A. OVERVIEW

1. The Contractor will provide Information Technology (IT) Staff Augmentation on an as-needed basis for the following services:
   a. Application Development;
   b. Data Analytics and Decision Support;
   c. Electronic Records Management;
   d. ERP HR and Financial Support;
   e. Hosting and Server Administration;
   f. Project/Program Management Support;
   g. Network/Telecommunications Systems and Infrastructure;
   h. Security; and
   i. Technical Support.

2. The Contractor must name a designated representative as the sole point of contact to receive position requests. The Contractor will be responsible for notifying the County Project Officer with any change in the point of contact.

3. The Contractor must submit responses before the deadline stipulated in the position request.

4. The Contractor must include in their proposals to position requests 1) resumes for candidates for the proposed position; 2) a summary of qualifications in response to advertised minimum qualifications; and 3) a proposed rate (not to exceed the contract rates).

5. As requested by the County, the Contractor must make candidates available for interviews within ten business days of an interview request or risk being disqualified from consideration. The County reserves the right to negotiate the proposed hourly rate and the ability to negotiate a lower rate may impact the position request award.

6. The Contractor's selected candidate must be available to begin work within 15 business days from the date of the position request award or risk being disqualified. The Contractor's candidate will not begin work until the County has executed an approved Purchase Order issued by County's the Purchasing Division.

The Contractor's ability to negotiate the proposed hourly rate to a lower rate may impact the award for a position request.

B. OPERATIONS INFORMATION AND REQUIREMENTS

1. The Contractor will perform the work under this agreement during County business hours from 8:00 AM-5:00 PM, Monday through Friday, except for County-recognized holidays.

2. As determined by the County, the Contractor may be required to perform work outside of normal business hours, including weekends or holidays.

3. The Contractor's staff must be available to work temporary, part-time and full-time assignments.

4. The Contractor's staff must follow the County's holiday calendar and inclement weather policies, unless otherwise directed by authorized County personnel. The Contractor must provide time sheets for employees. The Contractor's staff may not work for other customers during the same hours that they are working for the County.

5. All of the Contractor's staff must have the certifications, documented performance experience and capabilities, and employment eligibility verifications that are applicable to the services being requested by the County.

6. The Contractor must ensure that the employees assigned to all County requests will practice appropriate professional behavior and uphold high ethical standards. The Contractor must address any personnel issues within 24 hours of notification by the County. The Contractor's staff must sign the County's Nondisclosure and Data Security Agreement and other documents related to County policies and regulations upon request and must complete a County background check, if necessary, prior to performing work.

7. As determined by the County, the Contractor's staff shall work from workspaces at 2100 Clarendon Boulevard, other County sites and off-site locations.

8. Unless otherwise specified by the County, the Contractor shall use County issued equipment that is necessary to perform required tasks and services. The Contractor shall use computer-related equipment, printer access via a shared network, network access and a County-provided e-mail account. The Contractor shall use necessary County-issued work supplies, a workspace and a standard telephone for County business purposes. All communications and data that are transmitted on the County network become the property of Arlington County.

C. LABOR CATEGORIES

1. The Contractor's staff shall be assigned to a wide variety of projects or operational support assignments that align with a Labor Category.

2. The Contractor shall provide staff to fill Labor Categories in accordance with the Labor Categories and Position Descriptions as defined below in Section E.

3. When the County modifies Position Descriptions and Labor Categories, the Contractor must provide a rate for new or modified Position Descriptions or Labor Categories or the Contractor will not be allowed to respond to resulting position requests.

4. The Contractor's staff must meet the following qualifications and work requirements:

    a. **Level 1 -** Level 1 professionals must have a minimum of one (1) to four (4) years' relevant work experience.

    b. **Level 2 -** Mid-level professionals must have as a minimum five (5) years' relevant

work experience and are expected to have appropriate certification in the associated field of work and/or equivalent experience relevant to the position.

    c.   **Level 3 -** Senior level professionals must have as a minimum ten (10) years' relevant work experience and are expected to have appropriate certification in the associated field of work and/or equivalent experience relevant to the position.

D. POSITION REQUEST EVALUATION

The County will evaluate all position request responses from pre-qualified Contractors prior to awarding position requests and will make multiple awards for a position request if doing so is in the County's best interest.

Position requests will be evaluated using the following methodology:

1. A panel of County staff, led by a manager who will oversee the position, will be formed for each position request. The manager will select the applicants for evaluation.

2. The panel will conduct oral interviews with one or more candidates. The order of any such interviews will be assigned randomly. Each candidate will be scored based on uniform evaluation criteria.

3. The panel will recommend one or more candidates for the award of the position request, based on an aggregate score from all panel members.

4. The County may reject any proposed personnel from further evaluation if the proposed hourly rate is deemed excessive by the County.

E. LABOR CATEGORIES AND POSITION DESCRIPTIONS

The Contractor's proposed candidates' resumes must demonstrate experience consistent with the following Position Descriptions. Each position request will be specific in nature and will include additional details for the selection of a candidate or candidates that best fit the County's needs.

Application Development

1. **Application Developer/Software Engineer** - Software engineer must have strong technical experience in all phases of the software development life-cycle (SDLC) with a demonstrated technical expertise in one or more areas of state-of-the-art software development technology. Provide activities related to enterprise full life-cycle software development projects. Able to develop detailed functional and technical requirements for client server and web applications and conduct detailed analyses and module-level specification development of software requirements. Must be able to define and implement high performance and highly scalable product/application architectures, and able to lead integration activities for operational, tactical, and strategic systems.

Perform complex programming and analysis tasks for batch and on-line applications; define requirements; write program specifications; design, code, test and debug programming assignments, document programs. May supervise the efforts of other developers in major system development projects; determine and analyze functional requirements; determine proposed solutions information processing requirements; and optimize system performance. Work task may include total custom development, customization as needed for COTS, development of reports, data conversion and support of legacy applications.

Examples of required skillset:
   a. Understanding of principles of software development - Object Oriented Design, Design Patterns, Single Page Applications, Test-Driven Development
   b. Expert-level development skills in ASP.NET, C#, VB.NET, MVC, Visual Studio, JavaScript, Node.js, SQL, Open Source platforms such as KnockOut, Angular, Elastic Search
   c. Integration experience using interfaces and Web API's in JSON and XML formats
   d. Experience with distributed source control systems – GIT
   e. Understanding of and experience working on SQL Server platform

2. **Mobile Application Developer** - Mobile App Developer must have strong experience in building mobile applications for iOS, Android and Windows devices using native programming and hybrid development technologies. Must have strong technical experience in all phases of the software development life-cycle (SDLC) with a demonstrated technical expertise in one or more areas of state-of-the-art software development technology.

Examples of required skillset:
   a. Experience with building native iOS applications using XCode, Swift, Cocoa Touch and Objective-C
   b. Experience in developing Android applications using Java and Android SDK
   c. Experience building hybrid mobile apps in HTML5 and Cordova (formerly PhoneGap)
   d. Have published at least one or more apps in Google play store and Apple Store
   e. Strong development experience in JavaScript, jQuery, Angular, Knockout
   f. Integration experience using interfaces and Web API's in JSON and XML formats
   g. Understanding of Object Oriented Principals, and its implementation in JavaScript and other open source technologies
   h. Experience with distributed source control systems - GIT

3. **Software Tester** - Software tester will work closely with business analysts and business owners to define testing strategies, plans, scenarios and test cases. Conduct and manage the execution of the tests, verify results and seek resolution to test result discrepancies. Advise on system readiness for production implementation. May include unit testing, system testing, integration testing, performance testing, usability testing and user acceptance testing. Prepare data or scripts for input, validate results, document discrepancies, retest after patches are applied, perform regression test when code is

modified. Work with developer to analyze potential bugs and document steps to recreate them.

Examples of required skillset:
a. Ability to quickly gain an understanding of the business functions of the software application
b. Develop test plans, scenarios and test cases for unit test, system test, integration test, performance test, regression test, and user acceptance test.
c. Manage a team of testers or to test independently, as appropriate
d. Monitor, analyze and report on test results in a manner understandable to the business users and system sponsors.
e. Ensure resolution of test discrepancies
f. Develop data or scripts that will test the conditions specified in the test plan
g. Verify results to determine if the test was successful or not
h. Document successful and successful test attempts
i. Work with developer to communicate failed tests and to seek appropriate resolutions
j. Experience working with industry standard issue tracking software, such as JIRA

4.   **GIS Programmer** - GIS programmer will work on projects related geospatial mapping.

Examples of required skillset:
a. Prior experience working with ArcGIS ESRI software (especially ArcGIS Server and ArcGIS Desktop)
b. Solid experience in JavaScript and Python (including ArcPy)
c. Integration experience using Web API's in JSON, XML, ESRI Javascript API, and HTML 5
d. Knowledge of Microsoft.NET platform and C#
e. Knowledge of relational, spatial databases especially Microsoft SQL Server (including spatial datatypes)
f. Knowledge of data translations (especially spatial formats.)
g. Knowledge of spatial formats such as file/personal geodatabase, SDE, raster, and shapefileUX

5.   **User Experience (UX) Developer -** The UX Developer will be responsible for creating front-end design solutions for both web and mobile platforms. The role involves working closely with project managers, analysts, developers and testers to determine ideal design solutions. Conduct usability testing to make sure design satisfies all project requirements.

Examples of required skillset:

a. Design mock-up templates using a combination of tools such as HTML, CSS, Photoshop and other standard industry design tools.
b. Develop responsive design in HTML5 and CSS3 for mobile compatibility
c. Experience with JavaScript
d. Experience designing graphics and UI for mobile development
e. Expertise in Adobe Creative Suite
f. Design custom logos and images

g. Understanding of up to date web standards and specifications
h. Experience with distributed source control systems – GIT

6. **Web Graphic Designer-** The Web Graphic Designer will be responsible for developing layout, font types, design logos, custom images and other visuals for responsive web site design.

   Examples of required skillset:
   a. Experience working with website for a responsive design using HTML5 and CSS3
   b. Expertise in Adobe Creative Suite
   c. Design custom logos and images
   d. Understanding of up to date web standards and specifications

7. **IoT Developer** - This position requires the developer to have a strong understanding of machine-to-machine communications and big data analysis in order to enable smart Internet of Things applications.

   Examples of required skillset:
   a. Understanding of principles of software development - Object Oriented Design, Design Patterns, Single Page Applications, Test-Driven Development
   b. Solid experience working in Java and .NET platforms
   c. Utilize software tools for M2M applications
   d. Experience working with sensors, end-points, and big data
   e. Experience in big data analytics tool such as SPLUNK for data exploration
   f. Demonstrated experience with hardware interfaces using Raspberry Pi or another programmable SOC
   g. Integration experience using interfaces and Web API's in JSON and XML formats
   h. Experience with distributed source control systems – GIT

Data Analytics & Decision Support

1. **Data Scientist -** Data Scientist must have the necessary statistical modelling, mathematical, big data analytics and predictive modelling skills to build required algorithms necessary to ask right questions and build objective visualizations and findings from it. Data Scientist must have knowledge of integrating multiple systems and datasets to provide new insights.

   Examples of required skillset:

   a. Prior experience working as a data architect and managing information schema for large organizations;
   b. Experience with big data analytic tools such as Hadoop, Hive, MapReduce, SPLUNK, Elastic Search;
   c. Understanding and good working knowledge of SQL and NoSQL;
   d. Experience in machine learning, statistical modelling, and predictive analysis; and
   e. Extensive experience with a statistical programming language.

2. **Business Intelligence (BI) Analyst -** Business Intelligence Analyst will gather data from a number of sources for comparative analysis to solve business-related data problems. BI Analyst will develop solutions, reporting and visualizations using Business Intelligence tools.

Examples of required skillset:

    a. Experience in data solutions, information architecture and data warehousing concepts;
    b. Understanding and good working knowledge of SQL and NoSQL;
    c. Knowledge of data transformation using ETL tools; and
    d. Experience developing dashboards and reports using standard industry tools.

3. **Big Data Analyst** - Big Data Analyst will be required to turn datasets into meaningful and actionable items. Must have experience with data mining, big data tools such as SPLUNK, and a data analytical mind.

Examples of required skillset:

    a. Configure and setup dashboards for meaningful viewing by management;
    b. Work with a variety of data including applications and network related;
    c. Experience with big data analytics tools such as SPLUNK;
    d. Establish growth plan for long-term sustainability; and
    e. Develop business cases and other useful metrics related to big data.

4. **Big Data Solutions Architect -** Responsible for building big data solutions using big data engines such as Hadoop. Big Data Solutions Architect will be responsible for managing full life-cycle of big data solution. This will include creating requirements analysis, platform selection, design of technical architecture, design of the application design and developing, testing, and deployment of proposed solution.

Examples of required skillset:

    a. Experience developing big data solutions and implementations using tools such as Hadoop, MapReduce, Hive;
    b. Experience in programming with SQL and NoSQL;
    c. Extensive experience in data normalization and developing information schema for large scale database solutions;
    d. Firm understanding of modern programming languages; and
    e. Experience with ETL tools and extraction of data.

5. **SQL Developer** - SQL Developer shall provide skills and expertise in database programming for new and existing SQL Server based applications.

Examples of required skillset:

    a. Database programming for SQL Server platforms (2008 and up);
    b. Tune up and rewrite efficient queries for performance optimization;
    c. Prior experience working in software development team environment;
    d. Database modeling and design using Erwin and Visio;
    e. Experience with SQL Analytics, SQL Profiler and XML Programming;
    f. Experience building reports using SSRS; and
    g. Experience with distributed source control systems – GIT.

6. **Report Developer** - Report developer must have extensive experience in designing reports and write SQL queries.

Examples of required skillset:

   a. Gather requirements and working with application owners to understand business processes;
   b. Experience developing reports in standard industry reporting tools;
   c. Strong experience writing SQL procedures and queries;
   d. Testing, support and troubleshoot report errors; and
   e. Possess analytical skills and experience with financial data and numbers.

Security

1. **Security/System Architect** – Will be responsible for the development and implementation of enterprise information security architectures and solutions. Serve as a security expert in application development, database design, network, and/or platform (operating system) efforts. Help project teams comply with enterprise and IT security policies, industry regulations, and best practices. Research, design, and advocate new technologies, architectures, and security products that will support security requirements for the enterprise and its customers, business partners, and vendors. Contribute to the development and maintenance of information security strategy and architecture. Evaluate and develop secure solutions based on approved security architectures. Analyze business impact and exposure based on emerging security threats, vulnerabilities, and risks. Work with other functional area and security specialists to ensure adequate security solutions are in place throughout all IT systems and platforms to mitigate identified risks sufficiently and to meet business objectives and regulatory requirements. Communicate security risks and solutions to business partners and IT staff as needed.

2. **Security Analyst** - Analyze security measures for more than one IT functional area (e.g., data, systems, network and/or Web) across the enterprise. Develop, implement, communicate and provide training on security assessments, policies and procedures. Track, monitor, and enforce security policies; review security violation reports; and investigate possible security exceptions and updates. Maintain and document security controls. Prepare reports on security matters to develop security risk analysis scenarios and response procedures. Evaluate and recommend products and/or procedures to enhance productivity and effectiveness.

3. **Security Specialist** – Will be involved in the operations of network security management for systems across the enterprise. Ensure systems are in compliance and enforce policies against unauthorized access, modification and/or destruction. Configure and support security tools such as firewalls, anti-virus software, patch management systems, etc. Define access privileges, control structures and resources. Perform vulnerability testing, risk analyses and security assessments/audits. Identify abnormalities and report violations. Research and recommend security upgrades. Oversee and monitor routine security administration. Develop and update business continuity and disaster recovery protocols. Respond immediately to security incidents and provide post-incident analysis. Assist in the development and implementation of security policies, procedures and enforcement measures. Review networking initiatives for security compliance. Prepare status reports on security matters to develop security risk analysis scenarios and response procedures. Involved in the continual improvement of the network infrastructure and implementation of new security-based technologies. Evaluate and recommend security

products for various platforms in the networking environment. Educate users about network security policies and consults on security issues.

Technical Support Services

1. **Technical Support Specialist** - A Technical Support Specialist Level 1 must provide first level technical support to internal customers. Assess and work to resolve incidents related to account administration, hardware and software performance, and mobile computing. Enter, track and document resolution via an incident/request tracking system. If unable to resolve requests at first contact, collect and document necessary information for appropriate escalation to technical teams. A Technical Support Specialist Level 1 must be experienced in Windows, iOS and Android operating systems, as well as on premise and cloud platforms, such as Microsoft's O365.

   A Technical Support Specialist Level 2 must receive and resolve second level technical support for internal customers requiring analysis and application of multiple technical skills in computing or mobile problem resolution and network connectivity or other associated hardware or application support areas. Simulate or re-create user problems to identify and document exact nature of problems and resolve difficulties. Assist in testing or providing technical advice about new technology, including evaluation of new or upgraded software to determine usefulness to the organization.

2. **Order and Provisioning Specialist** – An Order and Provisioning Specialist must process requests and complete orders for computing and mobile devices, interface with vendors for price quotes and order tracking, record and track assets from vendor delivery to end-user delivery and support asset manager with regular reporting and analysis of vendor accounts, as well as asset inventory, tracking and disposition.

3. **Asset Manager** – An Asset manager must manage IT equipment and software from procurement to end of life cycle. Maintain and update asset inventory system, track assets and report on inventory for audit purposes. Maintain or update internal asset management processes following industry best practices, as well as County policies and guidelines. Maintain a centralized library/database of agreements and contracts for current and historical purposes.

4. **Application Support Specialist** – An Application Support Specialist must provide end-user support related to enterprise-level applications. Analyze issues, provide training and solutions, and coordinate with internal groups and vendors. Assist in testing or providing technical advice about updates or changes to existing applications and help assess impacts on users. Contribute solutions for new/unique problems to the group knowledge base. Assist in evaluating new technologies and products.

5. **End-User Device Deployment** – This position is responsible for the receipt, installation and remediation of new end-user devices. Technicians transport the equipment to the user sites, install and test equipment, and remove old equipment while following the operating procedures for asset deployment and asset disposition. Technicians must provide basic post-installation end-user support as required.

6. **Image Management Technician** – An Image Management Technician must create/update and deploy standard and specialized Windows 8 and above images across a user base of 4,000+ using Microsoft System Center Configuration Manager and Symantec Ghost. An

Image Management Technician must be experienced with a variety of technologies used for imaging and deployments in a Windows-based environment.

7. **Customer Service Coordinator** – A Customer Service Coordinator will be responsible for customer service practices for the Technical Service Center. Develop and implement strategies to increase the quality and efficiency of support, track and report on metrics, build strong relationships with departmental customers, and ensure alignment of IT initiatives and procedures with customer needs.

8. **Desktop Virtualization Engineer** – A Desktop Virtualization Engineer will be responsible for the implementation, management and top-level support of virtual desktop technologies. Provide analysis and consultation and work with County IT staff in development of appropriate supporting infrastructure. Coordinate all work with network and application teams, as well as internal customers across the enterprise.

9. **Microsoft SCCM Administrator** – A Microsoft SCCM Administrator will support software distribution, security patch management, operating system deployment, scripting technologies, and group policy management in an Active Directory infrastructure.

10. **Audio Video (A/V) Technician** – An A/V Technician will install and maintain audiovisual systems by following specifications, schematics, codes, and safety protocols. Administer installation process logistics. Maintain and troubleshoot audiovisual systems and equipment. Provide end user training and support. Complete small projects.

11. **Audio Video (A/V) Control Systems Programmer** – An A/V Control Systems Programmer will install, program and configure various audio-visual control systems (i.e. AMX, Creston). Write code for audio visual control systems and equipment. Create and develop graphic universal interfaces for touch panels. Troubleshoot and diagnose control programming and equipment problems. Contribute on projects from initial estimating phase through final inspections. Train end users.