Exhibit 16.1-4 – Labor Categories

Exhibit 16.1-4 – Labor Categories

Table of Contents

COUNTY OF SAN DIEGO / ENTERPRISE SERVICES, LLC   **554833: IT AND TELECOMMUNICATIONS SERVICES AGREEMENT AMENDED AND RESTATED V1**

PAGE 2

Exhibit 16.1-4 – Labor Categories

Exhibit 16.1-4 – Labor Categories

1. OVERVIEW

Exhibit 16.1-4 – Labor Categories provides descriptions of billable and non-billable labor categories for this Agreement. The Contractor shall bill the County using the applicable labor category rate as per the role or task(s) performed by personnel. For example, if the task or role being provided by personnel falls within Business Analyst labor category, hours associated with such role or task(s) shall be billed at the Business Analyst labor category rate. Non-billable labor categories describe the qualifications for designated Key Personnel.

Personnel billing to a labor category rate must meet the requirements of said labor category unless otherwise approved by the County.

2. APPLICATION SERVICES LABOR CATEGORIES

2.1. Acquisition Manager

The Acquisition Manager is responsible for the procurement activities necessary for Contract Management to execute procurement. The Acquisition Manager role performs pre-procurement activities (e.g. stack and rank, request for information, market studies) and goes up to coordinating negotiations and ends at the handoff for the actual procurement activates. This includes activities such as research, requirements development, vendor ranking, and assessment. The Acquisition Manager works with various Frameworks and Framework Components such as Contract Management Services, Asset Management, Applications Maintenance and Operations, and Applications Development.

Knowledge, Skills and Abilities

Knowledge of:
- Current technology and trends in the profession
- County business and functions

Skills and Abilities:
- Manage Request for Information (RFI) activities
- Manage Request for Proposal (RFP) activities
- Perform market scan for potential solutions or vendors
- Perform portability assessment and recommendations for Cloud Service procurements

Exhibit 16.1-4 – Labor Categories

- Perform stack & rank of Provider(s) for potential products and/or services
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both in written and verbal form
- Work independently and in a team environment

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree and a minimum seven (5) years of experience working on acquisitions and procurement; OR
2. Associate degree with two (2) additional years of experience; OR
3. High school diploma with four (4) additional years of experience.

2.2. Application Architect

An Application Architect serves as the team lead across all architecture domains including Technical, Security, Data and Application. An Application Architect is responsible for defining IT strategy, evaluating technologies, defining standards, designing solution and reference architectures that solve stated business objectives, supporting the development of architectural frameworks and integrating them with coherent and consistent architectural views.

Knowledge, Skills and Abilities

Knowledge of:

- Business process design techniques
- Platform architectures and network architectures
- Application design, architecture and development
- Entity modeling
- Test planning
- Current technology and trends in the profession
- County business and functions

Skills and Abilities:

Exhibit 16.1-4 – Labor Categories

- Lead the overall design of cross-functional, multi-platform, and Web-based application systems; oversees all application system processes

- Lead the application architecture definition / development

- System design and development

- Direct mapping activities on specific technology platforms

- Provide technical guidance to application development teams and consults on integration and conversion activities

- Conduct reviews, and analyzes organizational needs and goals to develop and implement applications

- Assess performance, tuning and capacity requirements to determine key technology decision

- Oversee the activities of the Database Administrator and the Software Configuration Analyst

- High-level entity modeling activities

- Ensure effective software configuration management across applications

- Assesses and effectively manages risks associated with their business objectives

- Establish and maintain cooperative working relationships

- Communicate effectively with both technical and non-technical users, both in written and verbal form

- Work independently and in a team environment

- Develop following work products: Conceptual Architecture Diagram, Interface Design Document, System Architecture Study, Vendor Requirements Questionnaire, and Engineering Documents

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in management information systems or computer science and a minimum seven (7) years of experience working on software application development projects, of which (3) years must have been associated with application requirements management; OR

2. Associate degree with two (2) additional years of experience in software application development; OR

Exhibit 16.1-4 – Labor Categories

3. High school diploma with four (4) additional years of experience in software application development.

2.3.   Application Developer

An Application Developer acts under general supervision, and can act in a lead capacity on application assignments, and/or on complex data processing problems.

Knowledge, Skills and Abilities

Knowledge of:

- Computer programming
- Principles of designing methods of processing data
- Electronic data processing equipment and its capabilities
- Software Development Life Cycle (SDLC) methodology
- Business Process Management (BPM)
- Service Oriented Architecture (SOA)
- Technical report writing
- Statistical methods
- Software engineering disciplines including: Microsoft .NET, J2EE, SharePoint, Business Intelligence
- Current technology and trends in the profession

Skills and Abilities:

- Analyze data and situations, reason logically and creatively, identify problems, draw valid conclusions, and develop effective solutions
- Write complex programs and develop detailed program specifications
- Use programming and scripting languages, vendor packages and software development tool
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both in written and verbal form
- Work independently and in a team environment
- Develop following work products: Unit Test Plan, Computer Programs, Software Configuration Item List, and Root Cause Analysis Form

Exhibit 16.1-4 – Labor Categories

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in management information systems or computer science and a minimum three and half (3.5) years of experience working on software application development projects of which two (2) years must be in a single language unless technology precludes it; OR

2. Associate degree with two (2) additional years of experience in software application development; OR

3. High school diploma with four (4) additional years of experience in software application development.

2.4.   Application Developer – Associate

An Application Developer – Associate acts under general supervision on projects, enhancements and operational support for various business applications.

Knowledge, Skills and Abilities

Knowledge of:

- Software Development Life Cycle (SDLC) methodology
- Business Process Management (BPM)
- Service Oriented Architecture (SOA)
- Software engineering disciplines including: Microsoft .NET, J2EE, SharePoint,
- Business Intelligence

Skills and Abilities:

- Analyze data and situations, reason logically and creatively, identify problems, draw valid conclusions
- Write programs from detailed program specifications
- Apply creative thinking in the support of business applications
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both in written and verbal form

Exhibit 16.1-4 – Labor Categories

- Work independently and in a team environment
- Develop following work products: Unit Test Plan, Computer Programs, Software Configuration Item List, and Root Cause Analysis Form

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in Computer Science, Systems Engineering or related degrees; OR
2. Associate degree with two (2) years of experience in software application development; OR
3. High school diploma with four (4) years of experience in software application development.

2.5. Application Test Lead

An Application Test Lead provides technical leadership for all testing activities of assigned projects and assigns work to others on the testing team. An Application Test Lead is responsible for the leading the development and implementation of comprehensive test plans to support application development lifecycles.

Knowledge, Skills and Abilities

Knowledge of:

- Industry standard testing practices
- Current technology and trends in the profession
- Testing processes, testing metrics and testing tool development
- Testing analysis and design and functional and performance models
- Automated testing tools

Skills and Abilities:

- Plan and lead the analysis of the testing requirements of a project in order to define testing strategy
- Define metrics to be collected to monitor the performance and effectiveness of testing

Exhibit 16.1-4 – Labor Categories

- Identify and recommend improvements to testing methods and standards for a project through an assessment of current testing practices
- Supports implementation of recommended improvements
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both in written and verbal form
- Work independently and in a team environment
- Develop following work products: test strategies and plans, complex testing scenarios and test cases, test reports and work assignments

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Master's or equivalent university degree in management information systems or computer science with a minimum of four (4) years of experience delivering multiple testing services to complex projects; OR
2. Bachelor's or equivalent university degree in Computer Science, Systems Engineering or related degrees with additional two (2) years of experience; OR
3. Associate degree with additional four (4) years of experience; OR
4. High school diploma with additional six (6) years of experience.

2.6.   **Application Test Developer**

An Application Test Developer analyzes complex test results from the scripts, reports on test tool and testing progress and results, facilitates defect resolution and documents final test results in order to complete testing engagement. An Application Test Developer is responsible for developing test cases and scripts and other testing tools in order to implement the comprehensive test plans developed by the Application Test Lead and executing test plans to support application development lifecycles, application upgrades and maintenance.

Knowledge, Skills and Abilities

Knowledge of:

- Industry standard testing practices

Exhibit 16.1-4 – Labor Categories

- Current technology and trends in the profession
- Testing processes, testing metrics and testing tool development
- Testing analysis and design and functional and performance models
- Automated testing tools

Skills and Abilities:

- Understand requirements, design specifications, and testing strategy to develop test scenarios
- Selects test design techniques and develop testing metrics collection plans in order to plan and prepare for testing
- Develop and validate models and scripts for testing
- Develop and review test summary reports
- Develop technical tools needed to support testing strategy
- Develop technical test plans and technical test scenarios
- Develop and validate technical test specifications and tools
- Evaluate and validate test cases and scripts
- Application testing
- Evaluate test automation tools and validate testing environments in order to develop test specifications and automated testing tools
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both in written and verbal form
- Work independently and in a team environment
- Develop following work products: test plans, complex testing scenarios, test scripts, test tools and other automated testing, test cases and test reports

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Master's or equivalent university degree in management information systems or computer science and a minimum of four (4) years of experience delivering multiple testing services to complex projects; OR

2. Bachelor's or equivalent university degree in Computer Science, Systems Engineering or related degrees with additional two (2) years of experience; OR

Exhibit 16.1-4 – Labor Categories

3. Associate degree with additional four (4) years of experience; OR
4. High school diploma with additional six (6) years of experience.

2.7. Business Analyst

A Business Analyst works closely with County departments to develop and document functional business requirements that serve as the basis for exploration of system-related solutions. The Business Analyst understands, or is able to quickly grasp, the essential functions of a business and is able to produce business requirements documents, use cases, and business justifications; and is capable of developing and analyzing business process reengineering alternatives.

The Business Analyst is able to work with technical staff and solution architects to analyze potential alternatives and add incremental value through development and/or acquisition efforts, including participation in evaluations, selections, test development, organizational change initiatives, etc.

Knowledge, Skills and Abilities

Knowledge of:

- Principles of Project Management
- County business, and business functions in a specific department, division, or other area of focus
- General understanding of automated solutions and the systems development life-cycle
- Business requirements documentation
- Use Case approach
- Current technology and trends in the profession
- Proficiency in the use of Microsoft Office Products including Visio and Project

Skills and Abilities:

- Strong analytical and problem solving skills
- Perform risk assessment analysis and identify risk mitigation strategies
- Ability to differentiate between as-is business processes/systems and true business objectives (that my encompass other process/system alternatives)
- Ability to contribute to statements of work, collaborating with Systems Analyst or others
- Establish and maintain cooperative working relationships

Exhibit 16.1-4 – Labor Categories

- Communicate effectively with both technical and non-technical users, both written and verbal

- Work independently and in a team environment

- Develop following work products: Business Requirements Document, Functional Requirements Document, use cases, and end user guides

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in a technical discipline and a minimum two (2) years of experience working with the specific business function, or a demonstrated capability to work with the business function in a structured process to develop necessary understanding of the business; AND

2. Minimum two (2) years of experience developing business functional requirements and use cases.

2.8. Database Administrator

A Database Administrator is responsible for configuring and maintaining a database(s), and supporting end users. A Database Administrator provides technical knowledge/expertise in the use of the Database Management System(s) including: table structure design, backup/restore/recovery processes and procedures, performance analysis and tuning, data file sizing, upgrade/patch support, storage allocation, table space allocation, user account management, and may generating SQL scripts.

Knowledge, Skills and Abilities

Knowledge of:

- Database Performance Tuning

- Database Security

- Database Management

- Data Maintenance

- Operating Systems

- Information Security Policies

Exhibit 16.1-4 – Labor Categories

- Current technology and trends in the profession

Skills and Abilities:

- Identify database requirements and design proposed systems

- Define database physical structure and functional capabilities, database security, data back-up, and recovery specifications

- Installs revised or new systems

- Maintain database performance by calculating optimum values for database parameters; implementing new releases; completing maintenance requirements; evaluating computer operating systems and hardware products

- Establish and enforce organization standards

- Establish and maintain cooperative working relationships

- Communicate effectively with both technical and non-technical users, both in written and verbal form

- Work independently and in a team environment

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in management information systems or computer science and minimum of six (6) years of experience working as Database Administrator; OR

2. Associate degree with two (2) additional years of experience; OR

3. High school diploma with four (4) additional years of experience.

2.9. Program Manager

A Program Manager directs and manages the most complex programs that consist of multiple projects and work streams. A Program Manager may also be designated for the most complex projects with County approval. Complex projects are defined as having labor costs greater than $2,000,000 (excluding license or hardware costs) or projects so designated by the GITM.

A Program Manager is responsible for managing all activities related to a complex project, including: coordination of resources, inclusive of Contractor internal resources, County resources

Exhibit 16.1-4 – Labor Categories

and third parties/vendors; developing a detailed project plan to monitor and track progress; managing change to project scope, schedule and cost; stakeholder communications; risk management, including assessment of impacts across multiple work streams; performance measurement; organizational change management; and ensuring that the project is on-time, within scope, and within budget.

A Program Manager interacts with all levels of staff within the County as well as its vendors, including senior, upper and executive management.

Knowledge, Skills and Abilities

Knowledge of:

- Principles of project management
- Management principles and techniques in project planning and administration
- Management techniques to lead project teams
- Methods and practices of budget, schedule preparation and management
- County business and functions
- Current technology and trends in the profession

Skills and Abilities:

- Plan, organize, and direct the activities and tasks of a project
- Coordinate the resources (internal and external) for the execution of projects
- Prepare and present effective oral and written reports to project team, stakeholders, sponsors, steering committee and all levels of management
- Use interdisciplinary teams effectively in the conduct of the project
- Manage project budget and resource allocation
- Reason logically and creatively and use a variety of analytical and research techniques to solve complex problems
- Work within tight deadline
- Establish and maintain cooperative working relationships
- Proficiency in the use of cost and schedule tools
- Proficiency in the use of Microsoft Office Products including Visio and Project

Education and/or Experience:

Exhibit 16.1-4 – Labor Categories

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree and a minimum of 4,500 hours of project management experience within the last five (5) years; OR

2. Associate degree and a minimum of 6,000 hours of project management experience within the last five (5) years; OR

3. High school diploma or equivalent secondary school credential and a minimum of 7,500 hours of project management experience within the last five (5) years; AND

4. Project Management Professional (PMP) certification or equivalent credential with County approval.

2.10. Project Manager

A Project Manager is responsible for the managing all activities related to a project including: coordination of resources, inclusive of Contractor internal resources, County resources and third parties/vendors; developing a detailed project plan to monitor and track progress; managing change to project scope, schedule and cost; stakeholder communications; risk management; performance measurement; and ensuring that project is on-time, within cope and within budget.

A Program Manager interacts with all levels of staff within the County as well as its vendors, including senior, upper and executive management.

Knowledge, Skills and Abilities

Knowledge of:

- Principles of project management
- Management principles and techniques in project planning and administration
- Management techniques to lead project teams
- Methods and practices of budget, schedule preparation and management
- County business and functions
- Current technology and trends in the profession

Skills and Abilities:

- Plan, organize, and direct the activities and tasks of a project
- Coordinate the resources (internal and external) for the execution of projects

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Exhibit 16.1-4 – Labor Categories

- Prepare and present effective oral and written reports to project team, stakeholders, sponsors, steering committee and all levels of management
- Use interdisciplinary teams effectively in the conduct of the project
- Manage project budget and resource allocation
- Reason logically and creatively and use a variety of analytical and research techniques to solve complex problems
- Work within tight deadline
- Establish and maintain cooperative working relationships
- Proficiency in the use of cost and schedule tools
- Proficiency in the use of Microsoft Office Products including Visio and Project

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree and a minimum of 3,000 hours of project management experience within the last five (5) years; OR
2. Associate degree and a minimum of 4,500 hours of project management experience within the last five (5) years; OR
3. High school diploma or equivalent secondary school credential and a minimum of 6,000 hours of project management experience within the last five (5) years; AND
4. Project Management Plan (PMP) certification or equivalent credential with County approval.

2.11. Project Scheduler

A Project Scheduler develops and maintains project schedules and supports Program Manager with project scheduling and analysis. The Project Scheduler is responsible for implementing standard processes, tools and program planning and control practices for project schedules. The Project Scheduler will communicate weekly activities that are to occur, and maintain activities according to baseline. The Project Scheduler will also track and report SPI.

Knowledge, Skills and Abilities

Knowledge of:

Exhibit 16.1-4 – Labor Categories

- Principles of Project Management

- Critical Path Analysis

- Earned Value Management

Skills and Abilities:

- Develop and maintain Integrated Master Plan (IMP) and Integrated Master Schedule (IMS) detail schedule

- Develop schedules that include project phasing, project milestones, and represent critical relationships between program tasks as required to plan, coordinate, and visualize all significant program activities

- Assess project schedule risks for effective mitigation

- Develop and analyze planning, scheduling and change related metrics/reports, including critical path analysis, resource analysis, etc.

- Analyze trends, develop reports, facilitate communication and provide feedback on performance

- Conduct Earned Value Analysis

- Establish and maintain cooperative working relationships

- Demonstrate good communication skills, both written and verbal; communicate effectively with both technical and non-technical users

- Work independently and in a team environment

- Proficiency in the use of Microsoft Office Products including Visio and Project

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree and a minimum 6 years experience in scheduling and project management; AND

2. Proficiency in Microsoft Project.

2.12. Systems Analyst

A Systems Analyst implements computer system requirements by defining and analyzing system problems; designing and testing standards and solutions. A Systems Analyst is responsible for eliciting, documenting, and analysis of requirements for the development, installation,

Exhibit 16.1-4 – Labor Categories

implementation, procurement, or support of custom developed systems or third party developed systems.

Knowledge, Skills and Abilities

Knowledge of:

- Principles of Project Management
- Data processing, hardware platforms, and enterprise software applications
- System Design
- Software Development Process, Software Documentation, Software Testing
- County business and functions
- Current technology and trends in the profession
- Proficiency in the use of Microsoft Office Products including Visio and Project

Skills and Abilities:

- Strong analytical and problem solving skills
- Perform risk assessment analysis and identify risk mitigation strategies
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both in written and verbal form
- Work independently and in a team environment
- Develop following work products: Requirements Document, Project Proposal, Requirements Traceability matrix, and Risk Management Plan

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in management information systems and a minimum six (6) years of experience working on software application development projects, of which (3) years must have been associated with application requirements management; OR

2. Associate degree with two (2) additional years of experience in software application development; OR

3. High school diploma with four (4) additional years of experience in software application development.

Exhibit 16.1-4 – Labor Categories

2.13. Senior Application Developer

A Senior Application Developer creates and updates the most complex applications and/or resolves the most complex data processing problems. A Senior Application Developer is responsible for code design and implementation using system configuration and code to provide solutions.

Knowledge, Skills and Abilities

Knowledge of:

- Computer programming
- Electronic data processing equipment and its capabilities
- Software development cycle
- Principles of designing methods of processing data
- Technical report writing
- Statistical methods
- Current technology and trends in the profession

Skills and Abilities:

- Analyze data and situations, reason logically and creatively, identify problems, draw valid conclusions, and develop effective solutions
- Write complex programs and develop detailed program specifications
- Use programming and scripting languages, vendor packages and software development tool
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both in written and verbal form
- Work independently and in a team environment
- Develop following work products: Unit Test Plan, Computer Programs, Software Configuration Item List, and Root Cause Analysis Form

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

Exhibit 16.1-4 – Labor Categories

1. Bachelor's or equivalent university degree in management information systems or computer science and a minimum eight (8) years of experience working on software application development projects; OR

2. Associate degree with two (2) additional years of experience in software application development; OR

3. High school diploma with four (4) additional years of experience in software application development.

2.14. Web Designer

A Web Designer designs and builds web sites using a variety of graphics software applications, techniques, and tools. A Web Designer acts under general supervision, and can act in a lead capacity or work independently on application assignments, and/or on complex data processing problems.

Knowledge, Skills and Abilities

Knowledge of:

- User interface design and development
- Digital imaging
- Web development
- Content management
- Multimedia design
- Multimedia programming and technology (e.g. HTML, Photoshop, Illustrator)
- Current technology and trends in the profession

Skills and Abilities:

- Design webpage layout
- Determine technical requirements
- Update websites
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both in written and verbal form
- Work independently and in a team environment

Exhibit 16.1-4 – Labor Categories

- Develop following work products: Unit Test Plan, Computer Programs, Software Configuration Item List, Graphics, and Animation

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in management information systems or computer science and minimum of two (2) years of experience working on software development projects of which at least one (1) year must be in web design; OR
2. Associate degree with two (2) additional years of experience in software development; OR
3. High school diploma with four (4) additional years of experience in software development.

2.15. Desktop Engineer

The Desktop Engineer will support application packaging, deployments, documentation, and release control in an Enterprise environment, and perform baseline image creation for multiple hardware configurations. Provide advice, technical consultation, and guidance to internal teams and external clients by analyzing and resolving problems and evaluating alternative means of satisfying user requirements, research and implement new technology to service the client and the team while staying up to date on the latest solutions, and communicate with the vendors to ensure the best option is provided. Oversee multiple projects and teams to meet project milestones, schedules, and scope in alliance with best practices, identify reoccurring issues, and work with IT and business partners to remediate using the problem management process.

Education and/or Experience:

- 5+ years of experience in a professional work environment
- 18+ months of experience with deploying software in a Windows environment
- BA or BS degree preferred
- Certification in Microsoft Operating Systems or Engineering, including MCSE preferred

2.16. Gate Review Coordinator

The IT PMO Gate Review Coordinator (GRC) role and responsibility is as an active team member in (a) the execution of all project management processes and procedures, and (b) proactive

Exhibit 16.1-4 – Labor Categories

leadership in the review and remediation of all associated artifacts from project inception through final delivery. This role will assure that the mission of each individual project is accomplished as specified by the County of San Diego and ITO.

Knowledge, Skills and Abilities

- Facilitate Project Gate Review process and procedures as a member of the project team
    - Ensure proper level of tailoring for Gate Review artifacts based upon identified project risk
    - Ensure project team and customer throughout the project life cycle in accordance with the Gate Review schedule
    - Ensure requirements tracking through project life cycle
    - Ensure Project artifact compliance to the Requirements Traceability Matrix (RTM) and track issues and corrective actions
    - Participate in the development of the County Project Evaluation & Classification
    - Tool (CPECT) risk classification tool and assist in the evaluation of results
    - Monitor Project Risk and Opportunities Register
    - Conduct independent risk reviews & monitor/report risk mitigation activities
    - Ensure that 3rd Party Vendor performance and deliverables/artifacts conform to
    - ITO policies and procedures
    - Recommend/Implement lessons learned for continuous improvement

- Review project deliverables and remediate as part of project team
    - Identify potential issues in cost, schedule & technical performance which could
    - Impact project artifacts and deliverables
    - Participate in Work Product Peer Reviews (WPPRs)
    - Review project issue closure plans
- Manage project Gate artifact review and approval workflow
    - Evaluate artifacts prior to Gate Review and coordinate with Project Manager
    - (PM)/Technical Leads on remediation efforts as required
    - Establish/verify the review criteria for each artifact are achieved prior to Gate Review (these criteria are also used during Gate Review)
        - Gate Entry Criteria verification checklist
        - Gate Review Input verification checklist

Exhibit 16.1-4 – Labor Categories

- ▪ Review criteria and Go/No-Go conditions
  - o Ensure Stakeholders have reviewed artifacts and completed templates prior to Gate Review
- Manage project Gate Review process
  - o Prepare Schedule/Agenda and notify participants including Gate Review lead-time scheduling for Stakeholders
  - o Lead Gate Review and rules of engagement for Gate/Artifacts (Go/No-Go decision)
  - o Capture/Verify Gate Review artifact action items with participants during Gate Review and distribute
  - o Capture Gate Review attendees, decisions and action items in the designated repository
- Ensure project Gate Review closure
  - o Capture final updates on action items and post to designated repository
  - o Ensure that Gate Review action items are closed per schedule and report nonconformance to PM

Education and/or Experience:

The GRC will have experience in Mission Assurance developing and applying MA processes and procedures specific to the full project development life cycle. To be considered for this position, the candidate must minimally meet the knowledge, skills, and abilities listed below:

- Bachelor's Degree
- 5 years working in a product engineering and/or a IT service environment with focus on all aspects of the product /service lifecycle to include development, verification, deployment and operation within an IT managed service environment
- 3 years in the analysis of service performance gaps and process improvement
- 3 year experience and demonstrated knowledge of program management processes (e.g., risk management)
- 3 year experience implementing product engineering or IT service (ITIL) processes within a variety of systems or services environments; involving systems or services teams in the definition, documentation, deployment and improvement of processes.
- Candidates with these preferred qualifications will be given preferential consideration:

Exhibit 16.1-4 – Labor Categories

- o Bachelor's degree in System Engineering or where there is no technical (B.S) degree, post graduate certifications in IT related areas

- o Demonstrated proficiency in communication and/or facilitation skills which will be needed in dealing with a variety of stakeholders across the Operating Unit to include program technical staff, program managers, senior managers and customer representatives

- o Proficiency in all Microsoft Office products

  Certification or extensive experience in system engineering methodologies or frameworks (i.e., CMMI-DEV, ITIL V2 or ITIL V3) which support technical aspects of the program

2.17. Junior Developer

Junior Developers perform technical or business tasks at tha direction of an experienced manager or coach. Duties include:

- Assists in the design, coding, and testing of technical solutions.
- Assists in systems requirements analysis, data analysis and engineering, systems design, quality assurance, systems testing, configuration management, and application documentation.
- Prepares reports, manuals and other documentation on the status, operation and maintenance of software.
- Develops simple data queries for existing or proposed databases or repositories.

Knowledge, Skills, and Abilities

Knowledge of:

- Database software
- Spreadsheets
- Word processing
- Development Methodologies (e.g., Waterfall, Agile, Iterative)
- Proficiency in the development language or environment being used

Skills and Abilities:

- Strong oral and written communication skills

Exhibit 16.1-4 – Labor Categories

Education and/or Experience

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education I experience:

1. Undergraduate students with major in Computer Science oz related field and GPA of 3.0 or above.
2. Bachelor's Degree in Computer Science or related field.
3. Recent formal technical training with a certificate in application coding, database administration, or other applicable technical training and 2 years or less actual experience.

2.18. Data Entry Clerk

A Data Entry Clerk transfers data from paper formats into computer files or database systems using keyboards, data recorders ar optical scanners. Duties include:

- Prepares source data for computer entry by compiling and sorting information; establishing entry priorities.
- Processes source documents by reviewing data; resolves discrepancies by using standard procedures or returning incomplete documents to the team leader for resolution.
- Verifies entered data by reviewing, correcting, deleting, or reentering data; combining data from systems when account information is incomplete; purging files to eliminate duplication of data.
- Complies with data integrity and security policies.
- Maintains client confidence and protects operations by keeping information confidential.
- Retrieves data from the database or electronic files as requested.
- Updates data and deletes unnecessary files.

Knowledge, Skills, and Abilities

Knowledge of:

- Database software
- Spreadsheets
- Word processing

Skills and Abilities:

- Good typing and numeric key antsy skills.
- Good spelling, gammar, and punctuation skills

Exhibit 16.1-4 – Labor Categories

- Strong reading comprehension
- Attention to detail

Education and/or Experience

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education /experience:

1. High school diploma
2. Formal computer training
3. Proficient in relevant computer applications such as MS Office
4. Accurate keyboard skills and proven ability to enter data at the required speed
5. Knowledge of clerical and administrative procedures

2.19.   Senior Curam Interface Architect

A Senior Curam Interface Architect serves as the team lead across all architecture domains affected by the interface of one system to another. A Senior Curam Interface Architect is responsible for defining IT strategy, evaluating technologies, defining standards, designing solution and reference architectures that solve stated business objectives, in support of system interfaces.

For the ConnectWellSD program, this role will:

- Report to the DXC Program Manager
- Interface with the IBM developers to define requirements
- Update technical architecture documents, as needed
- Work with the IBM developers to develop clear specifications
- Signoff on all developer specifications to the DXC technical team
- Work with the DXC technical team to resolve issues and provide technical direction
- Work with the DXC technical team to deliver solutions

Knowledge, Skills and Abilities

Knowledge of:

- Curam
- IBM's Social Program Management platform
- MDM

Exhibit 16.1-4 – Labor Categories

- Service Oriented Architecture (SOA), service buses

- Business process design techniques

- Platform architectures and network architectures

- Application design, architecture and development

- Entity modelling

- Test planning

- Current technology and trends in the profession

- County business and functions

Skills and Abilities

- Lead the overall design of cross-functional, multi-platform, and Web-based data interfaces

- Lead the interface architecture definition / development

- System design and development

- Direct mapping activities on specific technology platforms

- Provide technical guidance to interface development teams and consults on integration activities

- Conduct reviews, and analyses organizational needs and goals to develop and implement interfaces

- Assess performance, tuning and capacity requirements to determine key technology decision

- Ensure effective software configuration management across applications

- Assesses and effectively manages risks associated with their business objectives

- Establish and maintain cooperative working relationships

- Communicate effectively with both technical and non-technical users, both in written and verbal form

- Work independently and in a team environment

- Develop following work products: Conceptual Architecture Diagram, Interface Design Document, System Architecture Study, Vendor Requirements Questionnaire, and Engineering Documents

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

Exhibit 16.1-4 – Labor Categories

1. Bachelor's or equivalent university degree in management information systems or computer science and a minimum eight (8) years of experience working on software application development projects, of which (3) years must have been associated with application requirements management; OR

2. Associate degree with two (2) additional years of experience in software application development; OR

3. High school diploma with four (4) additional years of experience in software interface development.

4. At least 5 years' experience in system development for an HHSA organization

Restrictions on use:

The use of this Resource Unit is limited to the following:

1. Limited to ConnectWellSD program

2. Limited to maximum of one (1) resources assigned to this RU

3. Requires approval from County for the named resource

4. Cannot be transferred to another DXC employee without written County consent

2.20. Senior Curam Application Developer

A Senior Curam Application Developer acts with minimal supervision, and can act in a lead capacity on application assignments, and/or on complex data processing problems.

For the ConnectWellSD program, this role will:

- Report to the DXC Program Manager

- Perform Curam team leadership function

- Perform break-fix function, and allocate break-fix work to junior Curam team members

- Perform system enhancements/modifications to requirements

- Identify and implement performance improvements

- Troubleshoot outages and reported system issues

- Mentor and train junior Curam team members

Knowledge, Skills and Abilities

Knowledge of:

Exhibit 16.1-4 – Labor Categories

- Computer programming

- Curam

- IBM's Social Program Management platform

- Principles of designing methods of processing data

- Electronic data processing equipment and its capabilities

- Software Development Life Cycle (SDLC) methodology

- Business Process Management (BPM)

- Service Oriented Architecture (SOA)

- Technical report writing

- Statistical methods

- Software engineering disciplines including: Microsoft .NET, J2EE, SharePoint, Business Intelligence

- Current technology and trends in the profession

Skills and Abilities:

- Analyze data and situations, reason logically and creatively, identify problems, draw valid conclusions, and develop effective solutions

- Write complex programs and develop detailed program specifications

- Use programming and scripting languages, vendor packages and software development tool

- Establish and maintain cooperative working relationships

- Communicate effectively with both technical and non-technical users, both in written and verbal form

- Work independently and in a team environment

- Develop

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in management information systems or computer science and a minimum six (6) years of experience working on software application development projects of which two (2) years must be in a single language unless technology precludes it; OR

Exhibit 16.1-4 – Labor Categories

2. Associate degree with two (2) additional years of experience in software application development; OR

3. High school diploma with four (4) additional years of experience in software application development.

4. At least 5 years' experience in system development for an HHSA organization

Restrictions on use:

The use of this Resource Unit is limited to the following:

1. Limited to ConnectWellSD program

2. Limited to maximum of two (2) resources assigned to this RU

3. Requires approval from County for the named resource

4. Cannot be transferred to another DXC employee without written County consent

2.21. Senior Curam Business Analyst

A Senior Curam Business Analyst works closely with County departments to develop and document functional business requirements that serve as the basis for exploration of system-related solutions. The Senior Curam Business Analyst understands, or is able to quickly grasp, the essential functions of a business and is able to produce business requirements documents, use cases, and business justifications; and is capable of developing and analyzing business process reengineering alternatives.

The Senior Curam Business Analyst is able to work with technical staff and solution architects to analyse potential alternatives and add incremental value through development and/or acquisition efforts, including participation in evaluations, selections, test development, organizational change initiatives, etc.

For the ConnectWellSD program, this role will:

- Report to the DXC Program Manager

- Work with the Application Architect to define ConnectWellSD roadmap and strategy

- Advocate the roadmap and strategy to newly engaged HHSA departments

- Guide requirements definition for HHSA departments to meet departmental business needs as well as ConnectWellSD strategic intent

- Identify opportunities in:

  o Overlap of functional requirements between various HHSA departments

COUNTY OF SAN DIEGO / ENTERPRISE SERVICES, LLC   **554833: IT AND TELECOMMUNICATIONS SERVICES AGREEMENT**
AMENDED AND RESTATED V1

PAGE 31

Exhibit 16.1-4 – Labor Categories

- o New functional requirements for future ConnectWellSD scope consideration
- Advise County Program Manager on departmental issues, concerns, and risks
- Propose solutions to identified issues and risks
- Facilitate and improve testing plans to eliminate defects first occurring late in test cycle
- Mentor and train junior ConnectWellSD BAs

Knowledge, Skills and Abilities

Knowledge of:

- Curam
- IBM's Social Program Management platform
- Principles of Project Management
- County business, and business functions in a specific department, division, or other area of focus
- General understanding of automated solutions and the systems development life-cycle
- Business requirements documentation
- Use Case approach
- Current technology and trends in the profession
- Proficiency in the use of Microsoft Office Products including Visio and Project

Skills and Abilities:

- Strong analytical and problem solving skills
- Perform risk assessment analysis and identify risk mitigation strategies
- Ability to differentiate between as-is business processes/systems and true business objectives (that my encompass other process/system alternatives)
- Ability to contribute to statements of work, collaborating with Systems Analyst or others
- Establish and maintain cooperative working relationships
- Communicate effectively with both technical and non-technical users, both written and verbal
- Work independently and in a team environment
- Develop following work products: Business Requirements Document, Functional Requirements Document, use cases, and end user guides

Education and/or Experience:

Exhibit 16.1-4 – Labor Categories

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Examples of qualifying education/experience:

1. Bachelor's or equivalent university degree in a technical discipline and a minimum six (6) years of experience working with the specific business function, or a demonstrated capability to work with the business function in a structured process to develop necessary understanding of the business; AND

2. Minimum two (2) years of experience developing business functional requirements and use cases.

3. At least 5 years' experience in requirements development for an HHSA organization

Restrictions on use:

The use of this Resource Unit is limited to the following:

1. Limited to ConnectWellSD program

2. Limited to maximum of one (1) resources assigned to this RU

3. Requires approval from County for the named resource

4. Cannot be transferred to another DXC employee without written County consent

2.22. Intern

An Intern serves to support the Innovation Services program. To be considered for the intern position, a student must be enrolled at a college/university and meet the following requirements:

- Major in Computer Science, Industrial System Engineering, Information Technology, Computer Engineering, or related IT discipline preferred
- Past leadership and/or project management experience
- Community and/or campus involvement
- Interest/experience in information technology; software development expertise is a plus
- Ability to use popular office software and social media
- Ability to perform quantitative and qualitative analytics
- Ability to adapt quickly to a changing environment
- Ability to understand business processes and identify opportunities for improvement
- Ability to learn new concepts and assimilate information

Interns will perform technical or business tasks at the direction of an experienced manager or coach. Duties include:

- Support Research
- Assist in pilots or proof-of-concepts
- Work and collaborate with technology partners and end-users

Exhibit 16.1-4 – Labor Categories

- Rapidly learn and leverage technologies

Knowledge, Skills and Abilities

Knowledge of:

- Web technology applications
- Data Management
- Cloud-based technology

Additional Skills:

- Take direction well and be a motivated self-starter
- Strong oral and written communication skills
- Comfort with team collaboration

2.23. Applications Developer - Advanced Technology

Applications Developer - Advanced Technology is a proficient and effective software developer whose exceptional capabilities and expertise justify a premium rate, e.g., skills with new and emerging languages, technologies and/or applications, proven track record of a high degree of efficiency in coding and meeting demanding timelines. This labor category will only be used when the tasks that need to be performed require a high level of expertise in complex system design, coding, and implementation. It is the combination of the task(s) and individual expertise that justifies the use of this labor category. Labor hours proposed for tasks under this Labor Category will require pre-approval by the County Technology Office.

Knowledge, Skills and Abilities

Knowledge and experience which may include the following:

- Application Development (AD)
- Component and data architecture design
- Web Services (SOAP, REST)
- Java Development
- .NET Development
- SQL Programming
- XML Programming
- JSP Programming
- Software Development Life Cycle (SDLC)
- Emerging technologies

Exhibit 16.1-4 – Labor Categories

Skills and Abilities:

- Provide leadership across systems full life cycle (e.g. analysis, technical requirements, design, coding, testing, implement of software, etc.)
- Problem solving and critical thinking skills
- Acts as a technical resource to business; identifying solutions that are optimal from a business and technical perspective
- Ability to resolve any assigned schedule and content risks
- Establish and maintain cooperative working relationships
- Communication skills, verbal and written
- Work independently and in a team environment
- Time management and organization skills
- Lead junior team members with project related tasks
- Research and support integration of emerging technologies

Education and Experience:

Bachelor's degree in Computer Science or equivalent and a minimum of 5 or more years of experience developing complex business applications is preferred.

2.24. Network Architect

The Network Architect is responsible for maintaining the design and integrity of the internal network. Provides expert technical assistance to team members on high-level system and networking request. Oversees the coordination, partnerships and management of technology vendors, outside consultants and internal dotted line resources as needed. As subject matter expert in the end to end network, works closely with business partners to identify and quantify business issues associated with specific projects, develop and implement business strategy, and assist in setting strategic technical direction in support of customer facing organizations.

Knowledge, Skills and Abilities

Knowledge of:

- Current technology and trends in the profession
- County business and functions

Skills and Abilities

Exhibit 16.1-4 – Labor Categories

- Reviews and approves proposed technical network designs to insure business requirements are met
- Provides leadership for projects, including such activities as developing business cases, defining business and or technical requirements and preparing detailed plans and schedules
- Reviews and interprets technical documentation and vendor specifications for inclusion/ adaptation into network standards
- Proficient in network design

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Qualifying education/experience:

- CNP or higher certification or equivalent experience
- Must have 10+ years of experience focused on Cisco switching and routing technologies
- Expertise in working on large complex enterprise networks

2.25. Network Engineer

The Network Engineer is responsible the implementation and deployment of network hardware and software. Assists in operational testing and implementation of new hardware and configurations.

Knowledge, Skills and Abilities

Knowledge of:

- Current technology and trends in the profession
- County business and functions
- Hardware and software installation methods and procedures

Skills and Abilities:

- Assists in technical troubleshooting of all network troubles
- Provides field support for break/fix repair of network elements
- Provides installation and support for network projects such as equipment refresh

Education and/or Experience

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Qualifying education/experience:

Exhibit 16.1-4 – Labor Categories

- CCNA or Higher certification
- Must have 3-5 years of experience focused on Cisco switching and routing technologies
- Expertise in working on different sized networks

2.26. Senior Network Engineer

The Network Engineer is responsible for the overall all day to day monitoring, maintenance, administration, and performance management of specific network elements and services. Assists in the coordination, partnership and management of technology vendors, outside consultants and internal dotted line resources as needed.

Conducts operational laboratory testing and configuration of new hardware and network software. Provides the technical troubleshooting and leadership skills required to recover from the most complex network problems in real time to restore service.

Knowledge, Skills and Abilities

Knowledge of:
- Current technology and trends in the profession
- County business and functions

Skills and Abilities:
- Provides the senior level technical troubleshooting of all network troubles
- Implements technical network designs to insure business requirements are met
- Maximizes network performance by monitoring performance; troubleshooting network problems and outages; scheduling upgrades; collaborating with network architects on network optimization
- Assists in development of business cases, defining business and or technical requirements and preparing detailed plans and schedules
- Reviews and interpret technical documentation and vendor specifications for inclusion/ adaptation into network standards

Education and/or Experience:

Education, training, and/or experience that demonstrate possession of the knowledge, skills and abilities listed above. Qualifying education/experience:

COUNTY OF SAN DIEGO / ENTERPRISE SERVICES, LLC   554833: IT AND TELECOMMUNICATIONS SERVICES AGREEMENT
AMENDED AND RESTATED V1

PAGE 37

Exhibit 16.1-4 – Labor Categories

- CCNA or Higher certification

- Must have 5+ years of experience focused on Cisco switching and routing technologies

- Expertise in working on large complex enterprise networks

Exhibit 16.1-4 – Labor Categories

3.   KEY PERSONNEL LABOR CATEGORIES

3.1.   Chief Technical Architect (CTA)

The CTA is responsible for providing principles, best practices, innovation, market trends, and future-looking models for the County's IT infrastructure; and serving as a bridge for all the architecture groups and areas as described in Schedule 4.3 for the CTA.

The Contractor CTA works closely with the County's CTA to oversee and coordinate the top-down approach to managing and sharing data, systems, and processes.

Skills and Abilities

- Exceptional interpersonal skills, including teamwork, facilitation and negotiation.
- Strong leadership skills.
- Analytical and technical skills.
- Written and verbal communication skills.
- Planning and organizational skills.
- Knowledge of all components of holistic enterprise architecture.
- Knowledge of business re-engineering principles and processes.
- Basic knowledge of financial models and budgeting.
- Familiarity with basic graphical modeling approaches, tools and model repositories.
- Familiarity with basic information management practices.
- Exposure to multiple, diverse technologies and processing environments.
- Proven skills and ability to:
  - Participate in the creation or support of the enterprise architecture function/program.
  - Understand, advocate and support the enterprise's IT strategies.
  - Provide analysis of the current IT environment to detect critical deficiencies and recommend solutions for improvement.
  - Provide analysis of technology industry and market trends to determine their potential impact on the enterprise architecture.
  - Balance the long-term ("big picture") and short-term implications of individual decisions.
  - Translate business needs into technical requirements.

Exhibit 16.1-4 – Labor Categories

- Estimate the financial impact of technical alternatives.

- Apply multiple solutions to business problems.

- Leverage existing platforms and services to meet business needs

- Rapidly comprehend the functions and capabilities of new technologies

Education and/or Experience:

Bachelor's degree in computer science, computer engineering, electrical engineering, systems analysis or a related field of study, or equivalent experience. Seven to 10 years of experience in at least two IT disciplines (such as technical architecture, information architecture, enterprise architecture, applications architecture or applications development) in a multi-tiered environment.

3.2.   Enterprise Application Architect (EAA)

The EAA is responsible for leading the improvement of application quality, integration, and cost-effectiveness, including reviewing business and technical requirements; assessing, developing and maintaining application standards and architectures; enhancing solution development throughout the project lifecycle; establishing and maintaining data standards, enterprise taxonomies, information management strategies and overall efforts to continuously improve the provision of Services in the EAA's areas of responsibility as described in Schedule 4.3.

The Contractor EAA shall work closely with the County CTA in the governance and oversight of all application development across the enterprise and shall act as a standing member of the Enterprise Architecture Governance Group.

Skills and Abilities
- Strong knowledge of software development practices and architectures

- Knowledge of information management practices and data architectures

- Knowledge of security-related best practices related to applications and information management

- Proven skills and abilities to:
    o Provide oversight on the design and implementation of cross-functional, multi-platform, and Web-based application systems
    o Provide input into application architecture definition / development

Exhibit 16.1-4 – Labor Categories

- o Review system design and development processes
- o Provide technical guidance to application development teams and consult on integration and conversion activities
- o Provide guidance and direction on applications portfolio rationalization activities
- o Conduct reviews, and analyze organizational needs and goals to develop and implement applications
- o Perform high-level entity modeling activities
- o Ensure effective software configuration management across applications
- o Assesses and effectively manage risks
- o Establish and maintain cooperative working relationships between technical and business parties
- o Communicate effectively with technical and non-technical users, both in written and verbal form
- o Work independently and in a team environment

Education and/or Experience:

Bachelor's or equivalent university degree in management information systems or computer science and a minimum ten (10) years of experience working on software application development projects, of which (3) years must include responsibility for applications architectures.

3.3.   Innovation Officer (IO)

The IO is responsible for establish a culture and environment of driving progressive business process change throughout the County. The IO shall be familiar with bimodal approaches to IT and business, skilled in agile and rapid prototyping, strong communications skill to interact with County business and familiarity with innovation and transformation adoption and implementation. The IO shall have experience in developing an innovation charter, rules of engagement for innovation, governance model and success criteria for innovation and continuously improve Innovation Management Services as described in Schedule 4.3.

Skills and Abilities

- Skilled in seed funding for innovation initiatives
- Natural leadership with excellent verbal/communications skills

Exhibit 16.1-4 – Labor Categories

- A collaborative working style that moves others to action by planning, motivating and organizing work tasks.

- Strong, demonstrated skills in leading, motivating and supporting staff.

- Extensive program/project management skills.

- Strong personnel management skills.

- Thorough and creative problem solving skills.

- Ability to thrive in a demanding, fast-paced environment requiring a high degree of productivity, adaptability, innovation and follow-through.

- Ability to track and juggle multiple tasks/priorities.

- Self-motivated with ability to work well independently as well as part of a team, and able to provide leadership within that environment.

- Ability to develop and manage budgets and lead and direct others with this responsibility.

Education and/or Experience:

Bachelor's or equivalent university degree in management information systems or computer science and a minimum ten (10) years of experience. A minimum of five years' experience in strategic program development and business model development. Demonstrated public-sector experience in the development and bringing-to-market of programs and services within the context of sustainable business models that both fulfill mission and drive net revenue.

END OF EXHIBIT