



**AMENDMENT NUMBER FOUR
FOR
PASSENGER LOADING BRIDGE AND BAGGAGE
HANDLING SYSTEM MAINTENANCE**

This Amendment is made and entered into as of the date fully executed by and between the County of Orange, a political subdivision of the State of California, through its department John Wayne Airport (“County” or “JWA”), and JBT AeroTech Corporation (“Contractor”), with County and Contractor sometimes individually referred to as “Party” or collectively referred to as “Parties.”

RECITALS

WHEREAS, County and John Bean Technologies Corporation dba JBT AeroTech Services entered into Contract MA-280-19010940 for Passenger Loading Bridge and Baggage Handling System Maintenance, effective January 14, 2019 through January 13, 2022, with a Total Contract Amount not to exceed \$12,061,547.00 (“Contract”); and,

WHEREAS, the Board of Supervisors approved the Assignment, Novation and Consent Agreement to transfer and assign the Contract with John Bean Technologies Corporation dba JBT AeroTech Services to Contractor, effective August 1, 2019; and,

WHEREAS, pursuant to Amendment Number One, the Parties renewed the Contract for one year, effective January 14, 2022 through January 13, 2023, with a new Total Contract Amount not to exceed \$4,273,116.00; and,

WHEREAS, pursuant to Amendment Number Two, the Parties amended the Contract to revise the Year 4 Monthly Cost to \$373,593.00, and the Year 4 Additional Repairs and Work to \$188,516.00, and exercised the Contract contingency amount of \$398,516.00, for a new Total Contract Amount not to exceed \$4,671,632.00; and,

WHEREAS, pursuant to Amendment Number Three, the Parties amended the Contract to increase the Contract Amount by \$261,484.00, and revised the Year 4 Additional Repairs and Work cost to \$450,000.00, for a new Total Contract Amount not to exceed \$4,933,116.00, and

WHEREAS, the Parties now desire to increase the Contract Amount by \$292,227.00 for a new Total Contract Amount not to exceed \$5,225,343.00 for the replacement of the Upper Level (UL) Controls in Terminals A, B, and C in accordance with Attachment A, Scope of Work; and

NOW, THEREFORE, the Parties agree as follows:

AMENDMENT TO CONTRACT ARTICLES

1. Section 3 of the Contract’s Additional Terms and Conditions shall be amended to read in its entirety as follows:
 - 3. Contract Amount Not to Exceed**
Contract Amount not to exceed \$5,225,343.00
2. Section 34 of the Contract’s Additional Terms and Conditions shall be amended to read in its entirety as follows:



34. Notices

Any and all notices, requests demands and other communications contemplated, called for, permitted, or required to be given hereunder shall be in writing with a copy provided to the assigned Deputy Purchasing Agent (DPA), except through the course of the parties' project/contract coordinators' routine exchange of information and cooperation during the terms of the work and services. Any written communications shall be deemed to have been duly given upon actual in-person delivery, if delivery is by direct hand, or upon delivery on the actual day of receipt or no greater than four (4) calendar days after being mailed by US certified or registered mail, return receipt requested, postage prepaid, whichever occurs first. The date of mailing shall count as the first day. All communications shall be addressed to the appropriate party at the address stated herein or such other address as the parties hereto may designate by written notice from time to time in the manner aforesaid.

- Contractor: John Bean Technologies Corporation
DBA JBT AeroTech Services
Project Manager Attention: Brent Ahlstrom
1805 West 2550 South
Ogden, UT 84401
Phone: (801) 629-3121
Email: brent.ahlstrom@jbtc.com

- County: Airport Maintenance
Project Manager Attention: Kevin Flynn
3180 Airway Avenue
Costa Mesa, CA 92626
Phone: (949) 252-6038
Email: kbflynn@ocair.com

- Assigned DPA: JWA/Procurement
Attention: Monica Rodriguez, DPA
3160 Airway Avenue
Costa Mesa, CA 92626
Phone: (949) 252-5240
Email: mmrodriguez@ocair.com

3. Attachment B shall be replaced in its entirety as attached hereto.
4. "Exhibit One – Upper Level (UL) Controls Replacement for Terminals A, B, and C" shall be added to the Contract" as attached hereto.
5. "Exhibit Two – County of Orange Information Technology Security Provisions" shall be added to the Contract as attached hereto.
6. All other terms and conditions of the Contract shall remain unchanged and have full force and effect.



County of Orange, John Wayne Airport

MA-280-19010940

Passenger Loading Bridge and Baggage Handling System Maintenance

IN WITNESS WHEREOF, the Parties hereto have executed this Amendment on the date following their respective signatures.

JBT AEROTECH CORPORATION*

	DAVID C. BURDAKIN, PRESIDENT	4/25/22
Signature	Name	Title

	Edward J. Schodorf CFO	11/23/22
Signature	Name	Title

COUNTY OF ORANGE, a political subdivision of the State of California
COUNTY AUTHORIZED SIGNATURE:

		Deputy Purchasing Agent	
Signature	Name	Title	Date

APPROVED AS TO FORM:

County Counsel

By

Date 11/30/22 Deputy

* If the contracting party is a corporation, (2) two signatures are required: one (1) signature by the Chairman of the Board, the President or any Vice President; and one (1) signature by the Secretary, any Assistant Secretary, the Chief Financial Officer or any Assistant Treasurer. The signature of one person alone is sufficient to bind a corporation, as long as he or she holds corporate offices in each of the two categories described above. For County purposes, proof of such dual office holding will be satisfied by having the individual sign the instrument twice, each time indicating his or her office that qualifies under the above described provision. In the alternative, a single corporate signature is acceptable when accompanied by a corporate resolution demonstrating the legal authority of the signator to bind the corporation.



Attachment B
Contractor's Pricing

This is a fixed-fee contract between County and Contractor, for Passenger Loading Bridge and Baggage Handling System Maintenance as set forth in this Contract and Attachments.

A. Compensation

The Contractor agrees to accept the specified compensation as set forth in this Contract as full payment for performing all services and furnishing all personnel and materials required, for any reasonably unforeseen difficulties which may arise or be encountered in the execution of the services until acceptance, for risks connected with the services, and for performance by the Contractor of all its duties and obligations hereunder.

Contract Amount not to exceed \$5,225,343.00

B. Fees and Charges

All rates shall include all costs for the work to include direct and indirect labor charges, (in accordance with prevailing wage rate requirements), all necessary equipment, tools overhead, travel, depreciation, other expenses and all profit related to the performance of work and services set forth in the Scope of Work. County will pay the following fees in accordance with the provisions of this Contract.

County shall pay the following fees in accordance with the provisions of this contract for Passenger Loading Bridge and Baggage Handling System Maintenance.

Table with 3 columns: Description, Unit, Amount. Rows include Year 1-4 Monthly Costs with amounts ranging from \$294,597.00 to \$373,593.00.

Additional Repairs and Work/Spare Parts

Table with 3 columns: Description, Unit, Amount. Rows include Year 1-4 Additional Repairs and Work, each valued at \$450,000.00.

Additional Repairs and Work/Upper Level Control Replacement

Table with 3 columns: Description, Unit, Amount. Row includes Year 4 Upper Level Control Replacement valued at \$292,227.00.

Table with 2 columns: Classification, Straight Time Hourly Rate. Rows include Stationary Engineer (\$90.14) and Utility Engineer (\$48.77).

- 1. Fixed Rate: The fixed rate shall include all requirements and expenses related to the performance for work and services set forth in the Scope of Work.



2. **Additional Repairs and Work:** Additional Repairs and Work shall be provided in accordance with Attachment A, Section E at the prevailing rate specified above, Cost of Analysis of Personnel. Labor hours for required work shall be charged on the basis of actual time spent on each job, not on a portal-to-portal basis and shall be computed to the nearest one-quarter (1/4) hour.
- a. In the event of additional work or required work outside of the normal work schedule, Contractor will be required to provide personnel to remedy any issues at the County's request. In the event of such requests, Contractor will pay wages as specified in the most current Prevailing Wage Determination.
 - b. Subcontracting: Contractor will be allowed a markup no greater than 10 percent of actual costs from the subcontractor for payment submission for all subcontractor labor, materials, and equipment.
 - c. Parts Cost: Contractor shall be responsible for maintaining parts inventory as provided in the Contract. Parts used from the inventory and purchased by Contractor from other manufacturers, will be charged to County no greater than cost plus 10 percent.

Contractor shall provide a copy of the invoice from the manufacturer or vendor documenting the purchase price for the parts. County will certify on the invoice that prices are per the current price list for all items having a per-unit cost exceeding \$250.00 and that the appropriate discounts have been applied.

3. **Deficient Performance:**

- a. Performance: County reserves the right to deduct from the payments due or to become due to the Contractor for deficient performance. The amount of such deductions will be based on the extent of the unsatisfactory work. A copy of the inspection record with associated deduction calculation will be furnished to the Contractor.
- b. Attrition: In order to maintain high levels of competent personnel and minimize security violation issues, Contractor agrees to maintain attrition levels of the workforce assigned to JWA, excluding supervision and management, to less than 10% per month.

In months where Contractor's airport workforce levels of attrition exceed 10%, the County shall deduct 5% from the payments due to Contractor that month.

C. Final Payment

Final payment shall be issued based on the completion of the work as described in this Contract and County Project Manager accepts the all work and JWA issued badges are returned to Badging Office.

D. Payment Terms – Payment in Arrears

Invoices are to be submitted in arrears to the user agency/department to the ship-to address, unless otherwise directed in this Contract. Contractor shall reference Contract number on invoice. Payment will be net 30 days after receipt of an invoice in a format acceptable to the County of Orange and verified and approved by the agency/department and subject to routine processing requirements. The responsibility for providing an acceptable invoice rests with the Contractor.

Billing shall cover services and/or goods not previously invoiced. The Contractor shall reimburse the County of Orange for any monies paid to the Contractor for goods or services not provided or when goods or services do not meet the Contract requirements.

Payments made by the County shall not preclude the right of the County from thereafter disputing any items or services involved or billed under this Contract and shall not be construed as acceptance of any part of the goods or services.

E. Taxpayer ID Number



The Contractor shall include its taxpayer ID number on all invoices submitted to the County for payment to ensure compliance with IRS requirements and to expedite payment processing.

F. Payment-Invoicing Instructions

The Contractor will provide an invoice on the Contractor's letterhead for goods delivered and/or services rendered. In the case of goods, the Contractor will leave an invoice with each delivery. Each invoice will have a number and will include the following information:

1. Contractor's name and address
2. Contractor's remittance address, if different from 1 above
3. Name of County Agency/Department
4. Delivery/service address
5. Master Agreement (MA) or Purchase Order (PO) number
6. Date of order
7. Product/service description, quantity, and prices
8. Sales tax, if applicable
9. Freight/delivery charges, if applicable
10. Total

Invoices and support documentation are to be forwarded to (**not both**):

John Wayne Airport
Attention: Accounts Payable
3160 Airway Avenue
Costa Mesa, CA 92626
Or
Email to:
AccountsPayable@ocair.com



EXHIBIT ONE
UPPER LEVEL (UL) CONTROLS REPLACEMENT FOR TERMINALS A, B, AND C
(incorporated by reference)



EXHIBIT TWO
COUNTY OF ORANGE INFORMATION TECHNOLOGY SECURITY PROVISIONS

All Contractors with access to County data and/or systems shall establish and maintain policies, procedures, and technical, physical, and administrative safeguards designed to (i) ensure the confidentiality, integrity, and availability of all County data and any other confidential information that the Contractor receives, stores, maintains, processes, transmits, or otherwise accesses in connection with the provision of the contracted services, (ii) protect against any threats or hazards to the security or integrity of County data, systems, or other confidential information, (iii) protect against unauthorized access, use, or disclosure of personal or County confidential information, (iv) maintain reasonable procedures to prevent, detect, respond, and provide notification to the County regarding any internal or external security breaches, (v) ensure the return or appropriate disposal of personal information or other confidential information upon contract conclusion (or per retention standards set forth in the contract), and (vi) ensure that any subcontractor(s)/agent(s) that receives, stores, maintains, processes, transmits, or otherwise accesses County data and/or system(s) is in compliance with statements and the provisions of statements and services herein.

1. County of Orange Information Technology Security Standards: County of Orange security standards follows the latest National Institute of Standards and Technology (NIST) 800-53 framework to ensure the highest levels of operational resiliency and cybersecurity.

Contractor, Contractor personnel, Contractor's subcontractors, any person performing work on behalf of Contractor, and all other agents and representatives of Contractor will, at all times, comply with and abide by all County of Orange Information Technology Security Standards ("Security Standards"), as existing or modified, that pertain to Contractor in connection with the Services performed by Contractor as set forth in the scope of work of this Contract. Any violations of such Security Standards shall, in addition to all other available rights and remedies available to County, be cause for immediate termination of this Contract. Such Security Standards include, but are not limited to the County of Orange Information Technology Security Standards.

Contractor shall use industry best practices and methods with regard to confidentiality, integrity, availability, and the prevention, detection, response, and elimination of threat, by all appropriate means, of fraud, abuse, and other inappropriate or unauthorized access to County data and/or system(s) accessed in the performance of Services under this Contract.

2. The Contractor shall implement and maintain a written information security program that contains reasonable and appropriate security measures designed to safeguard the confidentiality, integrity, availability, and resiliency of County data and/or system(s). The Contractor shall review and update its information security program in accordance with contractual, legal, and regulatory requirements. Contractor shall provide to County a copy of the organization's information security program and/or policies.
3. Information Access: Contractor shall use appropriate safeguards and security measures to ensure the confidentiality and security of all County data.

County may require all Contractor personnel, subcontractors, and affiliates approved by County to perform work under this Contract to execute a confidentiality and non-disclosure agreement concerning access protection and data security in the form provided by County. County shall authorize, and Contractor shall issue, any necessary information-access mechanisms, including access IDs and passwords, and in no event shall Contractor permit any such mechanisms to be shared or used by other than the individual Contractor personnel, subcontractor, or affiliate to whom issued.

Contractor shall provide each Contractor personnel, subcontractors, or affiliates with only such level of access as is required for such individual to perform his or her assigned tasks and functions.

Throughout the Contract term, upon request from County but at least once each calendar year, Contractor shall provide County with an accurate, up-to-date list of those Contractor personnel and/or



subcontractor personnel having access to County systems and/or County data, and the respective security level or clearance assigned to each such Contractor personnel and/or subcontractor personnel. County reserves the right to require the removal and replacement of Contractor personnel and/or subcontractor personnel at the County's sole discretion. Removal and replacement shall be performed within 14 calendar days of notification by the County.

All County resources (including County systems), County data, County hardware, and County software used or accessed by Contractor: (a) shall be used and accessed by such Contractor and/or subcontractors personnel solely and exclusively in the performance of their assigned duties in connection with, and in furtherance of, the performance of Contractor's obligations hereunder; and (b) shall not be used or accessed except as expressly permitted hereunder, or commercially exploited in any manner whatsoever, by Contractor or Contractor's personnel and subcontractors, at any time.

Contractor acknowledges and agrees that any failure to comply with the provisions of this paragraph shall constitute a breach of this Contract and entitle County to deny or restrict the rights of such non-complying Contractor personnel and/or subcontractor personnel to access and use the County data and/or system(s), as County in its sole discretion shall deem appropriate.

4. Data Security Requirements: Without limiting Contractor's obligation of confidentiality as further described in this Contract, Contractor must establish, maintain, and enforce a data privacy program and an information and cyber security program, including safety, physical, and technical security and resiliency policies and procedures, that comply with the requirements set forth in this Contract and, to the extent such programs are consistent with and not less protective than the requirements set forth in this Contract and are at least equal to applicable best industry practices and standards (NIST 800-53).

Contractor also shall provide technical and organizational safeguards against accidental, unlawful, or unauthorized access or use, destruction, loss, alteration, disclosure, transfer, commingling, or processing of such information that ensure a level of security appropriate to the risks presented by the processing of County Data.

Contractor personnel and/or subcontractor personnel and affiliates approved by County to perform work under this Contract may use or disclose County personal and confidential information only as permitted in this Contract. Any other use or disclosure requires express approval in writing by the County of Orange. No Contractor personnel and/or subcontractor personnel or affiliate shall duplicate, disseminate, market, sell, or disclose County personal and confidential information except as allowed in this Contract. Contractor personnel and/or subcontractor personnel or affiliate who access, disclose, market, sell, or use County personal and confidential information in a manner or for a purpose not authorized by this Contract may be subject to civil and criminal sanctions contained in applicable federal and state statutes.

Contractor shall take all reasonable measures to secure and defend all locations, equipment, systems, and other materials and facilities employed in connection with the Services against hackers and others who may seek, without authorization, to disrupt, damage, modify, access, or otherwise use Contractor systems or the information found therein; and prevent County data from being commingled with or contaminated by the data of other customers or their users of the Services and unauthorized access to any of County data.

Contractor shall also continuously monitor its systems for potential areas where security could be breached. In no case shall the safeguards of Contractor's data privacy and information and cyber security program be less stringent than the safeguards used by County. Without limiting any other audit rights of County, County shall have the right to review Contractor's data privacy and information and cyber security program prior to commencement of Services and from time to time during the term of this Contract.

All data belongs to the County and shall be destroyed or returned at the end of the contract via digital wiping, degaussing, or physical shredding as directed by County.



5. Enhanced Security Measures: County may, in its discretion, designate certain areas, facilities, or solution systems as ones that require a higher level of security and access control. County shall notify Contractor in writing reasonably in advance of any such designation becoming effective. Any such notice shall set forth, in reasonable detail, the enhanced security or access-control procedures, measures, or requirements that Contractor shall be required to implement and enforce, as well as the date on which such procedures and measures shall take effect. Contractor shall and shall cause Contractor personnel and subcontractors to fully comply with and abide by all such enhanced security and access measures and procedures as of such date.
6. General Security Standards: Contractor will be solely responsible for the information technology infrastructure, including all computers, software, databases, electronic systems (including database management systems) and networks used by or for Contractor (“Contractor Systems”) to access County resources (including County systems), County data or otherwise in connection with the Services and shall prevent unauthorized access to County resources (including County systems) or County data through the Contractor Systems.

At all times during the contract term, Contractor shall maintain a level of security with regard to the Contractor Systems, that in all events is at least as secure as the levels of security that are common and prevalent in the industry and in accordance with industry best practices (NIST 800-53). Contractor shall maintain all appropriate administrative, physical, technical, and procedural safeguards to secure County data from data breach, protect County data and the Services from loss, corruption, unauthorized disclosure, and from hacks, and the introduction of viruses, disabling devices, malware, and other forms of malicious and inadvertent acts that can disrupt County’s access and use of County data and the Services.

7. Security Failures: Any failure by the Contractor to meet the requirements of this Contract with respect to the security of County data, including any related backup, disaster recovery, or other policies, practices or procedures, and any breach or violation by Contractor or its subcontractors or affiliates, or their employees or agents, of any of the foregoing, shall be deemed a material breach of this Contract and may result in termination and reimbursement to County of any fees prepaid by County prorated to the date of such termination. The remedy provided in this paragraph shall not be exclusive and is in addition to any other rights and remedies provided by law or under the Contract.
8. Security Breach Notification: In the event Contractor becomes aware of any act, error or omission, negligence, misconduct, or security incident including unsecure or improper data disposal, theft, loss, unauthorized use and disclosure or access, that compromises or is suspected to compromise the security, availability, confidentiality, and/or integrity of County data or the physical, technical, administrative, or organizational safeguards required under this Contract that relate to the security, availability, confidentiality, and/or integrity of County data, Contractor shall, at its own expense, (1) immediately (or within 24 hours of potential or suspected breach), notify the County’s Chief Information Security Officer and County Privacy Officer of such occurrence; (2) perform a root cause analysis of the actual, potential, or suspected breach; (3) provide a remediation plan that is acceptable to County within 30 days of verified breach, to address the occurrence of the breach and prevent any further incidents; (4) conduct a forensic investigation to determine what systems, data, and information have been affected by such event; and (5) cooperate with County and any law enforcement or regulatory officials investigating such occurrence, including but not limited to making available all relevant records, forensics, investigative evidence, logs, files, data reporting, and other materials required to comply with applicable law or as otherwise required by County and/or any law enforcement or regulatory officials, and (6) perform or take any other actions required to comply with applicable law as a result of the occurrence (at the direction of County).

County shall make the final decision on notifying County officials, entities, employees, service providers, and/or the general public of such occurrence, and the implementation of the remediation plan. If notification to particular persons is required under any law or pursuant to any of County’s privacy or security policies, then notifications to all persons and entities who are affected by the same



event shall be considered legally required. Contractor shall reimburse County for all notification and related costs incurred by County arising out of or in connection with any such occurrence due to Contractor's acts, errors or omissions, negligence, and/or misconduct resulting in a requirement for legally required notifications.

In the case of a breach, Contractor shall provide third-party credit and identity monitoring services to each of the affected individuals for the period required to comply with applicable law, or, in the absence of any legally required monitoring services, for no less than twelve (12) months following the date of notification to such individuals.

Contractor shall indemnify, defend with counsel approved in writing by County, and hold County and County Indemnitees harmless from and against any and all claims, including reasonable attorney's fees, costs, and expenses incidental thereto, which may be suffered by, accrued against, charged to, or recoverable from County in connection with the occurrence.

Notification shall be sent to:

Rafael Linares
Chief Information Security Officer
1055 N. Main St., 6th Floor
Santa Ana, CA 92701
Phone: (714) 567-7611
Rafael.Linares@ocit.ocgov.com

Linda Le, CHPC, CHC, CHP
County Privacy Officer
1055 N. Main St., 6th Floor
Santa Ana, CA 92701
Phone: (714) 834-4082
Linda.Le@ocit.ocgov.com

9. Security Audits: Contractor shall maintain complete and accurate records relating to its system and Organization Controls (SOC) Type II audits or equivalent's data protection practices, internal and external audits, and the security of any of County-hosted content, including any confidentiality, integrity, and availability operations (data hosting, backup, disaster recovery, external dependencies management, vulnerability testing, penetration testing, patching, or other related policies, practices, standards, or procedures).

Contractor shall inform County of any internal/external security audit or assessment performed on Contractor's operations, information and cyber security program, disaster recovery plan, and prevention, detection, or response protocols that are related to hosted County content, within sixty (60) calendar days of such audit or assessment. Contractor will provide a copy of the audit report to County within thirty (30) days after Contractor's receipt of request for such report(s).

Contractor shall reasonably cooperate with all County security reviews and testing, including but not limited to penetration testing of any cloud-based solution provided by Contractor to County under this Contract. Contractor shall implement any required safeguards as identified by County or by any audit of Contractor's data privacy and information/cyber security program.

In addition, County has the right to review Plans of Actions and Milestones (POA&M) for any outstanding items identified by the SOC 2 Type II report requiring remediation as it pertains to the confidentiality, integrity, and availability of County data. County reserves the right, at its sole discretion, to immediately terminate this Contract or a part thereof without limitation and without liability to County if County reasonably determines Contractor fails or has failed to meet its obligations under this section.

10. Business Continuity and Disaster Recovery (BCDR):

For the purposes of this section, "Recovery Point Objectives" means the maximum age of files (data and system configurations) that must be recovered from backup storage for normal operations to resume if a computer, system, or network goes down as a result of a hardware, program, or communications failure (establishing the data backup schedule and strategy). "Recovery Time Objectives" means the maximum duration of time and a service level within which a business process must be restored after a



disaster (or disruption) in order to avoid unacceptable consequences associated with a loss of functionality.

The Contractor shall maintain an comprehensive risk management program focused on managing risks to County operations and data, including mitigation of the likelihood and impact of an adverse event occurring that would negatively affect contracted services and operations of the County. Business continuity management will enable the Contractor to identify and minimize disruptive risks and restore and recover hosted County business-critical services and/or data within the agreed terms following an adverse event or other major business disruptions. Recovery and timeframes may be impacted when events or disruptions are related to dependencies on third parties. The County and Contractor will agree on Recovery Point Objectives and Recovery Time Objectives (as needed) and will periodically review these objectives. Any disruption to services of system will be communicated to the County within 4 hours, and every effort shall be undertaken to restore contracted services, data, operations, security, and functionality.

All data and/or systems and technology provided by the Contractor internally and through third-party vendors shall have resiliency and redundancy capabilities to achieve high availability and data recoverability. Contractor Systems shall be designed, where practical and possible, to ensure continuity of service(s) in the event of a disruption or outage.



1 ASSET MANAGEMENT

Asset management establishes an organization's inventory of fixed and controlled assets and defines how these assets are managed during their lifecycle to ensure sustained productivity in support of the organization's critical services. An event that disrupts an asset can inhibit the organization from achieving its mission. An asset management program helps identify appropriate strategies that shall allow the assets to maintain productivity during disruptive events. There are four broad categories of assets: people, information, technology, and facilities.

The Cybersecurity Program strives to achieve and maintain appropriate protection of IT assets. Loss of accountability of IT assets could result in a compromise or breach of IT systems and/or a compromise or breach of sensitive or privacy data.

1.1 GOALS AND OBJECTIVES

- 1.1.1 Services are identified and prioritized.
- 1.1.2 Assets are inventoried, and the authority and responsibility for these assets is established.
- 1.1.3 The relationship between assets and the services they support is established.
- 1.1.4 The asset inventory is managed.
- 1.1.5 Access to assets is managed.
- 1.1.6 Information assets are categorized and managed to ensure the sustainment and protection of the critical service.
- 1.1.7 Facility assets supporting the critical service are prioritized and managed.

1.2 ASSET MANAGEMENT POLICY STATEMENTS

1.2.1 Services Inventory

- 1.2.1.1 Departments shall maintain an inventory of its services. This listing shall be used by the department to assist with its risk management analysis.

1.2.2 Asset Inventory – Information

- 1.2.2.1 All information that is created or used within the County's trusted environment in support of County business activities shall be considered the property of the County. All County property shall be used in compliance with this policy.
- 1.2.2.2 County information is a valuable asset and shall be protected from unauthorized disclosure, modification, or destruction. Prudent information security standards and practices shall be implemented to ensure that the integrity, confidentiality, and availability of County information are not compromised. All County information shall be protected from the time of its creation through its useful life and authorized disposal.
- 1.2.2.3 Departments shall establish internal procedures for the secure handling and storage of all electronically-maintained County information that is owned or controlled by the department.



1.2.3 Asset Inventory - Technology (Devices, Software)

1.2.3.1 Departments shall maintain an inventory of all department managed devices that connect to County network resources or processes, stores, or transmits County data including but not limited to:

- Desktop computers,
- Laptop Computers,
- Tablets (iPads and Android devices),
- Mobile Phones (basic cell phones),
- Smart Phones (iPhones, Blackberry, Windows Phones and Android Phones),
- Servers,
- Storage devices,
- Network switches,
- Routers,
- Firewalls,
- Security Appliances,
- Internet of Things (IoT) devices,
- Printers,
- Scanners,
- Kiosks and Thin clients,
- Mainframe Hardware, and
- VoIP Phones.

1.2.3.2 Asset inventory shall map assets to the services they support.

1.2.3.3 Departments shall adopt a standard naming convention for devices (naming convention to be utilized as devices are serviced or purchased) that, at a minimum, includes the following:

- Department (see Appendix A for an example Department Listing)
- Facility (see Appendix B for an example Facility Listing)
- Device Type (see Appendix C for an example Device Type Listing)

1.2.3.4 Each department shall ensure that all software used on County systems and in the execution of County business shall be used legally and in compliance with licensing agreements.

1.2.4 Asset Inventory - Facilities

1.2.4.1 Departments shall maintain an inventory of its facilities. This listing shall be used by the department to assist with its risk management analysis.

1.2.4.2 Departments shall identify the facilities used by its critical services.

1.2.5 Access Controls

Refer to *User Provisioning Policy* for additional guidance.

1.2.5.1 Departments shall establish a procedure that ensures only users with legitimate business needs to access County IT resources are provided with user accounts.

1.2.5.2 Access to County information systems and information systems data shall be based on each user's access privileges. Access controls shall ensure that even legitimate users cannot access stored information unless they are authorized to do so. Access control should start by denying access to everything, and then explicitly granting access according to the "need to know" principle.

1.2.5.3 Access to County information and County information assets should be based on the principle



Information Technology Security Standards

of “least privilege,” that is, grant no user greater access privileges to the information or assets than County responsibilities demand.

- 1.2.5.4 The owner of each County system, or their designee, provides written authorization for all internal and external user access.
 - 1.2.5.5 All access to internal County computer systems shall be controlled by an authentication method involving a minimum of a user identifier (ID) and password combination that provides verification of the user’s identity.
 - 1.2.5.6 All County workforce members are to be assigned a unique user ID to access the network.
 - 1.2.5.7 A user account shall be explicitly assigned to a single, named individual. No group or shared computer accounts are permissible except when necessary and warranted due to legitimate business needs. Such need shall be documented prior to account creation and accounts activated only when necessary.
 - 1.2.5.8 User accounts shall not be shared with others including, but not limited to, someone whose access has been denied or terminated.
 - 1.2.5.9 Departments shall conduct regular reviews of the registered users’ access level privileges. System owners shall provide user listings to departments for confirmation of user’s access privileges.
- 1.2.6 Asset Sanitation/Disposal**
- 1.2.6.1 Unless approved by County management, no County computer equipment shall be removed from the premises.
 - 1.2.6.2 Prior to re-deployment, storage media shall be appropriately cleansed to prevent unauthorized exposure of data.
 - 1.2.6.3 Surplus, donation, disposal or destruction of equipment containing storage media shall be appropriately disposed according to the terms of the equipment disposal services contract.
 - 1.2.6.4 Sanitization methods for media containing County information shall be in accordance with NSA standards (for example, clearing, purging, or destroying).
 - 1.2.6.5 Disposal of equipment shall be done in accordance with all applicable County, state or federal surplus property and environmental disposal laws, regulations or policies.



2 CONTROLS MANAGEMENT

The Controls Management domain focuses on the processes by which an organization plans, defines, analyzes, and assesses the controls that are implemented internally. This process helps the organization ensure the controls management objectives are satisfied.

This domain focuses on the resilience controls that allow an organization to operate during a time of stress. These resilience controls are implemented in the organization at all levels and require various levels of management and staff to plan, define, analyze, and assess.

2.1 GOALS AND OBJECTIVES

- 2.1.1 Control objectives are established.
- 2.1.2 Controls are implemented.
- 2.1.3 Control designs are analyzed to ensure they satisfy control objectives.
- 2.1.4 Internal control system is assessed to ensure control objectives are met.

2.2 CONTROL MANAGEMENT POLICY STATEMENTS

2.2.1 Physical and Environmental Security

- 2.2.1.1 Procedures and facility hardening measures shall be adopted to prevent attempts at and detection of unauthorized access or damage to facilities that contain County information systems and/or processing facilities.
- 2.2.1.2 Restricted areas within facilities that house sensitive or critical County information systems shall, at a minimum, utilize physical access controls designed to permit access by authorized personnel only.
- 2.2.1.3 Physical protection measures against damage from external and environmental threats shall be implemented by all departments as appropriate.
- 2.2.1.4 Access to any office, computer room, or work area that contains sensitive information shall be physically restricted from unauthorized access.
- 2.2.1.5 Access points such as delivery and loading areas and other points where unauthorized persons may enter the premises shall be controlled and, if possible, isolated from information processing facilities to avoid unauthorized access. An example of this would be separating the two areas by a badge-only accessible door.
- 2.2.1.6 Continuity of power shall be provided to maintain the availability of critical equipment and information systems.
- 2.2.1.7 Power and telecommunications cabling carrying data or supporting information services shall be protected from interception or damage. Different, yet appropriate methods shall be utilized for internal and external cabling.
- 2.2.1.8 Equipment shall be properly maintained to ensure its continued availability and integrity.
- 2.2.1.9 All shared IT infrastructure by more than one department shall meet countywide security policy for facility standards, availability, access, data & network security.



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2.2.2 Network Segmentation

NOTE: This section is applicable to Departments that manage their own network devices.

- 2.2.2.1 Segment (e.g., VLANs) the network into multiple, separate zones (based on trust levels of the information stored/transmitted) to provide more granular control of system access and additional intranet boundary defenses. Whenever information flows over a network of lower trust level, the information shall be encrypted.
- 2.2.2.2 Segment the network into multiple, separate zones based on the devices (servers, workstations, mobile devices, printers, etc.) connected to the network.
- 2.2.2.3 Create separate network segments (e.g., VLANs) for BYOD (bring your own device) systems or other untrusted devices.
- 2.2.2.4 The network infrastructure shall be managed across network connections that are separated from the business use of that network, relying on separate VLANs or, preferably, on entirely different physical connectivity for management sessions for network devices.

2.2.3 Mobile Computing Devices

To ensure that Mobile Computing Devices (MCDs) do not introduce threats into systems that process or store County information, departments' management shall:

- 2.2.3.1 Establish and manage a process for authorizing, issuing and tracking the use of MCDs.
- 2.2.3.2 Permit only authorized MCDs to connect to County information assets or networks that store, process, transmit, or connects to County information and information assets.
- 2.2.3.3 Implement applicable access control requirements in accordance with this policy, such as the enforcement of a system or device lockout after 15 minutes of inactivity requiring re-entering of a password to unlock.
- 2.2.3.4 Install an encryption algorithm that meets or exceeds industry recommended encryption standard for any MCD that will be used to store County information. See Section on Encryption.
- 2.2.3.5 Ensure that MCDs are configured to restrict the user from circumventing the authentication process.
- 2.2.3.6 Provide security awareness training to County employees that informs MCD users regarding MCD restrictions.
- 2.2.3.7 Label MCDs with County address and/or phone number so that the device can be returned to the County if recovered.
- 2.2.3.8 The installation of any software, executable, or other file to any County computing device is prohibited if that software, executable, or other file downloaded by, is owned by, or was purchased by an employee or contractor with his or her own funds unless approved by the department. If the device ("i" device or smartphone, only) complies with the mobile device management security standards (see section 9.2.3 Mobile Computing Devices), this is not applicable.

2.2.4 Personally Owned Devices

Personal computing devices include, but are not limited to, removable media such as thumb or USB drives, external hard drives, laptop or desktop computers, cellular phones, or personal digital assistants (PDA's) owned by or purchased by employees, contract personnel, or other non-County users.

- 2.2.4.1 The connection of any computing device not owned by the County to a County network (except the Public Wi-Fi provided for public use) or computing device is prohibited unless previously



approved.

- 2.2.4.2 The County authorizes the use of personal devices to access resources that do not traverse the County network directly. Such resources include County's Microsoft Office 365 environment, OC Expediter, and VTI timesheet applications, to name a few. Access to some agency specific applications, e.g. applications that are subject to compliance regulations may require prior approval of the County CISO and the associated Department Head.
- 2.2.4.3 The County will respect the privacy of a user's voluntary use of a personally owned device to access County IT resources.
- 2.2.4.4 The County will only request access to the personally owned device in order to implement security controls; to respond to litigation hold (aka: e-discovery) requests arising out of administrative, civil, or criminal directives, Public Record Act requests, and subpoenas; or as otherwise required or permitted by applicable state or federal laws. Such access will be performed by an authorized technician or designee using a legitimate software process.

2.2.5 Logon Banners and Warning Notices

- 2.2.5.1 At the time of network login, the user shall be presented with a login banner.
- 2.2.5.2 All computer systems that contain or access County information shall display warning banners informing potential users of conditions of use consistent with state and federal laws.
- 2.2.5.3 Warning banners shall remain on the screen until the user takes explicit actions to log on to the information system.
- 2.2.5.4 The banner message shall be placed at the user authentication point for every computer system that contains or accesses County information. The banner message may be placed on an initial logon screen in situations where the logon provides access to multiple computer systems.
- 2.2.5.5 At a minimum, banner messages shall provide appropriate privacy and security information and shall contain information informing potential users that:
- User is accessing a government information system for conditions of use consistent with state and federal information security and privacy protection laws.
 - System usage may be monitored, recorded, and subject to audit.
 - Unauthorized use of the system is prohibited and subject to criminal and civil penalties.
 - Use of the system indicates consent to monitoring and recording.

2.2.6 Authentication

- 2.2.6.1 Authenticate user identities at initial connection to County resources.
- 2.2.6.2 Authentication mechanisms shall be appropriate to the sensitivity of the information contained.
- 2.2.6.3 Users shall not receive detailed feedback from the authenticating system on failed logon attempts.

2.2.7 Passwords

- 2.2.7.1 County approved password standards and/or guidelines shall be applied to access County systems. These standards extend to mobile devices (see Section 9.2.4 Mobile Computing Devices for additional guidance on mobile devices) and personally owned devices used for work (see Section 9.2.5 Personally Owned Devices for additional guidance on personally owned devices).
- 2.2.7.2 Passwords are a primary means to control access to systems and shall therefore be selected, used, and managed to protect against unauthorized discovery or usage. Passwords shall satisfy the following complexity rule:



- Passwords will contain a minimum of one upper case letter
- Passwords will contain a minimum of one lower case letter
- Passwords will contain a minimum of one number: 1- 0
- Passwords will contain a minimum of one symbol: !, @, #, \$, %, ^, &, *, (,)
- Password characters will not be sequential (Do not use: ABCD , This is ok: ACDB)
- Password characters will not be repeated in a row (Do not use: P@\$\$. This is ok: P@\$S\$)
- COMPLEX PASSWORD EXAMPLE: P@\$SWoRd13

2.2.7.3 Passwords shall have a minimum length of 8 characters.

2.2.7.4 Passwords shall not be reused for twelve iterations.

2.2.7.5 Departments shall require users to change their passwords periodically (e.g., every 90 days at the maximum). Changing passwords more often than 90 days is encouraged.

2.2.7.6 Network and application systems shall be configured to enforce automatic expiration of passwords at regular intervals (e.g., every 90 days at the maximum) when the technology is feasible or available.

2.2.7.7 Newly-created accounts shall be assigned a randomly generated password prior to account information being provided to the user.

2.2.7.8 No user shall give his or her password to another person under any circumstances. Workforce members who suspect that their password has become known by another person shall change their password immediately and report their suspicion to management in accordance with Section 12: Incident Management.

2.2.7.9 Users who have lost or forgotten their passwords shall make any password reset requests themselves without using a proxy (e.g., another County employee) unless approved by management. Prior to processing password change requests, the requester shall be authenticated to the user account in question. (e.g., Verification with user's supervisor or the use of passphrases can be used for this authentication process.) New passwords shall be provided directly and only to the user in question.

2.2.7.10 When technologically feasible, a new or reset password shall be set to expire on its initial use at log on so that the user is required to change the provided password to one known only to them.

2.2.7.11 All passwords are to be treated as sensitive information.

2.2.7.12 User Accounts shall be locked after five consecutive invalid logon attempts within a 24-hour period. The lockout duration shall be at least 30 minutes or until a system administrator enables the user ID after investigation. These features shall be configured as indicated when the technology is feasible or available.

2.2.7.13 All systems containing sensitive information shall not allow users to have multiple concurrent sessions on the same system when the technology is feasible or available.

2.2.8 Inactivity Timeout and Restricted Connection Times

2.2.8.1 Automatic lockouts for system devices, including workstations and mobile computing devices (refer to Section 9.2.4 Mobile Computing Devices), after no more than 15 minutes of inactivity.

2.2.8.2 Automated screen lockouts shall be used wherever possible using a set time increment (e.g., 15 minutes of non-activity). In situations where it is not possible to automate a lockout, operational procedures shall be implemented to instruct users to lock the terminal or equipment so that unauthorized individuals cannot make use of the system. Once logged on, workforce members shall not leave their computer unattended or available for someone else to use.



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2.2.8.3 When deemed necessary, user logins and data communications may be restricted by time and date configurations that limit when connections shall be accepted.

2.2.9 Account Monitoring

2.2.9.1 Access to a County network and its resources shall be strictly controlled, managed, and reviewed to ensure only authorized users gain access based on the privileges granted. (e.g., Kiosks provide physical and public access to County networks. These shall be secured to ensure County resources are not accessed by unauthorized users.)

2.2.9.2 The control mechanisms for all types of access to County IT resources by contractors, customers or vendors are to be documented.

2.2.9.3 Monitor account usage to determine dormant accounts that have not been used for a given period, such as 45 days, notifying the user or user's manager of the dormancy.

2.2.9.4 After a longer period, such as 60 days, the account shall be disabled by the system when the technology is feasible or available.

2.2.9.5 On a periodic basis, such as quarterly or at least annually, departments shall require that managers match active employees and contractors with each account belonging to their managed staff. Security or system administrators shall then determine whether to disable accounts that are not assigned to active employees or contractors.

2.2.10 Administrative Privileges

2.2.10.1 Systems Administrators shall use separate administrative accounts, which are different from their end user account (required to have an individual end user account), to conduct system administration tasks.

2.2.10.2 Administrative accounts shall only be granted to individuals who have a job requirement to conduct systems administration tasks.

2.2.10.3 Administrative accounts shall be requested in writing and must be approved by the Department Head or designated representative (e.g., DISO) using the Security Review and Approval Process.

2.2.10.4 Systems Administrator accounts that access County enterprise-wide systems or have enterprise-wide impact shall be approved by the CISO using the Security Review and Approval Process.

2.2.10.5 Systems Administrators shall use separate administrative accounts to manage Mobile Device Management (MDM) platforms but may use the local user's credentials when configuring a mobile phone or tablet device.

2.2.10.6 All passwords for privileged system-level accounts (e.g., root, enable, OS admin, application administration accounts, etc.) shall comply with Section 9.2.8.

2.2.11 Remote Access

2.2.11.1 Departments shall take appropriate steps, including the implementation of appropriate encryption, user authentication, and virus protection measures, to mitigate security risks associated with allowing users to use remote access or mobile computing methods to access County information systems.

2.2.11.2 Remote access privileges shall be granted to County workforce members only for legitimate business needs and with the specific approval of department management.



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- 2.2.11.3 All remote access implementations that utilize the County's trusted network environment and that have not been previously deployed within the County shall be submitted to and reviewed by OCIT Enterprise Privacy and Cybersecurity. A memorandum of understanding (MOU) shall be utilized for this submittal and review process. This is required for any Suppliers utilizing remote access to conduct maintenance.
- 2.2.11.4 Remote sessions shall be terminated after 15 minutes of inactivity requiring the user to authenticate again to access County resources.
- 2.2.11.5 All remote access infrastructures shall include the capability to monitor and record a detailed audit trail of each remote access attempt.
- 2.2.11.6 All users of County networks and computer systems are prohibited from connecting and/or activating unauthorized dial-up or broadband modems on workstations, laptops, or other computing devices that are simultaneously connected to any County network.
- 2.2.11.7 Periodic assessments shall be performed to identify unauthorized remote connections. Results shall be used to address any vulnerabilities and prioritized according to criticality.
- 2.2.11.8 Users granted remote access to County IT infrastructure shall follow all additional policies, guidelines and standards related to authentication and authorization as if they were connected locally. For example, this applies when mapping to shared network drives.
- 2.2.11.9 Users attempting to use external remote access shall utilize a County-approved multi-factor authentication process.
- 2.2.11.10 All remote access implementations that involve non-County infrastructures shall be reviewed and approved by both the department DISO and OCIT Enterprise Privacy and Cybersecurity. This approval shall be received prior to the start of such implementation. The approval shall be developed as a memorandum of understanding (MOU).
- 2.2.11.11 Remote access privileges to County IT resources shall not be given to contractors, customers or vendors unless department management determines that these individuals or organizations have a legitimate business need for such access. If such access is granted, it shall be limited to those privileges and conditions required for the performance of the specified work.
- 2.2.12 Wireless Access**
- 2.2.12.1 Departments shall take appropriate steps, including the implementation of appropriate encryption, user authentication, device authentication and malware protection measures, to mitigate risks to the security of County data and information systems associated with the use of wireless network access technologies.
- 2.2.12.2 Only wireless systems that have been evaluated for security by both department management and OCIT Enterprise Privacy and Cybersecurity shall be approved for connectivity to County networks.
- 2.2.12.3 County data that is transmitted over any wireless network shall be protected in accordance with the sensitivity of the information.
- 2.2.12.4 All access to County networks or resources via unapproved wireless communication technologies is prohibited. This includes wireless systems that may be brought into County facilities by visitors or guests. Employees, contractors, vendors and customers are prohibited from connecting and/or activating wireless connections on any computing device that are simultaneously connected to any County network, either locally or remotely.
- 2.2.12.5 Each department shall make a regular, routine effort to ensure that unauthorized wireless networks, access points, and/or modems are not installed or configured within its IT environments. Any unauthorized connections described above shall be disabled immediately.



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2.2.13 System and Network Operations Management

- 2.2.13.1 Operating procedures and responsibilities for all County information processing facilities shall be formally authorized, documented, and updated.
- 2.2.13.2 Departments shall establish controls to ensure the security of the information systems networks that they operate.
- 2.2.13.3 Operational system documentation for County information systems shall be protected from unauthorized access.
- 2.2.13.4 System utilities shall be available to only those users who have a business case for accessing the specific utility.

2.2.14 System Monitoring and Logging

- 2.2.14.1 Systems operational staff shall maintain appropriate log(s) of activities, exceptions and information security events involving County information systems and services.
- 2.2.14.2 Each department shall maintain a log of all faults involving County information systems and services.
- 2.2.14.3 Logs shall be protected from unauthorized access or modifications wherever they reside.
- 2.2.14.4 The clocks of all relevant information processing systems and attributable logs shall be synchronized with an agreed upon accurate time source such as an established Network Time Protocol (NTP) service.
- 2.2.14.5 Auditing and logging of user activity shall be implemented on all critical County systems that support user access capabilities.
- 2.2.14.6 Periodic log reviews of user access and privileges shall be performed in order to monitor access of sensitive information.

2.2.15 Malware Defenses

- 2.2.15.1 Departments shall implement endpoint security on computing devices connected to the County network. Endpoint security may include one or more of the following software: anti-virus, anti-spyware, personal firewall, host-based intrusion detection (IDS), network-based intrusion detection (IDS), intrusion prevention systems (IPS), and white listing and black listing of applications, web sites, and IP addresses.
- 2.2.15.2 Special features designed to filter out malicious software contained in either email messages or email attachments shall be implemented on all County email systems.
- 2.2.15.3 Where feasible, any computing device, including laptops and desktop PCs, that has been connected to a non-County infrastructure (including employee home networks) and subsequently used to connect to the County network shall be verified that it is free from viruses and other forms of malicious software prior to attaining connectivity to the County network.

2.2.16 Data Loss Prevention

- 2.2.16.1 Departments shall implement host-based Data Loss Prevention (DLP) to reduce the risk of data breach related to sensitive information.
- 2.2.16.2 Departments shall deploy encryption software on mobile devices containing sensitive. See Section 9.2.19 Encryption for additional guidance.

2.2.17 Data Transfer

- 2.2.17.1 Agreements shall be implemented for the exchange of information between the County and other entities. As well as between departments.



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2.2.17.2 County information accessed via electronic commerce shall have security controls implemented based on the assessed risk.

2.2.18 Encryption

2.2.18.1 The decision to use cryptographic controls and/or data encryption in an application shall be based on the level of risk of unauthorized access and the sensitivity of the data that is to be protected.

2.2.18.2 The decision to use cryptographic controls and/or data encryption on a hard drive shall be based on the level of risk of unauthorized access and the sensitivity of the data that is to be protected.

2.2.18.3 Where appropriate, encryption shall be used to protect confidential (as defined by County policy) application data that is transmitted over open, untrusted networks, such as the Internet.

2.2.18.4 When cryptographic controls are used, procedures addressing the following areas shall be established by each department:

- Determination of the level of cryptographic controls
- Key management/distribution steps and responsibilities

2.2.18.5 Encryption keys shall be exchanged only using secure methods of communication.

2.2.19 System Acquisition and Development

2.2.19.1 Departments shall identify all business applications that are used by their users in support of primary business functions. This includes all applications owned and/or managed by the department as well as other business applications that are used by the department but owned and/or managed by other County organizations. All business applications used by a department shall be documented in the department's IT security plan as well as their Business Impact Analysis (BIA).

2.2.19.2 An application owner shall be designated for each internal department business application.

2.2.19.3 All access controls associated with business applications shall be commensurate with the highest level of data used within the application. These same access controls shall also adhere to the policy provided in Section 7: Access Control.

2.2.19.4 Security requirements shall be incorporated into the evaluation process for all commercial software products that are intended to be used as the basis for a business application. The security requirements in question shall be based on requirements and standards specified in this policy.

2.2.19.5 In situations where data needs to be isolated because there would be a conflict of interest (e.g., DA and OCPD data cannot be shared), data security shall be designed and implemented to ensure that isolation.

Business Requirements

2.2.19.6 The business requirements definition phase of system development shall contain a review to ensure that the system shall adhere to County information security standards.

System Files

2.2.19.7 Operating system files, application software and data shall be secured from unauthorized use or access.

2.2.19.8 Clear-text data that results from testing shall be handled, stored, and disposed of in the same



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manner and using the same procedures as are used for production data.

2.2.19.9 System tests shall be performed on data that is constructed specifically for that purpose.

2.2.19.10 System testing shall not be performed on operational data unless the necessary safeguards are in place.

2.2.19.11 A combination of technical, procedural and physical safeguards shall be used to protect application source code from unintentional or unauthorized modification or destruction. All County proprietary information, including source code, needs to be protected through appropriate role-based access controls. An example of this is a change control tool that records all changes to source code including new development, updates, and deletions, along with check-in and check-out information.

System Development & Maintenance

2.2.19.12 The development of software for use on County information systems shall have documented change control procedures in place to ensure proper versioning and implementation.

2.2.19.13 When preparing to upgrade any County information systems, including an operating system, on a production computing resource; the process of testing and approving the upgrade shall be completed in advance in order to minimize potential security risks and disruptions to the production environment.

2.2.19.14 Any outside suppliers used for maintenance that are visitors to the facility are to be escorted and monitored while performing maintenance to critical systems. This does not apply to contractors that are assigned to work at the facility.

2.2.19.15 Systems shall be hardened, and logs monitored to ensure the avoidance of the introduction and exploitation of malicious code.

2.2.19.16 All County workforce members shall not create, execute, forward, or introduce computer code designed to self-replicate, damage, or impede the performance of a computer's memory, storage, operating system, or application software.

2.2.19.17 In conjunction with other access control policies, any opportunity for information leakage shall be prevented through good system design practices.

2.2.19.18 Departments are responsible for managing outsourced software development related to department-owned IT systems.

System Requirements

Any system that processes or stores County Information shall:

2.2.19.19 Baseline configuration shall incorporate Principle of Least Privilege and Functionality.

2.2.19.20 Systems shall be deployed where feasible to utilize existing County authentication methods.

2.2.19.21 Session inactivity timeouts shall be implemented for all access into and from County networks.

2.2.19.22 All applications are to have access controls unless specifically designated as a public access resource.

2.2.19.23 Meet the password requirements defined in Section 9.2.8: Passwords.

2.2.19.24 Strictly control access enabling only privileged users or supervisors to override system controls or the capability of bypassing data validation or editing problems.

2.2.19.25 Monitor special privilege access, e.g. administration accounts.

2.2.19.26 Restrict authority to change master files to persons independent of the data processing function.



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- 2.2.19.27 Have access control mechanisms to prevent unauthorized access or changes to data, especially, the server file systems that are connected to the Internet, even behind a firewall.
- 2.2.19.28 Be capable of routinely monitoring the access to automated systems containing County Information.
- 2.2.19.29 Log all modifications to the system files.
- 2.2.19.30 Limit access to system utility programs to necessary individuals with specific designation.
- 2.2.19.31 Maintain audit logs on a device separate from the system being monitored.
- 2.2.19.32 Delete or disable all default accounts.
- 2.2.19.33 Restrict access to server file-system controls to ensure that all changes such as direct write, write access to system areas and software or service changes shall be applied only through the appropriate change control process.
- 2.2.19.34 Restrict access to server-file-system controls that allow access to other users' files.
- 2.2.19.35 Ensure that servers containing user credentials shall be physically protected, hardened and monitored to prevent inappropriate use.

2.2.20 Procurement Controls

- 2.2.20.1 Breach notification requirements clause to be included in new or renewal contracts (once policy is effective) for systems containing sensitive information.

Contractor shall report to the County within 24 hours as defined in this contract when Contractor becomes aware of any suspected data breach of Contractor's or Sub-Contractor's systems involving County's data.

- 2.2.20.2 Departments shall review all procurements and renewals for software and equipment (hosted/managed by the vendor) that transmits, stores, or processes sensitive information to ensure that vendors and contractors are aware of and are in compliance with County's cybersecurity policies. Departments shall obtain documentation supporting the business partners, contractors, consultants, or vendors compliance with County's cybersecurity policies, if applicable, such as:

- SOC 1 Type 2
- SOC 2 Type 2
- Security Certifications (ISO, PCI, etc.)
- Penetration Test Results

2.2.21 IT Services Provided to Public

- 2.2.21.1 Public access to County electronic information resources shall provide desired services in accordance with safeguards designed to protect County resources. All County electronic information resources are to be reviewed at least quarterly.

2.2.22 Removable Media

- 2.2.22.1 When no longer required, the contents of removable media shall be permanently destroyed or rendered unrecoverable in accordance with applicable department, County, state, or federal record disposal and/or retention requirement



3 CONFIGURATION & CHANGE MANAGEMENT

Configuration and Change Management (CCM) is the process of maintaining the integrity of hardware, software, firmware, and documentation related to the configuration and change management process. CCM is a continuous process of controlling and approving changes to information or technology assets or related infrastructure that support the critical services of an organization. This process includes the addition of new assets, changes to assets, and the elimination of assets.

Cybersecurity is an integral component to information systems from the onset of the project or acquisition through implementation of:

- Application and system security
- Configuration management
- Change control procedures
- Encryption and key management
- Software maintenance, including but not limited to, upgrades, antivirus, patching and malware detection response systems

As the complexity of information systems increases, the complexity of the processes used to create these systems also increases, as does the probability of accidental errors in configuration. The impact of these errors puts data and systems that may be critical to business operations at significant risk of failure that could cause the organization to lose business, suffer damage to its reputation, or close completely. Having a CCM process to protect against these risks is vital to the overall security posture of the organization.

3.1 GOALS AND OBJECTIVES

- 3.1.1 The lifecycle of assets is managed.
- 3.1.2 The integrity of technology and information assets is managed.
- 3.1.3 Asset configuration baselines are established.

3.2 CONFIGURATION & CHANGE MANAGEMENT POLICY STATEMENTS

- 3.2.1 Changes to all information processing facilities, systems, software, or procedures shall be strictly controlled according to formal change management procedures.
- 3.2.2 Changes impacting security appliances managed by OCIT (e.g., security architecture, security appliances, County firewall, Website listings, application listings, email gateway, administrative accounts) shall be reviewed by OCIT Enterprise Privacy and Cybersecurity in accordance with the County Security Review and Approval Process.
- 3.2.3 Only authorized users shall make any changes to system and/or software configuration files.
- 3.2.4 Only authorized users shall download and/or install operating system software, service-related software (such as web server software), or other software applications on County computer systems without prior written authorization from department IT management. This includes, but is not limited to, free software, computer games and peer-to-peer file sharing software.
- 3.2.5 Each department shall develop a formal change control procedure that outlines the process to be used for identifying, classifying, approving, implementing, testing, and documenting changes to its IT resources.



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- 3.2.6 Each department shall conduct periodic audits designed to determine if unauthorized software has been installed on any of its computers.
- 3.2.7 As appropriate, segregation of duties shall be implemented by all County departments to ensure that no single person has control of multiple critical systems and the potential for misusing that control.
- 3.2.8 Production computing environments shall be separated from development and test computing environments to reduce the risk of one environment adversely affecting another.
- 3.2.9 System capacity requirements shall be monitored, and usage projected to ensure the continual availability of adequate processing power, bandwidth, and storage.
- 3.2.10 System acceptance criteria for all new information systems and system upgrades shall be defined, documented, and utilized to minimize risk of system failure.



4 VULNERABILITY MANAGEMENT

The Vulnerability Management domain focuses on the process by which organizations identify, analyze, and manage vulnerabilities in a critical service's operating environment.

4.1 GOALS AND OBJECTIVES

- 4.1.1 Preparation for vulnerability analysis and resolution activities is conducted.
- 4.1.2 A process for identifying and analyzing vulnerabilities is established and maintained.
- 4.1.3 Exposure to identified vulnerabilities is managed.
- 4.1.4 The root causes of vulnerabilities are addressed.

4.2 VULNERABILITY MANAGEMENT POLICY STATEMENTS

- 4.2.1 Departments shall develop and maintain a vulnerability management process as part of its Cybersecurity Program.



5 CYBERSECURITY INCIDENT MANAGEMENT

Information Security Incident Management establishes the policy to be used by each department in planning for, reporting on, and responding to computer security incidents. For these purposes an incident is defined as any irregular or adverse event that occurs on a County system or network. The goal of incident management is to mitigate the impact of a disruptive event. To accomplish this goal, an organization establishes processes that:

- detect and identify events
- triage and analyze events to determine whether an incident is underway
- respond and recover from an incident
- improve the organization's capabilities for responding to a future incident

This domain defines management controls for addressing cyber incidents. The controls provide a consistent and effective approach to Cyber Incident Response aligned with Orange County's Cyber Incident Response Plan, to include:

- Collection of evidence related to the cyber incident as appropriate
- Reporting procedures including any and all statutory reporting requirements
- Incident remediation
- Minimum logging procedures
- Annual testing of the plan

5.1 GOALS AND OBJECTIVES

- 5.1.1 A process for identifying, analyzing, responding to, and learning from incidents is established.
- 5.1.2 A process for detecting, reporting, triaging, and analyzing events is established.
- 5.1.3 Incidents are declared and analyzed.
- 5.1.4 A process for responding to and recovering from incidents is established.
- 5.1.5 Post-incident lessons learned are translated into improvement strategies.

5.2 CYBERSECURITY INCIDENT MANAGEMENT POLICY STATEMENTS

- 5.2.1 Cybersecurity incident management procedures shall be established within each department to ensure quick, orderly, and effective responses to security incidents. In the event a department has not established these procedures, the department may adopt the County's Cyber Incident Response Plan. The steps involved in managing a security incident are typically categorized into six stages:
 - 5.2.2 System preparation
 - 5.2.3 Problem identification
 - 5.2.4 Problem containment
 - 5.2.5 Problem eradication
 - 5.2.6 Incident recovery
 - 5.2.7 Lessons learned
- 5.2.8 The DISO shall act as the liaison between applicable parties during a cybersecurity incident. The DISO shall be the department's primary point of contact for all IT security issues.

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- 5.2.9 A directory or phone tree shall be created listing all department cybersecurity incident liaison contact information.
- 5.2.10 Departments shall conduct periodic (at least annually) cybersecurity incident scenario sessions for personnel associated with the cybersecurity incident handling team to ensure that they understand current threats and risks, as well as their responsibilities in supporting the cybersecurity incident handling team.
- 5.2.11 Departments shall develop and document procedures for reporting cybersecurity incidents. For example, all employees, contractors, vendors and customers of County information systems shall be required to note and report any observed or suspected security weaknesses in systems to management. In the event a department has not established these procedures, the department may adopt the County's Cyber Incident Response Plan.
- 5.2.12 Each department shall familiarize its employees on the use of its cybersecurity incident reporting procedures.
- 5.2.13 Contact with local authorities, including law enforcement, shall be conducted through an organized, repeatable process that is both well documented and communicated.
- 5.2.14 Contact with special interest groups, including media and labor relations, shall be conducted through an organized, repeatable process that is both well documented and communicated.
- 5.2.15 Where a follow-up action against an entity after a cybersecurity incident shall involve civil or criminal legal action, evidence shall be collected, retained, and presented to conform to the rules for evidence as demanded by the relevant jurisdiction(s). At the Department's discretion, they may obtain the services of qualified external professionals to complete these tasks.
- 5.2.16 Departments shall report cybersecurity incidents to the Central IT Service Desk in accordance with the County's Cyber Incident Reporting Policy.
- 5.2.17 Confirmed cybersecurity incidents that meet the criteria defined in the Significant Incident/Claim Reporting Protocol shall be reported by the County's Chief Information Security Officer to the Chief Information Officer (CIO), County Executive Officer (CEO), and the Board of Supervisors within 24 hours of determination that a cybersecurity incident has occurred.



6 SERVICE CONTINUITY MANAGEMENT

Service continuity planning is one of the more important aspects of resilience management because it provides a process for preparing for and responding to disruptive events, whether natural or man-made. Operational disruptions may occur regularly and can scale from so small that the impact is essentially negligible to so large that they could prevent an organization from achieving its mission. Services that are most important to an organization's ability to meet its mission are considered essential and are focused on first when responding to disruptions. The process of identifying and prioritizing services and the assets that support them is foundational to service continuity.

Service continuity planning provides the organization with predefined procedures for sustaining essential operations in varying adverse conditions, from minor interruptions to large-scale incidents. For example, a power interruption or failure of an IT component may necessitate manual workaround procedures during repairs. A data center outage or loss of a business or facility housing essential services may require the organization to recover business or IT operations at an alternate location.

The process of assessing, prioritizing, planning and responding to, and improving plans to address disruptive events is known as service continuity. The goal of service continuity is to mitigate the impact of disruptive events by utilizing tested or exercised plans that facilitate predictable and consistent continuity of essential services.

This domain defines requirements to document, implement and annually test plans, including the testing of all appropriate cybersecurity provisions, to minimize impact to systems or processes from the effects of major failures of information systems or disasters via adoption and annual testing of:

- Business Continuity Plan
- Disaster Recovery Plan
- Cyber Incident Response Plan

Business Continuity is intended to counteract interruptions in business activities and to protect critical business processes from the effects of significant disruptions. Disaster Recovery provides for the restoration of critical County assets, including IT infrastructure and systems, staff, and facilities. Parties mutually agree to coordinate the above plans as applicable in conformity with TSA requirements.

6.1 GOALS AND OBJECTIVES

- 6.1.1 Service continuity plans for high-value services are developed.
- 6.1.2 Service continuity plans are reviewed to resolve conflicts between plans.
- 6.1.3 Service continuity plans are tested to ensure they meet their stated objectives.
- 6.1.4 Service continuity plans are executed and reviewed.

6.2 SERVICE CONTINUITY MANAGEMENT POLICY STATEMENTS

- 6.2.1 Backups of all essential electronically-maintained County business data shall be routinely created and properly stored to ensure prompt restoration.
- 6.2.2 Each department shall implement and document a backup approach for ensuring the availability of critical application databases, system configuration files, and/or any other electronic information



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- critical to maintaining normal business operations within the department.
- 6.2.3 The frequency and extent of backups shall be in accordance with the importance of the information and the acceptable risk as determined by each department.
 - 6.2.4 Departments shall ensure that locations where backup media are stored are safe, secure, and protected from environmental hazards. Access to backup media shall be commensurate with the highest level of information stored and physical access controls shall meet or exceed the physical access controls of the data's source systems.
 - 6.2.5 Backup media shall be labeled and handled in accordance with the highest sensitivity level of the information stored on the media.
 - 6.2.6 Departments shall define and periodically test a formal procedure designed to verify the success of the backup process.
 - 6.2.7 Restoration from backups shall be tested initially once the process is in place and periodically afterwards. Confirmation of business functionality after restoration shall also be tested in conjunction with the backup procedure test.
 - 6.2.8 Departments shall retain backup information only as long as needed to carry out the purpose for which the data was collected, or for the minimum period required by law.
 - 6.2.9 Alternate storage facilities shall be used to ensure confidentiality, integrity and availability of all County systems.
 - 6.2.10 Each department shall develop, periodically update, and regularly test business continuity and disaster recovery plans in accordance with the County's Business Continuity Management Policy.
 - 6.2.11 Departments shall review and update their Risk Assessments (RAs) and Business Impact Analyses (BIAs) as necessary, determined by department management (annually is recommended). As detailed in Section 14: Risk Assessment and Treatment, RAs include department identification of risks that can cause interruptions to business processes along with the probability and impact of such interruptions and the consequences to information security. A BIA establishes the list of processes and systems that the department has deemed critical after performing a risk analysis.
 - 6.2.12 Continuity plans shall be developed and implemented to provide for continuity of business operations in the event that critical IT assets become unavailable. Plans shall provide for the availability of information at the required level and within the established Recovery Time Objective (RTO) and their location, as alternate facilities shall be used to maintain continuity.
 - 6.2.13 Each department shall maintain a comprehensive plan document containing its business continuity plans. Plans shall be consistent, address information security requirements, and identify priorities for testing and maintenance. Plans shall be prepared in accordance with the standards established by the County's Business Continuity Management Policy.
 - 6.2.14 Each department shall define failure prevention protocols to maintain confidentiality, integrity and availability. Departments shall automate failover procedures where applicable and maintain adequate (predictable) levels of ancillary components to meet this provision.