conducts feasibility studies from design,

implementation and post-implementation evaluation from a number of possible approaches. Design criteria must be established to accommodate changes in legislation, mission, or functional program requirements.

**Education:** Bachelor's Degree from an accredited college or university in Computer Science, Systems Analysis, Information Systems or a related field. A Master's Degree in a related field of information technology is preferred.

**General Experience:** A minimum of eight (8) years of experience in information technology systems analysis.

**Specialized Experience:** At least five (5) years of the experience in the design of business applications on complex IT systems. Requires a broad knowledge of data sources, data flow, system interactions, advanced computer equipment and software applications, and advanced systems design techniques to develop solutions to unyielding complex problems and to advise officials on systems design and IT forecasts.

#### 2.10.10 Application Developer, Advanced Technology

**Duties:** Must be able to translate applications requirements into web-based solutions using available technology. Must be able to apply new and emerging technologies to the software development process.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have two (2) years of computer experience in at least two of the following disciplines: systems analysis, systems programming, application programming, and equipment analysis.

**Specialized Experience:** At least one (1) year of experience developing applications using advanced technologies, such as Internet protocols or web-based technology. Technologies include HTML, CGI applications, PERL or Javascript, and Java.

#### 2.10.11 Application Developer, Advanced Technology (Senior)

**Duties:** Must be able to translate applications requirements into web-based solutions using available technology. Must be able to apply new and emerging technologies to the software development process.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or five (5) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have three (3) years of computer experience in at least two of the following disciplines: system analysis, system programming, application programming, and equipment analysis.

**Specialized Experience:** At least one (1) year of experience developing applications using advanced technologies, including Internet protocols or web-based technology. Technologies include HTML, CGI applications, PERL or Javascript, and Java



### 2.10.12 Applications Development Expert

**Duties:** Provides design recommendations based on long-term IT organization strategy. Develops enterprise level application and custom integration solutions including major enhancements and interfaces, functions and features. Uses a variety of platforms to provide automated systems applications to customers. Provides expertise regarding the integration of applications across the business. Determines specifications, then plans, designs, and develops the most complex and business critical software solutions, utilizing appropriate software engineering processes – either individually or in concert with a project team. Will assist in the most difficult support problems.

Develops programming and development standards and procedures as well as programming architectures for code reuse. Has in-depth knowledge of state-of-the art programming languages and object-oriented approach in designing, coding, testing and debugging programs. Understands and consistently applies the attributes and processes of current application development methodologies. Researches and maintains knowledge in emerging technologies and possible application to the business. Viewed both internally and externally as a technical expert and critical technical resource across multiple disciplines. Acts as an internal consultant, advocate, mentor and change agent.

**Education:** Preference for a Bachelor's or Master's Degree in Computer Science, Information Systems, or other related field or equivalent work experience.

**General Experience:** At least seven (7) years of IT and business/industry work experience.

**Specialized Experience:** At least three (3) years as Technical expert in IT organization. Coaches and mentors more junior technical staff. Provides technical input into the most complex and high impact IT decisions. Accountable for the most complex enterprise-wide applications and issues, translating highly complex concepts for peers and customers.

### 2.10.13 Applications Programmer

**Duties:** Analyzes functional business applications and design specifications for functional areas such as finance, accounting, personnel, manpower, logistics, and contracts. Develops block diagrams and logic flowcharts. Translates detailed design into computer software. Tests, debugs, and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers as required to ensure program deadlines are met.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have five (5) years of computer experience in information systems design.

**Specialized Experience:** At least three (3) years of experience as an application programmer on large-scale DBMS, knowledge of computer equipment, and ability to develop complex software to satisfy design objectives.

### 2.10.14 Archeologist /Historic Preservation Specialist



**Duties:** Responsible for conducting Historic Properties Survey investigations, identifying historic properties, evaluate the effects of the undertaking to historic properties. Provide visual impact assessment and expert application of the Criteria of Adverse Effect on historic properties and Rural Historic Landscapes within the Area of Potential Effect.

**Education:** Bachelor's Degree from an accredited college or university in Architectural History, Art History, Historic Preservation or related field or five (5) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Experience performing full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

#### 2.10.15 Architect, Application (Senior)

**Duties:** Manages major projects that involve providing professional support services and/or the integration, implementation and transition of large, complex systems. Provides design and development of e-government solutions, and is responsible for technical design and implementation of the architecture. Designs, develops and maintains infrastructure and backend applications. Provides expertise on defining the role of broadband and wireless applications. Provides definition of current State architecture blueprints. Provides expertise with web servers, gateways, and application servers and content management systems. Provides experience in web application technologies and middleware solutions. Researches new technologies and products for their applicability to business processes. Must be able to compare various solutions and determine the most suitable. Ensures that development efforts are well planned and in agreement with standards.

**Education:** Bachelor's Degree from an accredited college or university in Engineering, Computer Science, Mathematics or other related scientific or technical discipline. Master's degree preferred.

**General Experience:** At least 10 years of experience planning, designing, building, and implementing IT application systems. Must have led or been chief architect in a major IT applications implementation effort. Must have a strong background in software engineering principles and techniques.

**Specialized Experience:** At least six (6) years of experience in designing medium to large-scale sites and management of at least five Internet projects.

#### 2.10.16 Architect, Information Technology (Senior)

**Duties:** Provides expertise in the most current principles and practices of architecture data management systems and experience in large system designs, and with data modeling in the information management arena. Provides expertise in modeling and organizing information to facilitate support of projects or information architectures. Provides guidance on how and what to data and process model. Primarily deals with transition planning from legacy to modern systems by concentrating on information flows, data exchange, and data translation standardization services.

**Education:** Bachelor's Degree from an accredited college or university with a major in Engineering, Computer Science, Mathematics or a related field. Master's degree preferred.

**General Experience:** At least ten (10) years of experience planning, designing, building, and implementing IT systems.

**Specialized Experience:** At least five (5) years of the required ten (10) years of experience must be in the direct supervision and management of major projects that involve providing professional support services and/or the integration, implementation and transition of large complex system and subsystem architectures. Must have led or been chief architect in major IT implementation efforts. Must demonstrate a broad understanding of client IT environmental issues and solutions and be a recognized expert within the IT industry. Must demonstrate advanced abilities to team and mentor and possess demonstrated excellence in written and verbal communication skills.

#### 2.10.17 Architect, Internet/Web

**Duties:** Responsible for analyzing assigned specifications, planning, designing and developing solutions, utilizing appropriate Internet/Intranet/Extranet architecture processes supporting a wide range of business process. Provides appropriate documentation for object design decisions, estimating assumptions, applets and performance metrics – as required by organization architecture process standards, or as assigned. Responsible for minimizing the issues between the client and the server applications and for the overall setup and design of the Internet and web server architecture. Impact and complexity of this job increases if organization is utilizing Internet solutions (vs. only Intranet), especially those with significant business impact (e.g., e-business).

**Education:** Preference for a Bachelor's Degree in Computer Science, Information Systems, or other related field or equivalent work experience.

**General Experience:** At least five (5) years of IT work experience.

**Specialized Experience:** Has worked independently or as a part of a team under general supervision and coached more junior technical staff. Technical expert in IT organization. Provides input into highly complex and high impacting decisions as it relates to area of expertise.

#### 2.10.18 Architect, Systems (Senior)

**Duties:** Responsible for developing business, data, systems, and infrastructure models to develop enterprise architectures. Develops plans for migrating architectures. Develops technical reference models to include hardware/software standards. Engineer's integrated hardware and software solutions to meet mission requirements.

**Education:** Bachelor's Degree from an accredited college or university in Computer Science, Information Systems or related field or three (3) years of equivalent experience in a related field. A Master's Degree in information technology is a plus.

**General Experience:** Experience performing architecture related work on at least five (5) IT systems.

**Specialized Experience:** Experience performing a significant role in all aspects of architecture related work on at least two (2) large IT systems.

### 2.10.19 Architect, Systems Design

**Duties:** Must be able to lead team in developing application, development, network, and technical architectures for mid-range client/server and mainframe applications. Responsible for gathering and defining the architecture requirements and for ensuring that the architectures are compatible and in compliance with the appropriate IT organization and project standards.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** Must have six (6) years of experience planning, designing, building, and implementing mid-range IT systems.

**Specialized Experience:** At least four (4) years of experience developing application, development, network, and technical architectures for mid-range client/server and mainframe applications. Demonstrated ability to develop and execute architecture strategies and to perform feasibility studies and integration analyses. Experience supervising and providing guidance in implementing various mid-range architectures and supporting implementation of large-scale applications.

### 2.10.20 Architectural Historian

**Duties:** Responsible for conducting Historic Properties Survey investigations, identifying historic properties, evaluate the effects of the undertaking to historic properties. Provide visual impact assessment and expert application of the Criteria of Adverse Effect on historic properties and Rural Historic Landscapes within the Area of Potential Effect.

**Education:** Bachelor's Degree from an accredited college or university in Architectural History, Art History, Historic Preservation or related field or five (5) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Experience performing full-time experience in research, writing, or teaching in American architectural history or restoration architecture with an academic institution, historical organization or agency, museum, or other professional institution; or substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history

### 2.10.21 Audit Manager

**Duties:** Performs day-to-day management of overall contract support operations, possibly involving multiple audits and groups of personnel at multiple locations. Responsible for the overall direction and guidance of all ongoing audits for the State; responsible for audit report(s) and all findings contained therein; in coordination with the State's designated representative, assists with the collection of any amounts due to the State as a result of audits. Organizes, directs, and coordinates the planning and production of all contract support activities, including subcontractors. Develops work breakdown structures and prepares charts, tables, graphs, major milestone calendars and diagrams to assist in analyzing problems and making recommendations.

**Experience:** At least four (4) years of telecommunications billing audit experience. Such experience must have included the supervision of other auditors engaged in the telecommunications billing audit process.

### 2.10.22 Audit Supervisor

**Duties:** Performs day-to-day management of assigned projects that involve teams of Lead Auditors and Staff Auditors. Primarily responsible for developing and overseeing the execution of the audit plan; regularly communicates with and reviews the work of on-site Lead and Staff Auditors and gives directions as appropriate; attends meetings with State representatives and is otherwise available to the State's representatives, as required. Organizes, directs, and coordinates the planning and production of all activities associated with assigned projects. Prepares and presents program level management products such as, work breakdown structures, charts, tables, graphs, major milestone calendars and diagrams to assist in analyzing problems and making recommendations.

**Experience:** At least two (2) years of telecommunications billing audit experience. Such experience must have included the supervision of other auditors engaged in the telecommunications billing audit process.

### 2.10.23 Auditor, IT (Senior)

**Duties:** Identifies information processing and technology risks. Evaluates controls and makes recommendations. Identifies problems and recommends solutions. Reviews the installation and security related controls for a wide variety of computing platforms, including operating systems, sub-systems, databases and software products used to support the processing environment. Prepares and performs audit tests and evaluates results. Provides documentation of audit tests to facilitate efficient and effective reviews.

**Education:** CPA required. Bachelor's Degree from an accredited college or university in Accounting, Finance, Business, Computer Science, Information Systems, or related field.

**General Experience:** At least 10 years auditing experience.

**Specialized Experience:** At least seven (7) years of experience in IT audits. Proficient in generally accepted IT standards, statements and practices and IT security and control practices.

### 2.10.24 Auditor, Lead

**Duties:** Assists in developing the telecommunications billing audit plan; primarily responsible for the routine performance of the audit plan and in providing direction of assigned Staff Auditors; communicates on a regular basis with the State's designated representative on status and audit issues.

**Experience:** At least two (2) years of telecommunications billing audit experience.

### 2.10.25 Auditor, Senior

**Duties:** Provides third party reviews, ratings and evaluations of IT vendors. Researches corporate philosophy, goals, objectives, and code of ethics and business practices. Provides financial status including, but not limited to: assets, liabilities, operating capital, cash flow, and insurance coverage. Provides financial reports and annual reports. Provides ranking among peers in the IT industry and reputation in the IT industry. Researches customer satisfaction levels and strengths and weaknesses. Provides costing estimations and personnel qualifications and performance ratings. Researches project management results and performance records. Provides legal history and overall performance.

**Education:** Bachelor's Degree from an accredited college or university in Accounting, Finance, Business or a related field. A CPA is preferred.

**General Experience:** At least 10 years of auditing experience.

**Specialized Experience:** At least five (5) years of experience as an auditor in auditing IT vendors.

#### 2.10.26 Auditor, Staff

**Duties:** Assists in the performance of telecommunications billing audits under the guidance and direction of a lead auditor and/or audit supervisor.

**Experience:** At least one (1) year of telecommunications billing audit experience.

#### 2.10.27 Business Process Consultant (Senior)

**Duties:** Develops business requirements and business processes re-engineering methodologies. Solves application and process related problems by creating detail process and system design specifications; and works with other areas across the business units to support a total solution approach. Communicates business requirements for reports and applications development. Facilitates collaboration within and across business units and across IT functions. Resolves problems and improves business units' technical environments.

**Education:** Bachelor's Degree from an accredited college or university in Business, Human Resources Management or a related field. An MBA or MPA is preferred.

**General Experience:** At least eight (8) years of experience in business process re-engineering.

**Specialized Experience:** At least five (5) years of experience in reengineering large scale business processes.

#### 2.10.28 Computer Graphics Illustrator

**Duties:** Duties will include recommending various methods of portraying ideas and the design, layout, and generation of a variety of graphical presentation products from rough drafts or outlines. Must possess skill in the preparation of graphs, charts and text data for visual presentations. Duties will be performed using complex automated color graphic equipment and PC software packages. A basic knowledge of graphic equipment, graphic software, file formats and graphic terms is required.

**Education:** High school diploma or equivalent. An additional year of specialized experience may be substituted for the required education.

**Total Experience:** Three (3) years of experience in creating and generating graphics using computer graphics software.

#### 2.10.29 Computer Operations Center Specialist

**Duties:** Establishes detailed schedules for utilization of all equipment in the computer operations center to obtain maximum usage. Consults with personnel in other data processing sections to coordinate activities, and prepare activity and progress reports regarding the computer operations center. Evaluates production, equipment and personnel costs. Analyzes and interprets technical data processing data. Communicates technical data processing information effectively both orally and in writing. Applies applicable rules, regulations, policies and procedures of the computer operations center.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** This position requires a minimum of five (5) years of experience.

**Specialized Experience:** At least three (3) years of specialized experience working in a computer operations center. Ability to function in a multi-system and/or multi-application environment. Ability to operate and monitor multiple terminals. Knowledge of data processing operations, equipment, procedures, and workflow. Knowledge of environmental requirements of mainframes, servers and other hardware. Knowledge of emergency security procedures for a computer operations center.

#### 2.10.30 Computer Operations Research Analyst

**Duties:** Performs technical work in the operation of electronic computers and auxiliary peripheral equipment. Collates information into meaningful reports and presentation material. Maintains any technical information in a systems library. Applies principles and methods to obtain maximum utilization of computer equipment. Operates and cares for electronic computer and peripheral equipment.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** A minimum of one (1) year of work experience in a business environment.

**Specialized Experience:** At least one (1) year of demonstrated experience working in a computer operations center. Ability to function in a multi-system and/or multi-application environment. Ability to follow complex oral and written instruction. Ability to operate and monitor multiple terminals.

#### 2.10.31 Computer Operator

**Education:** A high school diploma or equivalent. An Associate's Degree from an accredited college or university in Computer Science, Information Systems, Business or other related technical discipline is preferred. An Associate's Degree in one of the above disciplines equals one-year specialized and two years general experience. An additional year of specialized experience may be substituted for the required education.

**General Experience:** Five (5) years of experience in a computer-related field.

**Specialized Experience:** Three (3) years of experience administering multi user, shared processor systems

#### 2.10.32 Computer Operator (Senior)



**Education:** A high school diploma or equivalent. An Associate's Degree from an accredited college or university in Computer Science, Information Systems, Business or other related technical discipline is preferred. An Associate's Degree in one of the above disciplines equals one-year specialized and two years general experience. An additional year of specialized experience may be substituted for the required education.

**General Experience:** Seven (7) years of experience in a computer-related field.

**Specialized Experience:** Five (5) years of experience administering multi user, shared processor systems.

#### 2.10.33 Computer Programmer (Junior)

**Duties:** Must be capable of translating detail program flowcharts into program-coded instructions used by third- and fourth-generation, or current state-of-the-art computers.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have three (3) years of computer programming experience.

#### 2.10.34 Computer Programmer (Senior)

**Duties:** Must be capable of utilizing third- and fourth-generation or current state-of-the-art IT equipment and languages to develop and prepare diagrammatic plans for solution of business, management, communications, and strategic problems. Must be able to design detailed programs, flowcharts, and diagrams showing mathematical computations and sequence of machine operations necessary to copy and process data and print results. Must be able to verify the accuracy and completeness of programs and systems by preparing sample representative data and perform testing by means of cycle and system processing.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have eight (8) years of programming experience in software development or maintenance.

**Specialized Experience:** At least five (5) years of experience in IT systems analysis and programming.

#### 2.10.35 Computer Specialist

**Duties:** Must be able to determine costs for converting computer systems from one language or machine to another by utilizing compilers, simulators, emulators, and/or language translators and recommend better utilization of operating systems capabilities to improve system efficiency. Must be able to develop, manage, maintain, and evaluate state-of-the-art computer hardware, software, and software development tools; evaluate their ability to support specific requirements and interface with other equipment and systems; determine potential and actual bottlenecks; propose recommendations for their elimination; and make recommendations for systems improvements that will result in optimal hardware and software usage.



**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have five (5) years of computer experience in at least two (2) of the following disciplines: systems analysis, systems programming, application programming, or equipment analysis.

**Specialized Experience:** At least three (3) years of experience as either a computer hardware and/or systems software specialist, or as a systems analyst with duties relating to the evaluation of third- and fourth-generation or state-of-the-art computer hardware and software and its ability to support specific requirements for systems management or large-scale system development and maintenance.

#### 2.10.36 Computer Specialist (Senior)

**Duties:** Must be able to determine costs for converting computer systems from one language or machine to another by using compilers, simulators, emulators, and/or language translators and to recommend better utilization of operating systems capabilities for improving system efficiency. Develops, manages, maintains, and evaluates current state-of-the-art computer hardware, software, and software development tools; evaluates their ability to support specific requirements and interface with other equipment and systems; determines potential and actual bottlenecks and proposes recommendations for their elimination; and makes recommendations for system improvements that will result in optimal hardware and software use.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have eight (8) years of computer experience in at least two of the following disciplines: system analysis, system programming, application programming, and equipment analysis.

**Specialized Experience:** At least five (5) years of experience either as a computer hardware or systems software specialist or as a systems analyst with duties relating to the evaluation of third and fourth generation of current state-of-the-art computer hardware and software and its ability to support specific requirements for hardware and software evaluation, system management, or large-scale system development and maintenance.

#### 2.10.37 Computer Systems Programmer

**Duties:** Create and/or maintain operating systems, communications software, database packages, compilers, repositories, and utility and assembler programs. Modify existing software and develop special-purpose software to ensure efficiency and integrity between systems and applications.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have five (5) years of computer experience in information systems design.

**Specialized Experience:** At least three (3) years of experience in IT systems analysis and programming.

#### 2.10.38 Computer Systems Programmer (Senior)

**Duties:** Create and/or maintain operating systems, communications software, database packages, compilers, repositories, and utility and assembler programs. Modify existing software and develop special-purpose software to ensure efficiency and integrity between systems and applications.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have 12 years of computer experience in information systems design.

**Specialized Experience:** At least 10 years of experience in IT systems analysis and programming.

#### 2.10.39 Database Management Specialist (Junior)

**Duties:** Must be capable of providing highly technical expertise and support in the use of DBMS. Must be able to evaluate and recommend available DBMS products to support validated user requirements. Defines file organization, indexing methods, and security procedures for specific user applications. Develops, implements, and maintains database back-up and recovery procedures for the processing environments, and ensures that data integrity, security, and recoverability are built into the DBMS applications.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have three (3) years of experience in DBMS systems analysis and programming.

**Specialized Experience:** At least one (1) years of experience in using current DBMS technologies, application design utilizing various database management systems and experience with DBMS internals.

#### 2.10.40 Database Management Specialist (Senior)

**Duties:** Must be capable of providing highly technical expertise and support in the use of DBMS. Must be able to evaluate and recommend available DBMS products to support validated user requirements. Defines file organization, indexing methods, and security procedures for specific user applications. Develops, implements, and maintains database back-up and recovery procedures for the processing environments, and ensures that data integrity, security, and recoverability are built into the DBMS applications.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have six (6) years of experience in DBMS systems analysis and programming.

**Specialized Experience:** At least three (3) years of experience in using current DBMS technologies, application design utilizing various database management systems and experience with DBMS internals.

#### 2.10.41 Database Manager

**Duties:** Must be capable of managing the development of database projects. Must be able to plan and budget staff and data resources. Supports application developers in planning preparation, load analysis, and backup and recovery of data. When necessary, reallocates resources to maximize benefits. Must be able to prepare and deliver presentations on DBMS concepts. Provides daily supervision and direction to support staff. Monitors performance and evaluates areas to improve efficiency.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have seven (7) years of experience in the development and maintenance of database systems.

**Specialized Experience:** At least five (5) years of experience with database management systems, system design and analysis, operating systems software, and internal and data manipulation languages.

#### 2.10.42 Documentation Specialist

**Duties:** Gathers, analyzes, and composes technical information. Conducts research and ensures the use of proper technical terminology. Translates technical information into clear, readable documents to be used by technical and non-technical personnel. For applications built to run in a Windows environment, uses the standard help compiler to prepare all on-line documentation.

**Education:** Associate's Degree in related field. A Bachelor's degree is preferred.

**General Experience:** Must have four (4) years of experience in technical writing and documentation experience pertaining to all aspects of IT.

**Specialized Experience:** A minimum of two (2) years of experience in preparing technical documentation, which is to include researching for applicable standards.

#### 2.10.43 Electrician, Journeyman

**Duties:** Identify malfunctions in electrical and electro-mechanical instruments. Repair non-functioning electrical and electro-mechanical instruments. Calibrate scientific and industrial instruments. Use established maintenance procedures for scientific and industrial instruments. Test input/output parameters of electrical/mechanical devices. Assemble electrical and electro-mechanical devices. Identify electrical/electro-mechanical components, devices or systems in accordance with predetermined specifications. Present technical information in oral, written and graphic form, including use of microcomputers to manipulate content and access information.

**Education:** An Associate's degree from an accredited college or university in Electronics Technology or a related field; or Technical school certificate of completion in the electrical field; or the equivalent military training. An additional year of specialized experience may be substituted for the required education. Must have a master electrician license from the Maryland Board of Master Electricians.

**General Experience:** Five (5) years of experience in the electronics or related field.

**Specialized Experience:** Three (3) years of experience in the following areas: design, construction, testing, installation, maintenance and repair of electronic systems.

#### 2.10.44 Electrician, Licensed Master

**Duties:** Identify malfunctions in electrical and electro-mechanical instruments. Repair non-functioning electrical and electro-mechanical instruments. Calibrate scientific and industrial instruments. Use established maintenance procedures for scientific and industrial instruments. Test input/output parameters of electrical/mechanical devices. Assemble electrical and electro-mechanical devices. Identify electrical/electro-mechanical components, devices or systems in accordance with predetermined specifications. Present technical information in oral, written and graphic form, including use of microcomputers to manipulate content and access information.

**Education:** An Associate's degree from an accredited college or university in Electronics Technology or a related field; or Technical school certificate of completion in the electrical field; or the equivalent military training. An additional year of specialized experience may be substituted for the required education. Must have a master electrician license from the Maryland Board of Master Electricians.

**General Experience:** Seven (7) years of experience in the electronics or related field.

**Specialized Experience:** Five (5) years of experience in the following areas: design, construction, testing, installation, maintenance and repair of electronic systems

#### 2.10.45 Electricians Helper

**Duties:** Performs task assigned by the Forman or Electrician with a minimum of supervision such as: terminate junction boxes; install required conduit and wiring including branch and feeder, above and below ground; install fixture connections and rough-ins; under supervision of the Foreman or an Electrician, operates a variety of electrical testing equipment in locating and determining types of electrical malfunctions; demonstrates basic knowledge of plans, drawings, specifications and work orders; and, conducts all tasks in a safe and efficient manner.

**Education:** A high school diploma or equivalent. An Associate's degree from an accredited college or university in Electronics Technology or a related field; or Technical school certificate of completion in the electrical field; or the equivalent military training is preferred. An additional year of specialized experience may be substituted for the required education. Must have a master electrician license from the Maryland Board of Master Electricians.

**General Experience:** One (1) years of experience in the electronics or related field.

**Specialized Experience:** Six (6) months experience in the following areas: design, construction, testing, installation, maintenance and repair of electronic systems.

#### 2.10.46 Engineer, Facility Operations

**Duties:** Provides engineering support for facility and infrastructure projects. Support includes project development, design, bid proposal, schedule development, and technical support. May also manage and direct personnel in the operation, maintenance and repair of facilities, systems and institutional equipment. Includes building, heating, ventilation and air conditioning (HVAC) systems, boiler systems, generator systems and electrical systems.

**Education:** A Bachelor's degree from an accredited college or university in civil, mechanical, electrical, industrial or facilities management engineering or other related field.

**General Experience:** This position typically requires eight (8) years of experience in facilities management or related field.

#### 2.10.47 Engineer, Information

**Duties:** Must be capable of applying a business wide set of disciplines for planning, analysis, design, construction, and maintenance of information systems on a business-wide basis or across a major sector of the business. Must be capable of performing business strategic systems planning, information planning, and analysis. Performs process and data modeling in support of the planning and analysis efforts using both manual and automated tools, such as I-CASE tools. Must be able to apply reverse engineering and reengineering disciplines to develop migration strategic and planning documents. Provides technical guidance in software engineering techniques and automated support tools.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline.

**General Experience:** Must have five (5) years of experience in engineering, systems analysis, design, and programming.

**Specialized Experience:** At least two (2) years of experience in information systems development, functional and data requirement analysis, systems analysis and design, programming, program design, and documentation preparation.

#### 2.10.48 Engineer, Information (Senior)

**Duties:** Develops analytical and computational techniques and methodology for problem solutions. Performs process and data modeling in support of the planning and analysis efforts using manual and automated tools; such as Integrated Computer-Aided Software Engineering (I-CASE) tools. Must be able to apply reverse engineering and reengineering disciplines to develop migration strategic and planning documents. Provides technical guidance in software engineering techniques and automated support tools. Must be capable of applying business process improvement practices to modernization projects. Applies, as appropriate, activity and data modeling transaction flow analysis; internal control and risk analysis; modern business methods; and performance measurement techniques. Assists in establishing standards for information systems procedures. Develops and applies organization wide information models for use in designing and building integrated, shared software and DBMS.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** Must have eight (8) years of experience in managing the implementation of information engineering projects and experience in systems analysis, design and programming using CASE and IE tools and methods.

**Specialized Experience:** At least five (5) years of experience in information systems development, functional and data requirement analysis, systems analysis and design, programming, program design, and documentation preparation.

#### 2.10.49 Engineer, Information Security

**Duties:** Analyzes and defines security requirements for information protection. Defines and develops security policies. Analyzes the sensitivity of information, performs vulnerability and risk assessments on the basis of defined sensitivity and information flow.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** This position requires a minimum of eight (8) years of experience in information protection.

**Specialized Experience:** At least five (5) years of experience in defining security programs or processes for the protection of sensitive or classified information.

#### 2.10.50 Engineer, Interdisciplinary

**Duties:** Must be capable of translating mission requirements and information problems into solutions employing current state-of-the-art information system equipment and software. Must be able to define interaction and interface among different categories of requirements, and develop appropriate design to support the requirements while employing IT methodologies. Must be able to serve as a liaison to interpret and translate various disciplines represented on the task team, and serve as a point of contact for evaluation of problems arising from the interdisciplinary nature of the task.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline.

**General Experience:** Must have five (5) years of experience in technical work in the areas of system management and system integration.

**Specialized Experience:** At least three (3) years of experience in IT disciplines involving operating systems software, electronics communications analysis and design, system interface, systems integration, and mechanical or civil engineering.

#### 2.10.51 Engineer, Interdisciplinary (Senior)

**Duties:** Must have demonstrated ability to perform senior level engineering and/or IT tasks in the disparate areas of software, electronics telecommunications, or networking. Must be capable of translating mission requirements and information problems into solutions employing current state-of-the-art information system equipment and software. Must be able to define interaction with and/or interface between these different categories of requirements and to develop the appropriate design to support these requirements while employing methodologies from any of the above disciplines as required. Must be able to serve as a liaison to interpret and translate among the various disciplines represented on the task team, and serve as a point of contact for evaluation of problems arising from the interdisciplinary nature of the task.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.



**General Experience:** Must have eight (8) years of experience in technical work in the major areas of system management and system integration.

**Specialized Experience:** At least five (5) years of experience in specialized IT and telecommunications disciplines involving system interfaces, system integration and network development, and/or integration involving a wide range of network, hardware, and software solutions. At least three (3) years in operating systems software, electronic communications analysis and design, or networking.

#### 2.10.52 Engineer, Network (Junior)

**Duties:** Perform similar duties as directed or instructed by the senior network engineer. Conduct studies pertaining to network configuration and monitor traffic patterns such as protocols and peak usage. Stays current with technological changes.

**Education:** A Bachelor's degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering or other related scientific or technical discipline.

**General Experience:** Five (5) years of experience in a computer-related field.

**Specialized Experience:** Three (3) years of progressive experience in planning, designing, implementation, and analyzing data or telecommunications networks.

#### 2.10.53 Engineer, Network (Senior)

**Duties:** Responsible for the design and implementation of large data communications or telecommunications networks. Plans and monitors the installation of communications circuits. Manage and monitor local area networks and associated equipment (e.g., bridges, routers, modem pools, and gateways) Conducts short and long-term plan to meet c communications requirements. Responsible for the design and implementation of LANs/WANs using hub switching and router technology. Performs hardware/software analyses to provide comparative data of performance characteristics and suitability within the existing systems environment. Prepares tradeoff studies and evaluations for vendor equipment. Generates network monitoring/performance report, for LAN/WAN utilization studies. Recommends network design changes/enhancements for improved system availability and performance.

**Education:** A Bachelor's degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering or other related scientific or technical discipline. If applicable, shall be certified as network engineer for the specific network operating system as defined in the State task request. The certification criteria are determined by the network operating system vendor.

**General Experience:** Nine (9) years of experience in a computer-related field.

**Specialized Experience:** Seven (7) years of progressive experience in planning, designing, implementation, and analyzing data or telecommunications networks. Must have experience with network analysis/management tools and techniques and be familiar with Personal Computers (PCs) in a client/server environment. Must be familiar with IT technology and long distance and local carrier management.

#### 2.10.54 Engineer, Network Security



**Duties:** Designs, develops, engineers, and implements solutions for projects such as biometrics, smart cards, Secure remote access, VPN, Intrusion detection, port scanning, web security and vulnerability assessments and remediation.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree in one of the above disciplines equals one-year specialized and two years general experience. An additional year of specialized experience may be substituted for the required education.

**General Experience:** This position requires a minimum of eight (8) years of computer-related experience.

**Specialized Experience:** At least five (5) years of specialized experience in defining computer security requirements for high-level applications, evaluation of approved security product capabilities, and security management.

#### 2.10.55 Engineer, Radio Frequency

**Duties:** The RF Engineer position is responsible for several components of the new site construction process as well as monitoring and maintaining the performance of existing sites. The components of the new construction process include: creating a search area, selecting a site candidate, filing forms with the FAA and FCC, ordering the necessary site hardware, filing extension agreements with neighboring carriers and frequency / PN planning. This position is also responsible for RF coverage, radio talk-path capacity, and organizing the logistics of cell site additions. The position also assists with budget preparations and performance troubleshooting.

**Education:** This position requires a 4-year college program with a Bachelor's Degree in Radio Engineering or Electrical Engineering or related field or equivalent vocational education, training, and experience with formal training in use of relevant administrative & industry specific tools (i.e. computer software and Internet).

**Experience:** Point-to-point microwave systems and path analysis is mandatory. The following skills are desirable: 1) effective communication skills, 2) willingness to work in a team environment, 3) planning/organizational skills, 4) goal orientation, and 5) experience in radio communications

#### 2.10.56 Engineer, Software

**Duties:** Reviews and analyzes system specifications. Prepares programming specifications. Analyzes existing systems/subsystems for reusability benefits and needed changes. Prepares design plans and written analyses. Prepares unit and test scripts. Prepares documentation.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have three (3) years of experience as a software engineer.

**Specialized Experience:** At least two (2) years of experience working with Ada, SQL, or third/fourth generation languages in the design and implementation of systems and one (1) year working with DBMS

### 2.10.57 Engineer, Stationary

**Duties:** Operates and maintains one or more engineering systems which provides a facility the services to function in a variety of service areas, such as: Heating and Air Conditioning Refrigeration, Emergency Power Generation, Uninterrupted Power Supply (UPS) systems, Electrical Switchboard systems, Fuel Distribution and Treatment systems, and Water Treatment and Boiler Heating systems. Observes system's gauges, meters, charts for proper system's operations. Performs preventive and corrective maintenance on system's components.

**Education:** A Bachelor's degree from an accredited college or university in Electrical, Mechanical, or Industrial Engineering or other related field.

**General Experience:** This position typically requires eight (8) years of experience in industrial engineering or related field.

### 2.10.58 Engineer, Systems

**Duties:** Must be capable of analyzing information requirements. Evaluates system problems of workflow, organization, and planning. Develops appropriate corrective action.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have three (3) years of experience in systems engineering.

**Specialized Experience:** At least one (1) year of experience in demonstrated use of interactive, interpretative systems with on-line, real-time acquisition capabilities.

### 2.10.59 Engineer, Systems (Senior)

**Duties:** Must be able to analyze information requirements. Must be able to evaluate problems in workflow, organization, and planning. Develops appropriate corrective action. Provides daily supervision and direction to staff.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** Must have six (6) years of experience in systems engineering.

**Specialized Experience:** At least three (3) years of experience in the supervision of system engineers, and demonstrated use of interactive, interpretative systems with on-line, real-time acquisition capabilities.

### 2.10.60 Engineer Systems Design

**Duties:** Must be able to perform design of information systems, including the design of the application architecture, database, and interfaces. Responsible for gathering and analyzing user requirements and translating them into system designs.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** Must have six (6) years of experience planning, designing, building, and implementing IT systems. Familiar with Capability Maturity Model compliant structured methodology.

**Specialized Experience:** At least four (4) years of experience analyzing user requirements and translating them into system designs using various design tools and techniques. Demonstrated ability to develop and execute system designs, ensure implementation of repeatable processes, and ensure compliance with Capability Maturity Model (CMM) methodology.

#### 2.10.61 Facilities Engineering Manager

**Duties:** Provides management and technical direction for facility, systems, and equipment repair, operation and maintenance. Provides oversight, strategic direction and technical support for the engineering, operation and maintenance of systems and subsystems.

**Education:** A Bachelor's degree from an accredited college or university in civil, mechanical, industrial or facilities management engineering or other related field.

**General Experience:** This position typically requires 10 years of experience in facilities management or related field.

#### 2.10.62 Facilities Specialist Level I

**Duties:** Performs installation, operation, maintenance, and repair of facilities, institutional equipment and systems. This may include, but is not limited to high and low pressure steam plant boilers; security and fire systems; portable and installed generator sets, automatic transfer sets, and uninterruptable power supplies, batteries and associated electrical wiring/components; air handling units, pumps, exchangers and cooling towers; and, carpentry, painting, plumbing, electrical and mechanical activities. May performs various mechanical functions associated with diagnostics, dismantling, and repair of machines and mechanical equipment.

**Education:** High School diploma or equivalent required.

**General Experience:** This position typically requires one (1) year of experience in facilities work or related field.

#### 2.10.63 Facilities Specialist Level II

**Duties:** Performs installation, operation, maintenance, and repair of facilities, institutional equipment and systems. This may include, but is not limited to high and low pressure steam plant boilers; security and fire systems; portable and installed generator sets, automatic transfer sets, ancillary power distribution systems, and uninterruptable power supplies, batteries and associated electrical wiring/components; air handling units, pumps, exchangers and cooling towers; and, carpentry, painting, plumbing, electrical and mechanical activities. May perform various mechanical functions associated with diagnostics, dismantling, and repair of machines and mechanical equipment.

**Education:** High School diploma or equivalent required.

**General Experience:** This position typically requires two (2) years of related experience in facilities work or related field.

#### 2.10.64 Facilities Specialist Level III

**Duties:** Performs installation, operation, maintenance, and repair of facilities, institutional equipment and systems. This may include, but is not limited to high and low pressure steam plant boilers; security and fire systems; portable and installed generator sets, automatic transfer sets, ancillary power distribution systems and uninterruptable power supplies, batteries and associated electrical wiring/components; air handling units, pumps, exchangers and cooling towers; and, carpentry, painting, plumbing, electrical and mechanical activities. May perform various mechanical functions associated with diagnostics, dismantling, and repair of machines and mechanical equipment.

**Education:** High School diploma or equivalent required.

**General Experience:** This position typically requires five (5) years of experience in facilities work or related field.

#### 2.10.65 Facilities Specialist - Lead

**Duties:** Oversees and directs daily activities involving the installation, operation, maintenance, and repair of facilities, institutional equipment and systems. This may include, but is not limited to high and low pressure steam plant boilers; security and fire systems; portable and installed generator sets, automatic transfer sets, and uninterruptable power supplies, batteries and associated electrical wiring/components; air handling units, pumps, exchangers and cooling towers; and, carpentry, painting, plumbing, electrical and mechanical activities. May perform various mechanical functions associated with diagnostics, dismantling, and repair of machines and mechanical equipment.

**Education:** High School diploma or equivalent, and knowledge of OSHA general safety standards related to work involving electrical and mechanical tasks in an industrial environment.

**General Experience:** This position typically requires eight (8) years of experience in facilities work or related field.

#### 2.10.66 Facility Operations Supervisor

**Duties:** Supervises personnel engaged in the operation, maintenance and repair of facilities, systems, and equipment.

**Education:** Associate's degree (ASCE, ASEE, ASET, ASME or other related field) or equivalent.

**General Experience:** This position typically requires eight (8) years of related experience in facility operations or related field.

#### 2.10.67 Geographic Information Systems Analyst

**Duties:** Write programs and develop user interfaces, menus, and macro-level commands to meet user needs in addition to performing simple spatial analyses and producing reports according to customer specifications. Assist in the development of geographic information systems which may link parcel maps or orthophotos with environmental data, historic data, transportation data and health data to produce maps or quantify information about the impacts of features on parcel ownership. Conducts geographic information system (GIS) program activities, utilizing GIS hardware and software to produce maps, spatial databases and thematic data (such as wetlands, road centerlines, cadastre, and historic sites). Creates, adjusts, corrects, converts and distributes base maps and thematic data. Digitize and maintain spatial databases of Maryland information; document procedures, validate data for accuracy and completeness, complete approved metadata forms and produce maps of the resulting information. Evaluate information and data from outside sources to determine the quality of the data. Provide geographic location coordinates from the GIS to facilitate spatial analysis and data manipulation, calculate distances and area of features and interpret legal descriptions and certify changes in boundary lines. Act as a “consultant” to internal customers during their use, development and quality assessment of spatial databases.

**Education:** A Bachelor’s Degree from an accredited college or university in Geography, GIS Technology, Cartography, Computer Science, or related field with at least nine (9) credit hours in courses specifically related to GIS operation/management. A Master’s Degree from an accredited college or university in Geography, GIS Technology, Cartography, Computer Science, or related field with at least nine (9) undergraduate credit hours in courses specifically related to GIS operation/management is preferred.

**Experience:** A minimum of two (2) years of professional experience is required in GIS, cartography, CADD, or a related field without an appropriate college degree.

#### 2.10.68 Geographic Information Systems Specialist

**Duties:** Conducts geographic information system (GIS) program activities, utilizing GIS hardware and software to produce maps, spatial databases and thematic data (such as wetlands, road centerlines, cadastre, and historic sites). Creates, adjusts, corrects, converts and distributes base maps and thematic data. Digitize and maintain spatial databases of Maryland information; document procedures, validate data for accuracy and completeness, complete approved metadata forms and produce maps of the resulting information. Evaluate information and data from outside sources to determine the quality of the data. Provide geographic location coordinates from the GIS to facilitate spatial analysis and data manipulation, calculate distances and area of features and interpret legal descriptions and certify changes in boundary lines. Act as a “consultant” to internal customers during their use, development and quality assessment of spatial databases.

**Education:** 1) A Bachelor’s Degree from an accredited college or university in Geography, GIS Technology, Cartography, Computer Science, or related field with at least nine ( )9 credit hours in courses specifically related to GIS operation/management.

**Experience:** Two (2) years of professional experience is required in GIS, cartography, CADD, or a related field without the appropriate college degree.

#### 2.10.69 Geographic Information Systems Technician I

**Duties:** Conducts geographic information system (GIS) program activities, utilizing GIS hardware and software to produce maps, spatial databases and thematic data (such as wetlands, road centerlines, cadastre, and historic sites). Creates, adjusts, corrects, converts and distributes base maps and thematic data. Digitize and maintain spatial databases of Maryland information; document procedures, validate data for

accuracy and completeness, complete approved metadata forms and produce maps of the resulting information. Evaluate information and data from outside sources to determine the quality of the data. Provide geographic location coordinates from the GIS to facilitate spatial analysis and data manipulation, calculate distances and area of features and interpret legal descriptions and certifies changes in boundary lines.

**Education:** Bachelor's degree from an accredited college or university in Geography, GIS Technology, Cartography, Computer Science, Library Science or related field with at least nine (9) credit hours in courses specifically related to GIS operation/management.

**Experience:** A minimum of two (2) years of successful experience at the equivalent of the GIS Trainee level.

#### 2.10.70 Geographic Information Systems Technician II

**Duties:** Performs systems analysis, design, programming, documentation, and implementation of complex GIS applications. Develops logical and physical geo-database designs; implements geo-databases, establishes recovery plans, and monitors geo-database performance. Write programs and develop user interfaces, menus, and macro-level commands to meet user needs in addition to performing simple spatial analyses and producing reports according to customer specifications. Assist in the development of geographic information systems which may link parcel maps or orthophotos with environmental data, historic data, transportation data and health data to produce maps or quantify information about the impacts of features on parcel ownership. Conducts geographic information system (GIS) program activities, utilizing GIS hardware and software to produce maps, spatial databases and thematic data (such as wetlands, road centerlines, cadastre, and historic sites). Creates, adjusts, corrects, converts and distributes base maps and thematic data. Digitize and maintain spatial databases of Maryland information; document procedures, validate data for accuracy and completeness, complete approved metadata forms and produce maps of the resulting information. Evaluate information and data from outside sources to determine the quality of the data. Provide geographic location coordinates from the GIS to facilitate spatial analysis and data manipulation, calculate distances and area of features and interpret legal descriptions and certify changes in boundary lines. Act as a "consultant" to internal customers during their use, development and quality assessment of spatial databases.

**Education:** A Bachelor's Degree from an accredited college or university in Geography, GIS Technology, Cartography, Computer Science, or related field with at least nine (9) credit hours in courses specifically related to GIS operation/management. A Master's Degree from an accredited college or university in Geography, GIS Technology, Cartography, Computer Science, or related field with at least nine (9) undergraduate credit hours in courses specifically related to GIS operation/management is preferred.

**Experience:** A minimum of three (3) years of professional experience in GIS, cartography, CADD, or a related field.

#### 2.10.71 Geographic Information Systems Technician Trainee

**Duties:** Conducts geographic information system (GIS) program activities, utilizing GIS hardware and software to produce maps, spatial databases and thematic data (such as wetlands, road centerlines, cadastre, and historic sites). Creates, adjusts, corrects, converts and distributes base maps and thematic data. Digitize and maintain spatial databases of Maryland information; document procedures, validate data for accuracy and completeness, complete approved metadata forms and produce maps of the resulting information. Evaluate information and data from outside sources to determine the quality of the data.



Provide geographic location coordinates from the GIS to facilitate spatial analysis and data manipulation, calculate distances and area of features and interpret legal descriptions and certifies changes in boundary lines.

**Education:** A high school diploma or equivalent.

**Experience:** One (1) year of professional experience related to GIS, cartography, CADD, or a related field

#### 2.10.72 GeoSpatial Web Developer (Mid-level)

**Duties:** install and configure ArcGIS Server; develop mapping applications and web services using ArcGIS Server for Flex and JavaScript/HTML5, build and publish maps via ArcGIS and ArcGIS Online resources, ArcSDE databases, and geo-processing tools as services in ArcGIS Server to streamline existing geospatial procedures; develop mobile GIS applications, assume responsibility of full project lifecycle on simple projects; act proactively to avoid agency customer issues and meet their business needs.

The ideal candidate will also have experience developing for HTML 5, using open source geospatial software development tools, and developing for multiple PC, iOS, Android platforms.

This role also requires an understanding of project management, including all software development life cycle phases. A firm understanding of database architecture is also needed.

**Education:** Bachelor's or Master's degrees from an accredited college or university in computer science, GIS, engineering, or related field; or three (3) years of equivalent experience in a related field.

**Experience:** At least three (3) years of experience working on GIS development projects related to the following skills:

- ESRI ArcGIS desktop, ArcGIS Server and REST APIs, and ArcSDE
- At least one (1) year of experience with Oracle or other RDBMS, SQL, and/or PL/SQL
- At least one (1) year of experience with other industry-standard technologies such as XML, Web services, application servers, and Web servers
- At least one (1) year developing web mapping applications using Flex and JavaScript/HTML5

#### 2.10.73 GeoSpatial Web Developer (Senior)

**Duties:** This is Senior GIS Software Developer position. Responsibilities include: install and configure ArcGIS Server; develop mapping applications and web services using ArcGIS Server for Flex and JavaScript/HTML5, build and publish maps via ArcGIS and ArcGIS Online resources, ArcSDE databases, and geo-processing tools as services in ArcGIS Server to streamline existing geospatial procedures; develop mobile GIS applications, assume responsibility of full project lifecycle on simple projects; act proactively to avoid agency customer issues and meet their business needs.

The ideal candidate will also have experience developing for HTML 5, using open source geospatial software development tools, and developing for multiple PC, iOS, and Android platforms.

This role also requires an understanding of project management, including all software development life cycle phases. A firm understanding of database architecture is also needed.

**Education:** Bachelor's or Master's degrees from an accredited college or university in computer science, GIS, engineering, or related field; or four (4) years of equivalent experience in a related field.



**Experience:** At least four (4) years of experience working on GIS development projects using the following skills:

- ESRI ArcGIS desktop, ArcGIS Server and REST APIs, and ArcSDE
- At least three (3) years of experience with Oracle or other RDBMS, SQL, and/or PL/SQL
- At least three (3) years of experience with other industry-standard technologies such as XML, Web services, application servers, and Web servers
- At least one (1) year of experience developing web mapping applications using Flex
- At least one (1) year of experience developing web mapping applications using JavaScript/HTML5

#### 2.10.74 Group Facilitator (Senior)

**Duties:** Provides assistance in the group decision-making process by intervening to help a group improve its effectiveness and efficiency through enhanced problem identification, problem solutions and decision-making skills. Takes primary responsibility for managing the group process and assists groups to be more effective by improving existing group practices. Guides groups through proven processes and understands basic group dynamics and interrelationships. Intervenes when it is evident that the group process or other factors interfere with a group's ability to accomplish specific goals and objectives.

**Education:** Bachelor's Degree from an accredited college or university in Education, the Social Sciences, Human Resources, Business or a related field.

**General Experience:** At least five (5) years of experience as a group facilitator.

**Specialized Experience:** At least three (3) years of experience as a group facilitator involving technical projects.

#### 2.10.75 Help Desk Manager

**Duties:** Provides daily supervision and direction to staff who are responsible for phone and in-person support to users in the areas of e-mail, directories, standard Windows desktop applications, and other network services. Manages personnel who serve as the first point of contact for troubleshooting hardware and software PC and printer problems.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** This position requires a minimum of seven (7) years of experience in the management of a Help Desk. General experience includes information systems development, network and other work in the client/server field, or related fields.

**Specialized Experience:** At least five (5) years of specialized experience includes management of help desks in a multiserver environment, comprehensive knowledge of PC operating systems (e.g., DOS, Windows), networking and mail standards, and supervision of help desk employees. Demonstrated ability to effectively communicate orally and in writing and to have a positive customer service attitude.

#### 2.10.76 Help Desk Specialist (Junior)

**Duties:** Provides telephone and in-person support to users in the areas of directories, standard Windows desktop applications, and applications developed under this Contract or predecessors. Serves as the initial point of contact for troubleshooting hardware/software PC and printer problems.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** This position requires a minimum of five (5) years of experience in business IT environments with emphasis on PC hardware and applications. General experience includes information systems development, work in the client/server field, or related fields.

**Specialized Experience:** At least two (2) years comprehensive knowledge of PC operating systems, e.g., DOS, Windows, as well as work on a help desk. Demonstrated ability to communicate orally and in writing and to have a positive customer service attitude.

#### 2.10.77 Help Desk Specialist (Senior)

**Duties:** Provides telephone and in-person support to users in the areas of directories, standard Windows desktop applications, and applications developed under this Contract or predecessors. Serves as the initial point of contact for troubleshooting hardware/software PC and printer problems.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** This position requires a minimum of seven (7) years of experience in a business IT environment with emphasis on PC computer hardware and applications. General experience includes, but is not limited to: information systems development, work in the client/server field, or related fields.

**Specialized Experience:** At least five (5) years comprehensive knowledge of PC operating systems, e.g., DOS, Windows, as well as work on a help desk. Demonstrated ability to effectively communicate orally and in writing and to have a positive customer service attitude.

#### 2.10.78 Internet/Intranet Site Developer (Junior)

**Duties:** Must be able to translate applications requirements into the design of complex web sites, including integrating web pages and applications. Must be able to apply new and emerging technologies to the development process.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have one (1) year of web development experience using current Web development and graphic tools, as well as, Web server and database administration.

**Specialized Experience:** At least one (1) year of experience designing, developing and deploying Web sites and/or Web applications, including product selection, configuration, installation, maintenance, and site

policy development. Experience developing Web pages using HTML, scripting languages, platform specific web development languages and relational databases.

#### 2.10.79 Internet/Intranet Site Developer (Senior)

**Duties:** Must be able to translate applications requirements into the design of complex web sites, including integrating web pages and applications. Must be able to apply new and emerging technologies to the site development process.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** Must have five (5) years of web development experience using current Web development and graphic tools, as well as, Web Server and database administration.

**Specialized Experience:** At least three (3) years of experience designing, developing and deploying Web sites and/or Web applications, including product selection, configuration, installation, maintenance, and site specific Web development languages and relational databases.

#### 2.10.80 IT Professional (Senior)

**Duties:** Identifies strategic issues for the Information Management Department and advises IT Senior Management of the risks and/or opportunities created by these issues. Issues will be centered on IT measurements and IT project management. IT measurements will encompass the refining or creating of measures related to value creation of IT products and services. Project Management will include presenting recommendations on ways of managing projects more effectively (including, but not limited to: appropriate methodology and quality reviews) Accountabilities include coordinating input from various IT departments to develop recommendations, conducting analyses of issues and ensuring adequate communication of the endorsed positions and recommendations to stakeholders.

**Education:** Bachelor's Degree from an accredited college or university in Engineering, Computer Science, Information Systems, Business, Mathematics or a related technical or business field. A Master's degree is preferred.

**General Experience:** At least eight (8) years of relevant industry experience in the discipline required.

#### 2.10.81 Market Research Consultant (Senior)

**Duties:** Develops marketing and promotion strategies and tactics. Evaluates concepts for advertising campaigns. Develops and manages qualitative market research studies and develops reports. Analyses web site traffic and develops quantitative reports. Reviews marketing campaigns and their impact on web site audience behavior. Develops online survey questionnaires and launches surveys. Performs statistical analyses of responses to online surveys. Conducts various Internet analyses. Develops methodologies for optimum study results.

**Education:** Bachelor's Degree from an accredited college or university in Marketing, Business, or Statistics. An MBA or Master's Degree in Marketing is preferred.

**General Experience:** At least eight (8) years of marketing research experience.

**Specialized Experience:** At least five (5) years of experience in technology marketing or a related field.

#### 2.10.82 Marketing Consultant (Senior)

**Duties:** Develops marketing strategies for publications of State agencies' technology results and achievements. Develops marketing plans and recommends marketing strategies and measurements for the success of the marketing strategies. Provides survey results for State agencies on IT topics, completes applications for IT awards and develops periodic reports of IT accomplishments, including annual reports or other marketing-related documents.

**Education:** Bachelor's Degree from an accredited college or university in Marketing, Business, Communications or other related discipline. A Master's degree is preferred.

**General Experience:** At least eight (8) years of marketing or communications experience.

**Specialized Experience:** At least five (5) years of experience in technology marketing or a related field.

#### 2.10.83 Network Administrator

**Duties:** Performs a variety of network management functions related to the operation, performance or availability of data communications networks. Experience with cable/LAN meters, protocol analyzers, SNMP and RMON based software products. Knowledge of Ethernet, FDDI and high speed WANs and routers. Analyze client LANs/WANs, isolate source of problems, and recommend reconfiguration and implementation of new network hardware to increase performance. Advanced knowledge of network operating systems. Modifies command language programs, network start up files, assigns/reassigns network device logicals, participates in load balancing efforts throughout the network to achieve optimum device utilization and performance. Establishes new user accounts on the network granting access to required network files and programs. Manages network Email functions. Establishes mailboxes and monitors mail performance on the network. Troubleshoots network/user problems, presents resolutions for implementation. Prepares a variety of network resource reports.

**Education and other Requirements:** An Associate's degree from an accredited college or university in Computer Science, Information Systems, Engineering or a related field, or two (2) years of college or university study in Computer Science, Information Systems, Engineering or a related field. If applicable, should be certified as a network administrator for a specific network operating system as defined in the State task request. Certification criteria is determined by the network operating system vendor. Two (2) additional years of specialized experience may be substituted for the required education.

**General Experience:** Two (2) years of experience in a computer-related field.

**Specialized Experience:** One (1) year of experience in one or more of the following areas: data communications engineering, data communications hardware or software analysis, network administration or management, data communications equipment installation and maintenance, or computer systems administration and management.

#### 2.10.84 Network Manager

**Duties:** Performs a variety of network management functions in support of MIS services related to the operation, performance, or availability of data communications networks. Modifies command language

programs, network start up files, assigns/re-assigns network device logical, analyzes network performance and recommends adjustments to wide variety of complex network management functions with responsibility for overall performance and availability of networks. LAN/WAN consultant skilled in network analysis, integration and tuning. Experience with cable/LAN meters, protocol analyzers, Simple Network Management Protocol (SNMP) and Remote Monitoring (RMON) based software products. Knowledge of Ethernet, FDDI and high speed WANs, routers, bridges, and switches. Analyze client LANs/WANs, isolate source of problems, and recommend reconfiguration and implementation of new network hardware to increase performance. Working knowledge of network operating systems. Conducts load balancing efforts to achieve optimum device utilization and network performance. Manages network Email functions. Establishes mailboxes and monitors mail performance on the network. Coordinates with communications engineering to resolve hardware problems. Works with customer and operations staff in scheduling preventative and emergency maintenance activities.

**Education and Other Requirements:** A Bachelor's degree from an accredited college or university with a major in Computer Science, Information Technology, Engineering, or a related discipline. If applicable, shall be certified as network engineer for the specific network operating system as defined in the State task request. The certification criteria are determined by the network operating system vendor.

**General Experience:** 12 years of experience in a computer-related field.

**Specialized Experience:** 10 years of experience in one or more of the following areas: data communications engineering, data communications hardware or software analysis, network administration or management, or have data communication equipment installation and maintenance. Knowledge of cable including FDDI, FOIRL, and 10Base T. Particularly desirable is experience working with IBM's SNA with knowledge of the MVS operating system and SNA protocols.

#### 2.10.85 Network Technician (Junior)

**Duties:** Perform similar duties as directed or instructed by the senior network engineer. Adds or exchanges externally connected PC accessories and data communications equipment including cables, boards, batteries, disks drives, and other PC components. Attaches, detaches, or exchanges LAN cabling to workstations, servers, network devices, telecommunications and data communications equipment.

**Education:** An Associate's degree from an accredited college or university in Computer Science, Information Systems, Engineering or a related field; or Technical school certificate of completion in the data communications field including cable installation, or the equivalent military training. An additional year of specialized experience may be substituted for the required education.

**General Experience:** Three (3) years of experience in a computer-related field.

**Specialized Experience:** A minimum of two (2) years of experiences installing and maintaining shared resources for communication networks and devices.

#### 2.10.86 Network Technician (Senior)

**Duties:** Adds or exchanges externally connected PC accessories and data communications equipment. Troubleshoots LANs/WANs and provides problem resolution for PC and data communications hardware. Adds or replaces boards, batteries, disks drives, and other PC components. Installs cabling for networks such as LANs and WANs. Attaches, detaches, or exchanges LAN cabling to workstations, servers, network

devices, telecommunications and data communications equipment. Works independently, may provide supervision and guidance to two (2) or more network technicians.

**Education:** An Associate's degree from an accredited college or university in Computer Science, Information Systems, Engineering or a related field; or Technical school certificate of completion in the data communications field including cable installation; or the equivalent military training. Two (2) additional years of specialized experience may be substituted for the required education.

**General Experience:** Seven (7) years of experience in a computer-related field.

**Specialized Experience:** Five (5) years of experience in the following areas: Installation, operation, and maintenance of data communication networks and devices.

#### 2.10.87 Office Automation Specialist

**Duties:** Specialized data entry work, operating specialized data entry equipment in a high production and closely monitored work environment. Responsible for key entering data from a variety of source documents with specific standards maintained for speed and accuracy.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field.

**General Experience:** This position requires a minimum of five (5) years of experience data entry work and equipment.

**Specialized Experience:** At least three (3) years of specialized experience in the operation of specialized data entry equipment.

#### 2.10.88 Operations Research Analyst (Senior)

**Duties:** Conducts investment analyses or other complex operational analyses. Provides expertise and supports evaluations of program results and potential changes to program results related to IT investments along with an analysis and presentations of alternatives. Provides operational analyses support to all phases of the life cycle of an information system. Conducts operational analyses of existing systems using performance measures, criteria, and standards to determine requirements for needed changes. Evaluates, selects, and uses the tools of modern operations research (such as commercially available decision and analytical support software tools) to conduct analyses of projected changes to system or program performance. Supports architecture efforts including economic analyses of architecture alternatives, architecture issues resolutions, and affordability analyses.

**Education:** Bachelor's Degree from an accredited college or university in a related field, with at least 24 semester hours in a combination of mathematics, probability, statistics and logic. Master's degree preferred.

**General Experience:** Must have eight (8) years of experience in operations research.

**Specialized Experience:** At least five (5) years of experience in conducting quantitative analysis using operations research tools, econometrics, or other quantitative techniques.



**2.10.89 Operator Level I**

**Duties:** Processes, schedules, coordinates, and tracks maintenance and repair work orders involving, buildings, systems, and infrastructure.

**Education:** High School Diploma or equivalent required.

**General Experience:** This position typically requires six (6) months of experience involving civil engineering, and maintenance and repair of facilities, mechanical systems, and equipment or related field.

**2.10.90 Operator Level II**

**Duties:** Processes, schedules, coordinates, and tracks maintenance and repair work orders involving, buildings, systems, and infrastructure.

**Education:** High School Diploma or equivalent required.

**General Experience:** This position typically requires three (3) years of experience involving civil engineering, and maintenance and repair of facilities, mechanical systems, and equipment or related field.

**2.10.91 Photographer**

**Duties:** Responsible for photographing erected radio towers and providing photographic simulation through superimposition of an image of the towers at different locations.

**Education:** Associates Degree from an accredited college or university in Photography or related field or two (2) years of equivalent experience in a related field. A Bachelor's Degree is preferred.

**General Experience:** At least one (1) year of experience photographing radio towers or other tower structures and providing photographic simulation.

**2.10.92 Planner, Information Technology (Senior)**

**Duties:** Provides planning services for a wide range of programs and projects including design, development, implementation, post-implementation and maintenance of the systems. Provides SWOT analyses, critical success factor analyses, strategic business planning, strategic information systems planning, value chain analyses, e-business assessments, and other techniques used to establish strategic plans. Provides expertise in conducting research, evaluations, and studies required to develop both short-term and long-term plans. Provides plans, designs, concepts, and develops both general and specific program and project strategies for linking proposed investments in IT to business results. Provides planning, scheduling, networking and coordination assistance among State organizations involved in implementation and integration efforts. Identifies problems and recommends solutions.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Planning or other related scientific or technical discipline. A Master's degree is preferred.

**General Experience:** At least 10 years progressive experience as an IT planner - or involved in planning type functions.



**Specialized Experience:** At least six (6) years of experience in planning, analyses, design, development, implementation and post-implementation of IT projects or systems.

#### 2.10.93 Program Administration Specialist

**Duties:** Assists in the preparation of management plans and various customer reports. Coordinates schedules to facilitate the completion of TO and change proposals, Contract deliverables, TO reviews, briefings and presentations. Performs analysis, development, and review of program administrative operating plans and procedures.

**Education:** High school diploma or equivalent. A Bachelor's degree is preferred.

**General Experience:** Must have three (3) years of experience working with project management tools and reporting systems. Familiar with government contracts, work breakdown structures, management/business plans, and program reporting.

**Specialized Experience:** At least two (2) years of direct program experience in Contract administration and preparing management reports. Has worked in support of a Program Manager on a government Contract

#### 2.10.94 Program Manager

**Duties:** The Program Manager is the contractor's manager for the Contract, and serves as the single point of contact for the Master Contractor with the State regarding the Contract. Performs overall management for Contract support operations. Organizes, directs, and coordinates the planning and production of all Contract activities, projects and support activities, including those of subcontractors. Oversees the development of or develops work breakdown structures, charts, tables, graphs, major milestone calendars and diagrams to assist in analyzing problems and making recommendations. Demonstrates excellent written and verbal communications skills. Establishes and alters corporate management structure to direct effective and efficient Contract support activities. Must be capable of negotiating and making binding decisions for the Master Contractor.

**Education:** Bachelor's Degree from an accredited college or university in Engineering, Computer Science, Information Systems, Business or other related discipline. Master's degree and/or project management certification is preferred.

**General Experience:** At least 12 years of experience in program or project management.

**Specialized Experience:** At least eight (8) years of experience in supervision or oversight of IT related programs or projects.

#### 2.10.95 Project Control Specialist

**Duties:** Monitors financial and/or administrative aspects of assigned Contracts and deliverables. Tracks and validates all client financial information, establishes and maintains master Contract files, prepares and monitors status of all deliverables and tracks the value of Contracts. Uses automated systems to track deliverables, financial transactions, and management information.

**Education:** High School Diploma or equivalent. A Bachelor's degree is preferred.

**General Experience:** Must have three (3) years of experience working with monitoring systems. Familiar with manpower and resource planning, preparing financial reports and presentations, and cost reporting Contract guidelines.

**Specialized Experience:** Preparation and analysis of financial statements, development of project schedules, using cost-accounting and labor-reporting systems, working knowledge of Contract and subcontract management. Proficient in the use of spreadsheets and project management tools.

#### 2.10.96 Project Manager

**Duties:** The Project Manager is assigned the management of a specific project and the work performed under assigned Task Orders. Performs day-to-day management of the project, identifies issues and risks and recommends possible issue and risk mitigation strategies associated with the project. Acts as a facilitator between a State agency and IT contractor. Is responsible for ensuring that work performed under TOs is within scope, consistent with requirements, and delivered on time and on budget. Identifies critical paths, tasks, dates, testing, and acceptance criteria. Provides solutions to improve efficiency (e.g., reduce costs while maintaining or improving performance levels). Monitors issues and provides resolutions for up-to-date status reports. Demonstrates excellent writing and oral communications skills.

**Education:** Bachelor's Degree from an accredited college or university in Engineering, Computer Science, Information Systems, Business or other related discipline. Master's degree or project management certification is preferred.

**General Experience:** At least five (5) years of experience in project management.

**Specialized Experience:** At least five (5) years of experience in managing IT related projects and must demonstrate a leadership role in at least three successful projects that were delivered on time and on budget.

#### 2.10.97 Quality Assurance Consultant (Senior)

**Duties:** Provides quality management for information systems using the standard methodologies, techniques, and metrics for assuring product quality and key activities in quality management. Establish capable processes, monitoring and control of critical processes and product mechanisms for feedback of performance, implementation of an effective root cause analysis and corrective action system, and continuous process improvement. Provides strategic quality plans in targeted areas of the organization. Provides QA strategies to ensure continuous production of products consistent with established industry standards, government regulations and customer requirements. Develops and implements life cycle and QA methodologies and educates, and implements QA metrics.

**Education:** Bachelor's Degree from an accredited college or university in Engineering, Computer Science, Information Systems or other related discipline. A Master's degree preferred.

**General Experience:** At least eight (8) years information systems quality assurance experience.

**Specialized Experience:** At least five (5) years of experience working with statistical methods and quality standards. Must have good QA/process knowledge and possess superior written and verbal communication skills.

### 2.10.98 Quality Assurance Manager

**Duties:** Must be capable of maintaining and establishing a process for evaluating software and associated documentation. Must be able to determine the resources required for quality control. Must be able to maintain the level of quality throughout the software life cycle. Develops software quality assurance plans. Conducts formal and informal reviews at predetermined points throughout the development life cycle.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** Must have six (6) years of experience in quality assurance and quality control.

**Specialized Experience:** At least three (3) years of experience in verification and validation, software testing and integration, software metrics, and their application to software quality assessment.

### 2.10.99 Quality Assurance Specialist

**Duties:** Must be able to determine the resources required for quality control. Must be able to maintain the level of quality throughout the software life cycle. Develops software quality assurance plans. Must be capable of maintaining and establishing a process for evaluating software and associated documentation. Participates in formal and informal reviews at predetermined points throughout the development life cycle to determine quality. Examines and evaluates the software quality assurance (SQA) process and recommends enhancements and modifications. Develops quality standards.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline.

**General Experience:** Must have five (5) years of experience working with quality control methods and tools.

**Specialized Experience:** At least three (3) years of experience in verification and validation, software testing and integration, software metrics, and their application to software quality assessment, and a demonstrated knowledge of system and project life cycles.

### 2.10.100 Risk Assessment Consultant (Senior)

**Duties:** Manages the identification and reporting on risk assessments and updates evaluations in order to determine and forecast operational needs and changes. Provides presentations on reporting and operational enhancements and metrics with special focus on variance analysis. Establish risk management policies and procedures, and guidelines on risk limits. Provides fraud expertise on services to internal and external customers. Develops system enhancements and meaningful reporting and operational management reporting tools and web-based tools and programs to manage, prevent, and mitigate risks. Identifies problems and recommends solutions to risk assessments.

**Education:** Bachelor's Degree from an accredited college or university in a related field. A Master's degree preferred.

**General Experience:** At least 10 years of risk assessment experience.

**Specialized Experience:** At least six (6) years of experience in IT risk assessment.

#### 2.10.101 Security, Computer Systems Specialist

**Duties:** Analyzes and defines security requirements for MLS issues. Designs, develops, engineers, and implements solutions to MLS requirements. Gathers and organizes technical information about an agency's mission goals and needs, existing security products, and ongoing programs in the MLS arena. Performs risk analyses, which also include risk assessment. Provides daily direction to staff.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or four (4) years of equivalent experience in a related field.

**General Experience:** This position requires a minimum of six (6) years of experience in analysis and definition of security requirements.

**Specialized Experience:** At least four (4) years of specialized experience in defining computer security requirements for high-level applications, evaluation of approved security product capabilities, and developing solutions to MLS problems.

#### 2.10.102 Security, Data Specialist

**Duties:** Responsible for the planning, design, implementation and monitoring of security measures, policies, methods and procedures which safeguard the integrity of and access to enterprise systems, files and data elements. Responsible for acting on security violations. Maintains knowledge of changing technologies, and provides recommendations for adaptation of new technologies or policies. Recognizes and identifies potential areas where existing data security policies and procedures require change, or where new ones need to be developed, especially regarding future business expansion. Provides management with risk assessments and security briefings to advise them of critical issues that may affect customer, or corporate security objectives.

**Education:** Preference for a Bachelor's Degree in Computer Science, Information Systems, or other related field or equivalent work experience.

**General Experience:** At least four (4) years of IT work experience in data security.

**Specialized Experience:** Has worked independently or as part of a team under general supervision and coached more junior technical staff.

#### 2.10.103 Subject Matter Expert

**Duties:** Defines the problems and analyzes and develops plans and requirements in the subject matter area for moderately complex-to-complex systems. Coordinates and manages the preparation of analysis, evaluations, and recommendations for proper implementation of programs and systems specifications including, but not limited to: information technology, health care, education, public safety, social services, human resources, transportation, and environment.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** Must have seven (7) years of experience in the IT field.

**Specialized Experience:** At least five (5) years of combined new and related older technical experience in the IT field directly related to the required area of expertise.

#### 2.10.104 Subject Matter Expert (Senior)

**Duties:** The area of expertise may be related to a specific discipline required by the State agency including, but not limited to: information technology, health care, education, public safety, social services, human resources, transportation, and environment. Requires expertise in the formulation of specifications and in the execution of technical initiatives in vertical areas. Defines requirements, performs analyses, and develops plans and requirements for systems.

**Education:** Bachelor's Degree from an accredited college or university in the specific discipline required by the State. A Master's Degree or Ph.D. Degree is preferred.

**General Experience:** At least 12 years of relevant industry experience in the discipline is required.

**Specialized Experience:** At least 10 years of combined new and related older technical experience in the IT field directly related to the required area of expertise.

#### 2.10.105 Systems Analyst, Wireless

**Duties:** Define and develop Key Performance Indicators to measure Quality of Service of wireless voice & data services and end-to-end applications that run on top of wireless data bearers. Design and develop post-processing engines that extract and transform raw low-level performance data into aggregate metrics; automate and parameterize the process for large scale processing in an efficient and timely manner; build-in QC check-points for end-to-end quality verification. Analyze, trouble-shoot, and investigate normal and abnormal use-cases for voice and data services; trace anomalies to corresponding impact on key metrics.

**Education:** A Bachelor's degree in Electrical Engineering, Computer Science, or related discipline is required. A Master's degree in the same is preferred.

**General Experience:** Minimum of four (4) years of direct experience in development for wireless devices or wireless network equipment is required.

**Specialized Experience:** Detailed in-depth understanding of wireless systems architecture, protocols, and standards is required. Detailed knowledge of key wireless applications and services, including Voice, SMS, MMS, WAP/HTTP, and Push-To-Talk (PTT) is desired. Strong technical ability, communication skills, and ability to quickly learn new technologies are required.

#### 2.10.106 System Security Research Analyst

**Duties:** Gathers, analyzes, and composes technical information. Conducts research in one or more security disciplines and ensures the use of proper technical terminology. Translates technical information into clear, readable documents to be used by technical and non-technical personnel.

**Education:** A Bachelor's degree from an accredited college or university in a related field or high school diploma with additional experience. A Bachelor's degree is preferred.

**General Experience:** This position requires no experience if a B.A. or B.S. Degree has been obtained. If only a high school diploma has been obtained, a minimum of two (2) years of system security experience is required.

**Specialized Experience:** If a B.A. or B.S. Degree has been obtained, a minimum of one (1) year of experience is required in researching information using technical documentation, library resources, and the Internet.

#### 2.10.107 System Security Specialist

**Duties:** Provides expert-level advice, analysis, and functional expertise to tasks. Demonstrates exceptional oral and written communication skills. Reviews requirements and task documentation for accuracy and applicability.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline.

**General Experience:** This position requires a minimum of 12 years of experience in system security.

**Specialized Experience:** At least seven (7) years of highly specialized experience in one or more information, computer, or network security disciplines. These disciplines could include penetration testing, intrusion detection and audit analysis, public key infrastructure, cryptography, strong authentication, risk analysis, and multilevel security.

#### 2.10.108 Systems Security Specialist (Senior)

**Duties:** Analyzes and defines security requirements for Multilevel Security (MLS) issues. Designs, develops, engineers, and implements solutions to MLS requirements. Responsible for the implementation and development of the MLS. Gathers and organizes technical information about an organization's mission goals and needs, existing security products, and ongoing programs in the MLS arena. Performs risk analyses, which also include risk assessment. Provides daily supervision and direction to staff.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** This position requires a minimum of eight (8) years of experience in analysis and definition of security requirements.

**Specialized Experience:** At least five (5) years of specialized experience in defining computer security requirements for high-level applications, evaluation of approved security product capabilities, and developing solutions to MLS problems.

#### 2.10.109 Telecommunications Consultant (Senior)

**Duties:** Identifies problems and recommends solutions for telecommunications organizations. Performs process and data modeling in support of the planning and analyses for using automated tools. Evaluates controls and makes recommendations. Provides planning, analyses, strategic planning, design, development, implementation and post-implementation for telecommunications projects.



**Education:** Bachelor's Degree from an accredited college or university with a major in Telecommunications, Computer Science, Information Systems, Engineering or a related field. Master's degree preferred.

**General Experience:** At least 10 years telecommunications experience.

**Specialized Experience:** At least seven (7) years of experience as a consultant or engineer in the telecommunications field in the private or public sector.

#### 2.10.110 Telecommunications Engineer

**Duties:** Responsible for engineering and/or analytical tasks and activities associated with technical areas within the telecom function (e.g., network design, engineering, implementation, diagnostics or operations/user support). Performs complex tasks relating to network monitoring, operations, installation, and/or maintenance for local, off-site, and/or remote locations.

The scope of responsibility for this position includes, but is not limited to, the configuration, deployment, testing, maintenance, monitoring, and trouble-shooting of network components to provide a secure, high performance network. Duties also entail quality assurance and testing of transmission mediums and infrastructure components.

**Education:** Bachelor's Degree in Computer Science, Information Systems, or other related field or equivalent work experience.

**General Experience:** Three (3) to five (5) years of IT work experience.

**Specialized Experience:** Has worked independently or as a part of a team under general supervision and coached more junior technical staff.

#### 2.10.111 Telecommunications Engineer (Senior)

**Duties:** Provides engineering and technical support for Statewide telecommunications projects and services. Provides designs and applications to insure overall technical integrity. Provides high-level planning for the systems used by telecommunications organizations. Performs process and data modeling for the planning and analyses of automated tools. Provides technical expertise and guidance in engineering techniques and automated support tools. Provides assistance with planning, design, cost/benefit analyses, assessment of configurations and performance measurements, development, implementation and recommendations for staffing levels for telecommunications systems and processes.

**Education:** Bachelor's Degree from an accredited college or university in Engineering, Telecommunications, Computer Science, Information Systems or other related scientific or technical discipline. A Master's degree is preferred.

**General Experience:** At least 10 years of telecommunications experience.

**Specialized Experience:** At least six (6) of experience in commercial and long distance network architectural design and engineering.



### 2.10.112 Telecommunications Systems Analyst

**Duties:** Must be capable of planning, analysis, design, development, and maintenance of operations support systems used by telecommunications organizations. Must be capable of performing business systems planning, information planning, and analysis in support of telecommunications support functions, including billing, trouble ticket management, service order entry, and/or configuration management. Performs process and data modeling in support of the planning and analysis efforts using both manual and automated tools. Provides technical guidance in software engineering techniques and automated support tools.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Telecommunications, Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline.

**General Experience:** Must have five (5) years of experience in engineering, systems analysis, design and programming.

**Specialized Experience:** At least two (2) years of experience in functional and data requirement analysis, systems analysis and design, programming, program design of billing, trouble ticket management, service order entry, and/or configuration management systems supporting operations of large telecommunications support organizations.

### 2.10.113 Testing Specialist

**Duties:** Must be capable of designing and executing IT software tests and evaluating results to ensure compliance with applicable regulations. Must be able to prepare test scripts and all required test documentation. Must be able to design and prepare all needed test data. Analyzes internal security within systems. Reviews test results and evaluates for conformance to design.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline or three (3) years of equivalent experience in a related field. A Master's Degree is preferred.

**General Experience:** Must have four (4) years of experience in computer software development.

**Specialized Experience:** At least two (2) years of software testing experience (integration and acceptance).

### 2.10.114 Training Specialist/Instructor

**Duties:** Conducts the research necessary to develop and revise training courses and prepares appropriate training catalogs. Prepares all instructor materials (course outline, background material, and training aids). Prepares all student materials (course manuals, workbooks, handouts, completion certificates, and course critique forms). Trains personnel by conducting formal classroom courses, workshops, and seminars.

**Education:** A Bachelor's Degree from an accredited college or university with a major in Education/Training in the areas of Computer Science, Information Systems, Engineering, Business, or other related scientific or technical discipline. A Master's Degree is preferred.

**General Experience:** Must have four (4) years of experience in information systems development, training, or related fields.

**Specialized Experience:** At least two (2) years of experience in developing and providing IT and end user training on computer hardware and application software.

#### 2.10.115 Technical Writer/Editor

**Duties:** Assists in collecting and organizing information for preparation of user manuals, training materials, installation guides, proposals, and reports. Edits functional descriptions, system specifications, user manuals, special reports, or any other customer deliverables and documents. Conducts research and ensures the use of proper technical terminology. Translates technical information into clear, readable documents to be used by technical and non-technical personnel. For applications built to run in a Windows environment, uses the standard help compiler to prepare all on-line documentation. Assists in performing financial and administrative functions. Must demonstrate the ability to work independently or under only general direction.

**Education:** Associate's Degree in related field. A Bachelor's degree is preferred.

**General Experience:** A minimum of five (5) years of experience in this area.

**Specialized Experience:** At least two (2) years of experience in preparing and editing documents, including technical documents. Also includes researching for applicable standards.

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### 3 SECTION 3 – PROPOSAL FORMAT

#### 3.1 Two Part Submission

3.1.1 Offerors shall submit Proposals in separate volumes:

- Volume I – Technical Proposal
- Volume II – Financial Proposal

3.1.2 Proposal Delivery and Packaging

- A. Proposals delivered by facsimile shall not be considered.
- B. Provide no pricing information in the Technical Proposal. Provide no pricing information on the media submitted in the Technical Proposal.

3.1.3 Offerors may submit Proposals by electronic means as instructed at

<https://doit.maryland.gov/contracts/Pages/How-to-Get-a-Contract.aspx>

3.1.4 E-mail submissions

- A. All Proposal e-mails shall be sent with password protection.
- B. The State has established the following procedure to restrict access to Proposals received electronically: all Proposal documents must be password protected, and the password for the Technical Proposal must be different from the password for the Financial Proposal. Offerors will provide these two passwords to DoIT upon request or their Proposal will be deemed not susceptible for award. Subsequent submissions of Proposal content will not be allowed.
- C. The Procurement Officer will only contact those Offerors with Proposals that are reasonably susceptible for award.
- D. Proposals submitted via e-mail must not exceed 25 Mb. If a submission exceeds this size, split the submission into two or more parts and include the appropriate part number in the subject (e.g., part 1 of 2) after the subject line information below.
- E. The e-mail submission subject line shall state the RFP 060B2490023 Version 1.4 – Expansion and either “Technical” or “Financial.”

#### 3.2 Volume I – Technical Proposal

3.2.1 Transmittal Letter

A transmittal letter shall accompany the Technical Proposal. The purpose of this letter is to transmit the Proposal and acknowledge the receipt of any addenda. The transmittal letter should be brief and signed by an individual who is authorized to commit the Offeror to the services and requirements as stated in this RFP. See Offeror’s responsibilities in Section 1.20.

3.2.2 Format of Technical Proposal

Section 2 of this RFP provides requirements and Section 3 provides reply instructions. The paragraphs in these RFP sections are numbered for ease of reference. In addition to the instructions below, the Offeror’s

Technical Proposal shall be organized and numbered in the same order as this RFP. This Proposal organization will allow “mapping” Offeror responses directly to RFP requirements by paragraph number.

The Technical Proposal shall include the following sections in this order:

### **3.2.2.1 Title and Table of Contents**

The Technical Proposal shall begin with a title page bearing the name, address, eMM # and Federal Tax ID# of the Offeror and the name and number of this RFP. A table of contents shall follow the title page for the Technical Proposal. Offerors certified under the Small Business Reserve and/or certified as a Maryland Minority Business Enterprise (MBE) are asked to provide those certification numbers.

### **3.2.2.2 Executive Summary**

The Offeror shall clearly identify the functional area(s) for which it is proposing. The Offeror shall condense and highlight the contents of the Technical Proposal in a separate section titled “Executive Summary”. The Summary shall provide a broad overview of the contents of the entire Proposal. The summary shall also identify any exceptions the Offeror has taken to the requirements of this RFP, the Contract (Attachment A), or any other attachments. If there are no exceptions taken, the Offeror is to state that they have no exceptions to the requirements of this RFP, the Contract (Attachment A), or any other attachments. Exceptions to terms and conditions may result in having the Proposal deemed unacceptable or classified as not reasonably susceptible of being selected for award. In addition, the Offeror shall clearly identify each functional area for which they are proposing.

### **3.2.2.3 Offeror General Information**

This section shall include the following:

1. The Offeror’s corporation/organization size, experience, services provided, the length of time the organization has been providing the services listed, and key business relationships.
2. Statement of Fiscal Integrity for the most recent two (2) full years. Documentation that addresses the Offeror’s financial solvency may include, but is limited to, one, some or all of the following:
  - a. Current balance sheet,
  - b. Certified financial statement,
  - c. Dunn and Bradstreet rating,
  - d. Line of credit,
  - e. Successful financial track record, and
  - f. Evidence of adequate working capital.
3. Offeror MBE Form – **Attachment D-A-** CATS+ Master Contractor Acknowledgement of Task Order MBE Requirements

### **3.2.2.4 Past Performance – Must be provided for each functional area proposed (one example may be used for multiple functional areas; however, you must clearly list the functional areas that apply to that example).**

This section shall include the following:

1. The Offeror shall provide evidence of its capabilities to provide the services outlined in Section 2.3 of this RFP for each functional area proposed.
2. The Offeror shall provide an example of a successful project (on time, within budget, within scope) in each proposed functional area. The example(s) shall include the project name, the services provided, and the objectives satisfied.
3. For each example project provided, the Offeror shall include a supporting reference with the following information:
  - a. Name of client organization; and,
  - b. Name, title, and current telephone number of point of contact for client organization.
4. State of Maryland Experience: If applicable, the Offeror shall submit a list of all contracts it currently holds, or has held within the past five years, with any government entity of the State of Maryland. For each identified contract, the Offeror shall provide:
  - a. The State contracting entity;
  - b. A brief description of the services/goods provided;
  - c. The dollar value of the contract;
  - d. The term of the contract;
  - e. Whether the contract was terminated prior to the specified original contract termination date, and if yes, the reason(s) why;
  - f. Whether any available renewal option was not exercised; and
  - g. The State employee contact person (name, title, telephone number and email address).

Information obtained regarding the Offeror's level of performance on State contracts may be used by the Procurement Officer to determine the responsibility of the Offeror and considered as part of the experience and past performance evaluation criteria of the RFP.

The Department reserves the right to request additional references or utilize references not provided by an Offeror. Points of contact must be accessible and knowledgeable regarding Offeror performance.

### **3.2.2.5 Insurance Submission**

A copy of the Offeror's current certificate of insurance described in Section 2.7, which, at a minimum, shall contain the following

1. Carrier (name and address);
2. Type of insurance;
3. Amount of coverage;
4. Period covered by insurance;
5. Exclusions.

### 3.2.2.6 Required Submissions

1. Attachment B- Completed Bid/Proposal Affidavit
2. Attachment D-A- Completed, signed and unedited CATS+ Master Contractor Acknowledgement of Task Order MBE Requirements form.
3. Attachment G – Completed Living Wage Affidavit
4. Attachment I - Completed Conflict of Interest Affidavit and Disclosure
5. Attachment S- Offeror Information Sheet
6. Attachment T- Reference Evaluation Sheet

## 3.3 Volume II - Financial Proposal

The Financial Proposal shall contain all cost information in the format specified in **Attachment F-A1** for Functional Areas 1 through 12 and Functional Areas 15 through 17. Functional Area 9 only requires the submission of both Attachment F-A1 and F-A2. Functional Areas 13 and 14 require submission of cost information in the format specified in Attachments F-B and F-C. Complete the cost sheets only as provided in the Price Proposal Instructions. **Offerors must propose pricing for all labor categories to be considered for Award.**

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## 4 SECTION 4 – EVALUATION CRITERIA AND SELECTION PROCEDURE

### 4.1 Evaluation Criteria

Master Contracts will be awarded to all qualified Offerors in accordance with the Competitive Sealed Proposals procurement process under Code of Maryland Regulations 21.05.03.

### 4.2 Technical Criteria

The criteria to be applied to each Technical Proposal are listed in descending order of importance:

- Offeror Past Performance (Section 3.2.2.4)
- Offeror Overall Qualification (Section 3.2.2.3)

### 4.3 Financial Criteria

Financial Proposals will be evaluated separately. Offerors shall propose prices for **all** labor categories, regardless of an Offeror's ability to provide resources for the labor category. Offerors shall provide prices for Contract years 1 through 12 for **all** labor categories listed in the Financial Proposal, Attachment F-1. These are the maximum prices the State will pay for all proposed labor categories.

### 4.4 Reciprocal Preference

4.4.1 Although Maryland law does not authorize procuring agencies to favor resident Offerors in awarding procurement contracts, many other states do grant their resident businesses preferences over Maryland contractors. COMAR 21.05.01.04 requires that procuring units apply a reciprocal preference under the following conditions:

4.4.1.1 The most advantageous offer is from a responsible Offeror whose headquarters, principal base of operations, or principal site that will primarily provide the products/services required under this RFP is in another state.

4.4.1.2 The other state gives a preference to its resident businesses through law, policy, or practice; and

4.4.1.3 The preference does not conflict with a Federal law or grant affecting the procurement Contract.

4.4.2 The preference given shall be identical to the preference that the other state, through law, policy, or practice gives to its resident businesses.

### 4.5 Selection Procedures

#### 4.5.1 General Selection Process

Master Contracts will be awarded in accordance with the Competitive Sealed Proposals process under Code of Maryland Regulations 21.05.03. The Competitive Sealed Proposals method is based on discussions and possible revision of Proposals during these discussions.



Accordingly, the State may hold discussions with all Offerors judged reasonably susceptible of being selected for award, or potentially so. However, the State also reserves the right to make an award without holding discussions. In either case of holding discussions or not doing so, the State may determine an Offeror to be not responsible and/or an Offeror's Proposal to be not reasonably susceptible of being selected for award, at any time after the initial closing date for receipt of Proposals and the review of those Proposals. If the State finds an Offeror to be not responsible and/or an Offeror's Technical Proposal to be not reasonably susceptible of being selected for award, an Offeror's financial Proposal will be returned unopened.

#### **4.5.2 Selection Process Sequence**

- 4.5.2.1 The first step in the process will be an evaluation for technical merit. The purpose of this evaluation will be to assure Offeror's full understanding of the State's requirements and the Offeror's ability to perform.
- 4.5.2.2 Offerors must confirm in writing any substantive clarification of, or change in, their Proposals made in the course of clarification requests. Any such written clarification or change then becomes part of the Offeror's Proposal.
- 4.5.2.3 The Financial Proposal of each qualified Offeror will be evaluated separately from the technical evaluation. After a review of the Financial Proposals of qualified Offerors, the Procurement Officer may again conduct discussions to further evaluate the Offeror's entire Proposal.
- 4.5.2.4 When in the best interest of the State, the Procurement Officer may permit Offerors who have submitted acceptable Proposals to revise their initial Proposals and submit, in writing, best and final offers.

#### **4.5.3 Award Determination**

Upon completion of all discussions and negotiations, the Procurement Officer will recommend award of a Master Contract to all technically qualified Offeror(s).

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**ATTACHMENTS LOCATED IN SEPARATE FILE**