Video Wall
Subcontract Statement of Work
for the
MOD C4I System

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1 INTRODUCTION

This Statement of Work (SOW) establishes the requirements for the Site 5 and Site 4 video walls to be provided by TBD (hereinafter referred to as Subcontractor), the subcontractor, to Raytheon Arabian Systems Company (hereinafter referred to as Raytheon). Raytheon will manage Subcontractor to perform the objectives of this SOW. The video wall functionality is to be provided in support of the Raytheon prime contract/subcontract for the Ministry of Defense (MOD) Command, Control, Communications, Computers, Information (C4I) System. Raytheon's customer is hereinafter referred to as the Government. A notional video wall diagram is shown in Figure 1-1. A more detailed diagram showing the existing and new connections for the Site 4 video wall is provided in Figure 1-2.

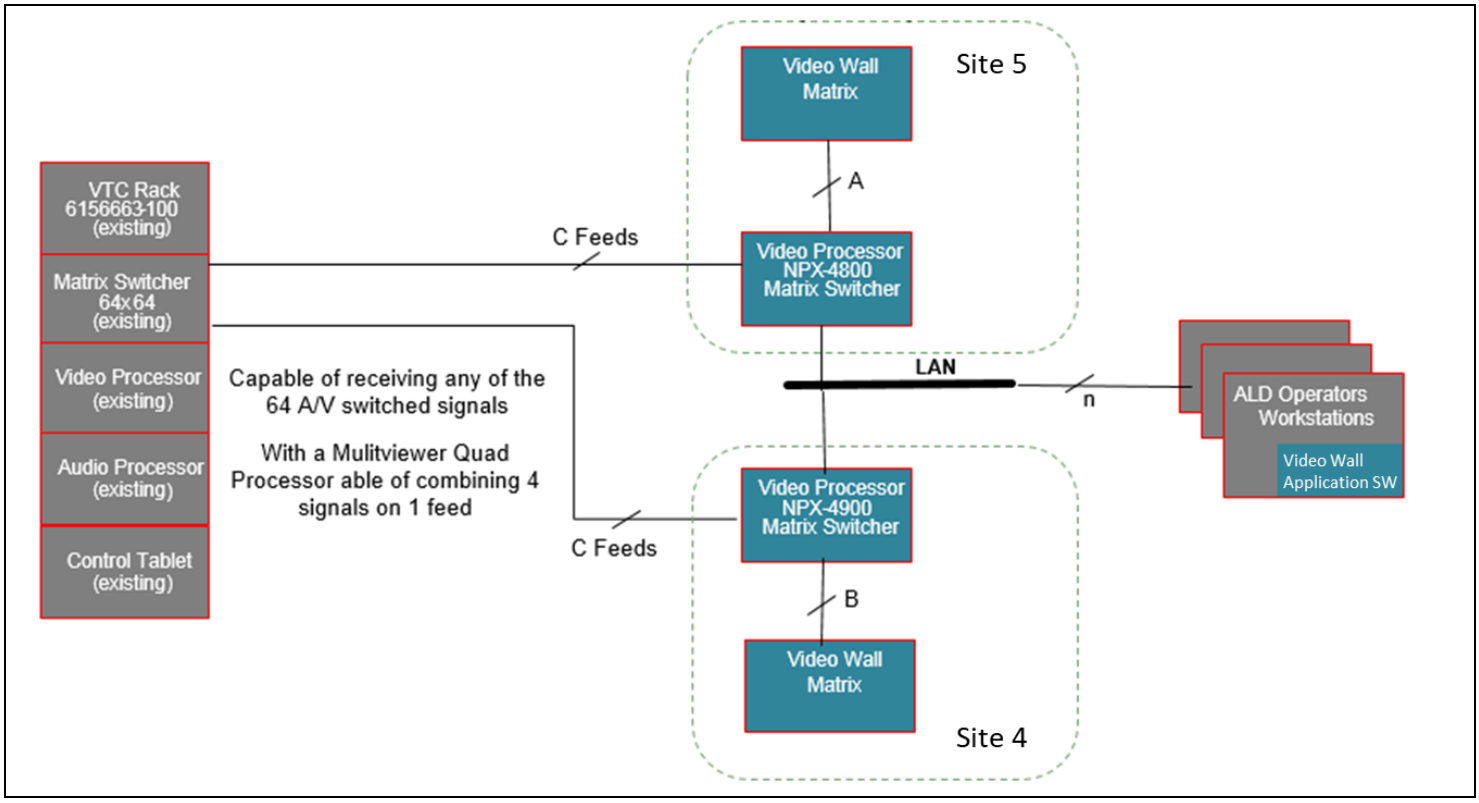

Figure 1-1. Notional Video Wall Design

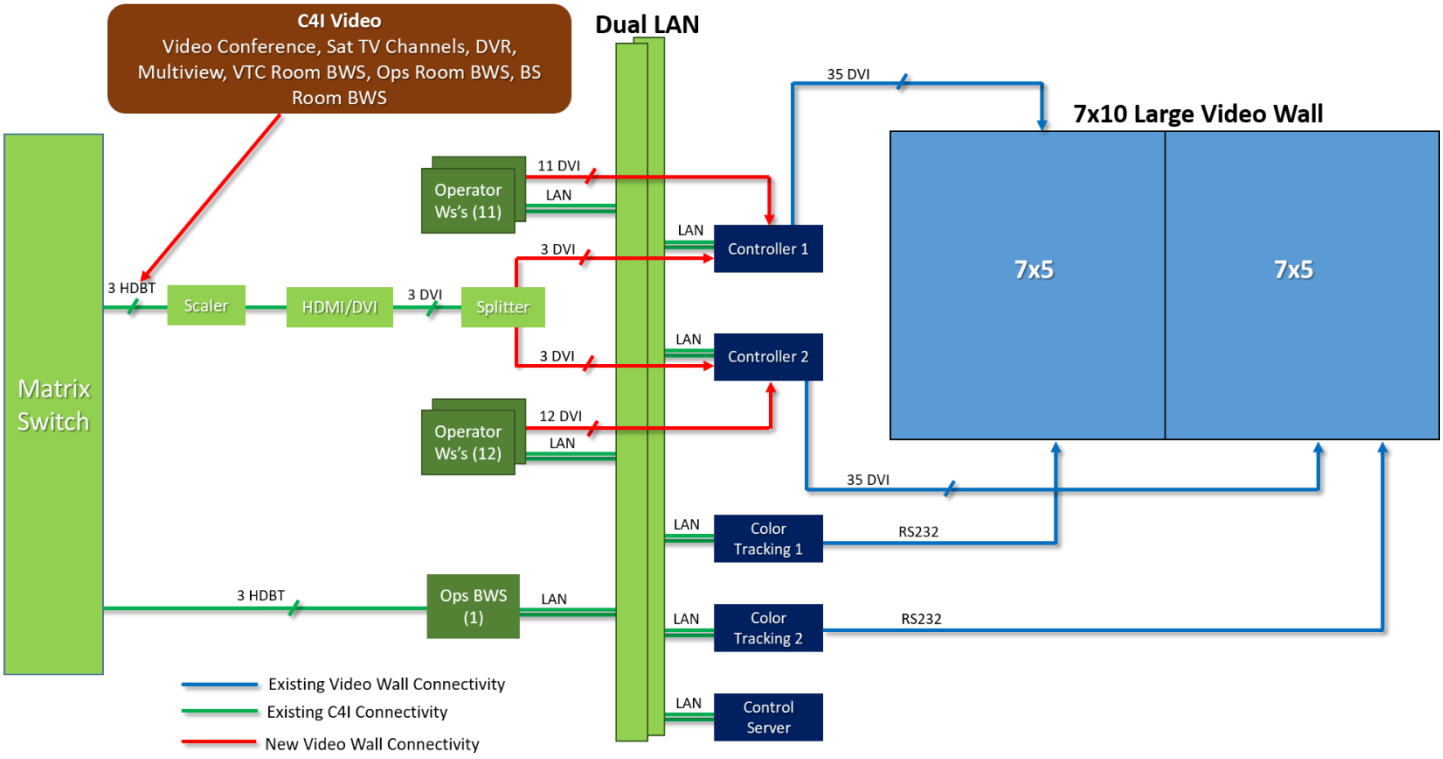

Figure 2-2. Detailed Site 4 Connection Diagram

1.1 Scope

The scope of this subcontract includes the civil works installation requirements, installation, training, test and sell-off, and warranty/service level agreement for both Site 5 and Site 4 video walls.

1.2 Description

This subcontract SOW defines activities for the procurement and integration of Commercial Off-the-Shelf (COTS) hardware, software, and related products and services. The intent is to use commercial state of the art, mature, non-developmental hardware (in current production) and software to the maximum extent to meet the key Government requirements. This SOW defines the efforts required for the Subcontractor to provide civil works requirements inputs, hardware, training, installation, integration, test and sell-off support for the MOD C4I System. Both video walls will be located within Site 4 and Site 5.

1.3 Definitions

Unless otherwise specified herein, references to "day(s)" means work day(s).

For the purposes of this SOW, "contract award" refers to Raytheon's award of the subcontract to the Subcontractor via Purchase Order (PO) placement.

1.4 Subcontractor Responsibilities

This SOW defines the efforts for the Subcontractor. Subcontractor **shall** meet the requirements listed in this SOW, the requirements of the specification(s) identified herein. The Subcontractor is responsible for:

a. Design and installation of the COTS Site 5 and Site 4 video wall systems including hardware and software at Government sites. If existing structures cannot be used, installation includes basement, metal sub-structures, wall support mechanism, and maintenance structures as required for normal operations and maintenance. The Purchaser provides cleared access to the sub-floor beneath the raised floor.

b. Requirements inputs used for modification of the facility by the Civil Works contractor to meet the needs of the Site 5 and Site 4 video wall system designs at their respective locations at Government sites

c. Delivery of design and installation drawings, including but not limited to:

   1. All Design Documents
   2. Configuration Documents
   3. Bill of Quantities Document
   4. Installation Manual Document
   5. Project Implementation Document for each video wall system.

d. Providing training for a maximum of ten (10) trainees for a minimum of five (5) eight (8) hour days;

e. Providing Training documentation including;

   1. Training Package
   2. Operation and Maintenance Document

f. Providing engineering support for one (1) year at sites 4 and 5 to provide design, integration, and installation support, support concurrent with video wall warranty and maintenance;

g. Providing software which provides backup, management, and control of each input from the currently installed video system and each output to every individual display within the video wall.

h. Providing Service Level Agreement/extended warranty for one (2) years for each video wall at completion of sell off

i. Delivering the equipment including appropriate spares as defined in this SOW.

j. Providing Test Plans and Procedures for Site 5 and Site 4 video wall systems Subcontractor Site Acceptance Test (SSAT).

k. Conducting Subcontractor Site Acceptance Test (SSAT) at sites 4 and 5.

l. Provide SNMP addressing information (MIB) for each piece of equipment that is networked and capable of being monitored by SNMP. Raytheon's monitoring application will need to status the networked components such as servers, controllers, and UPS. Provide loaner equipment for each of these items for use in Raytheon's lab for testing purposes.

2 APPLICABLE DOCUMENTS

The following documents are listed as reference because they are called out in the body of this SOW, and only form a part of this SOW to the extent specified herein. The latest revision at time of subcontract award applies, unless otherwise specified herein.

2.1 Precedence of Documents

Any inconsistencies between these documents shall be interpreted in the following order of precedence starting with the highest and continuing to the lowest. Should the requirements of these documents conflict, the document of higher precedence governs. The Subcontractor **shall** notify Raytheon within (3) days of identifying any such conflict.

a. Raytheon PO. (Note that PO includes all subsequent modifications to the PO, such as contract letters and change orders.)

b. This SOW

c. Other standards and documents listed herein.

2.2 Reference Documents

Table 2-I. Commercial Documents

Document Number	Document Title
	ISO 9001:2008 Quality Management Systems – Requirements
	IPC-WHMA-A-620B-2012 Workmanship Standards
	WORKMANSHIP STANDARD IPC-A-610E Class 2, April 2010

Table 2-II. Other Documents

Document Number	Document Title
None	

3 DELIVERABLES

The Subcontractor **shall** provide all deliverables In Accordance With (IAW) the requirements herein. The Subcontractor **shall** perform the work; render the services; and provide the necessary facilities, personnel, materials and data necessary to design, procure, install, inspect, test, and deliver, as applicable, each item compliant to the PO.

The Subcontractor **shall** provide all data and information required per this subcontract IAW Table A-I in Appendix A and as specified herein.

3.1 Data Deliverables

The Subcontractor **shall** deliver the data items of the Subcontract Data Requirements List (SDRL) IAW Table A-I in Appendix A and as specified herein.

Individual data items may require multiple submissions including, for example, plans, procedures and reports and/or draft, preliminary and final submissions. The Subcontractor **shall** account for iterative documentation development as well as Raytheon review periods and Subcontractor update periods. If Raytheon disapproves a submission the Subcontractor **shall** resubmit the SDRL with the required updates within 10 days.

The Subcontractor **shall** provide technical manual data, drawings and documentation, all in native format, with limited copyright release to allow Raytheon and the Government to reproduce the information, as required, for the sole purpose of accomplishing technical manual preparation, distribution, training, and use on this Project only.

3.2 Hardware Deliverables

The Subcontractor **shall** deliver the hardware items IAW Table 3-I below and as specified herein. All delivered hardware items **shall** be new, complete, unused and recently manufactured.

Table 3-I. Hardware Deliverables

Item	Paragraph	Item Description	Part Number	Quantity	Delivery	Remarks
ALL	Multiple	Video Wall Hardware	Per PO	Per PO	Per PO	Attached reference document as Appendix G

3.3 Software Deliverables

The Subcontractor **shall** deliver the software items IAW Table 3-II below and as specified herein. The Subcontractor **shall** provide unlimited and perpetual use of licenses for all delivered software items. The Subcontractor shall ensure all software licenses are transferrable to the Government.

Table 3-II. Software Deliverables

Item	Paragraph	Item Description	Part Number	Quantity	Delivery	Remarks
ALL	Multiple	Video Wall Software	Per PO	Per PO	Per PO	Attached reference document as Appendix G

3.4 Services

The Subcontractor **shall** deliver the service items IAW Table 3-III below and as specified herein.

Table 3-III. Services

Item	Paragraph	Item Description	Level of Support	Duration	Delivery	Remarks
1	Multiple	Civil Works Requirements Inputs	As required to satisfy the scope herein	3 Months, per IMS	Per PO	At Government Site
2	Multiple	Video Wall Installation and Test	As required to satisfy the scope herein	3 Months, Per IMS	Per PO	At Government Site
3	Multiple	Training	As required to satisfy the scope herein	Per IMS	Per PO	At Government Site and COTS Supplier
4	Multiple	Warranty and Service Level Agreement	As required to satisfy the scope herein	24 Months, Per IMS	Per PO	At Government Site

3.5 Contractor-Furnished Material – N/A

4 PROGRAM MANAGEMENT

4.1 Program Planning and Control

The Subcontractor:

a. **Shall** control and monitor all activities and schedules, consistent with and supportive of the requirements set forth in this Statement of Work.

b. **Shall** manage and report subcontract status consistent with and supportive of the requirements set forth in this Statement of Work.

Within 5 days of contract award, the Subcontractor **shall** assign a program manager who acts as a single point of contact and **shall** notify Raytheon's Subcontract Manager of this assignment. The Subcontractor **shall** develop an organization that assigns an alternate point of contact and additional resources as needed to support the execution of the requirements of this Statement of Work. The Subcontractor **shall** make the structure of this program management organization known (e.g., in an organizational chart) to Raytheon. When a change is made to this structure, the Subcontractor **shall** notify Raytheon's Subcontract Manager (e.g., with an updated organizational chart) within 3 days of making the change.

4.2 Program Management Plan

Subcontractor Project Manager **shall** manage all activities associated with this SOW.

Subcontractor Management **shall** be responsible for Project implementation. Functions allocated to Project Management include technical management, global planning and financial control, subcontract administration and subcontracts, quality assurance, and administration support.

The Subcontractor **shall** provide a Program Management Plan during the Program Kick-off meeting. This plan **shall** include at a minimum:

a. Subcontractor's program management structure

b. Plan for preparation and delivery of all deliverables

c. Plan for risk management and reporting

d. Any facility upgrades or changes, and when they will occur.

e. Planned training required for this program.

f. Management of sub-tier suppliers

g. All key dependencies among Raytheon, Subcontractor and major sub-tier suppliers.

h. All pertinent factors concerning the design, procurement, planning, shipping, installation and testing efforts, including any project element that may be reasonably expected to affect project schedule, quality or cost.

4.3 Integrated Master Schedule (IMS)

The Subcontractor **shall** generate, provide, and maintain an Integrated Master Schedule (IMS) (SDRL VW012) in subcontractor's format (format to be approved by Raytheon) for each task required herein. The IMS **shall** satisfy the following criteria:

a. Contain the subcontract milestones, accomplishments, and discrete tasks/activities from subcontract award to the completion of the subcontract.

b. Include all major milestones (e.g., Design Review, all SDRL milestones, etc.)

c. Identification of "long-lead" purchased parts

d. Include the preparation and delivery of all of the deliverables herein

The Subcontractor **shall** submit and report detailed progress in the IMS (% Complete, Updated Actual Start/ Finish Dates, Updated Outlook Start/Finish Dates) by sub-task against the baseline IMS upon request by Raytheon and summarized as specified herein.

4.4 Performance Controls and Reporting

For purposes of performance control and reporting, a detailed list of significant milestones events, tasks and/or activities (taken from IMS performance) with an approximate duration period **shall** be submitted to Raytheon as the Performance Plan. Each month a status update **shall** be submitted to Raytheon as a part of the monthly report that provides current month and cumulative schedule performance data, including all of the following:

a. Reasons for significant differences between both planned and actual schedule performance with corrective action or mitigation plans, as required, to compensate for the differences.

b. Critical path evaluation with plan(s), as required, to mitigate any critical path issues.

4.4.1 Estimate at Completion - N/A

4.5 Risk and Opportunity Management and Reporting

The Subcontractor **shall** support Raytheon in managing and controlling program risks. The Subcontractor **shall** present the Subcontractor's process for managing and controlling risks at the Kickoff meeting.

The Subcontractor **shall** report all risks, provide a plan to Raytheon for eliminating or mitigating each risk, and provide status upon request from Raytheon.

4.6 Subcontractor Reporting and Reviews (Milestones)

4.6.1 Meeting Minutes and Action Items

For Subcontractor-hosted meetings, the Subcontractor **shall** record and distribute meeting minutes and action items. Each action item **shall** have an individual(s) assigned to be responsible for completing the action and a planned or needed closure date as determined by both parties at the time of assigning the action.

The Subcontractor **shall** log, maintain, track, update and disposition action items to mutually agreeable closure using one master action item file for all required meetings. To ensure timely progress and closure, the Subcontractor **shall** review, discuss, and update action items with Raytheon at the progress reporting teleconferences and, as required, at all reviews and meetings. Action Item resolution shall occur in <30 days.

4.6.2 Program Kickoff and Post Award Conference (PAC)

The Subcontractor **shall** host and conduct and Raytheon will participate in a Program Kickoff and Post Award Conference (PAC) at the Subcontractor's facility or by videoconference/ teleconference. The Kickoff/PAC event **shall** occur no later than ten (10) days ACA. The Kickoff/PAC event **shall** address the following topics:

a. Review for understanding of all requirements flowed to the Subcontractor, including Terms and Conditions, Quality Notes, SOW, and PO

b. Review of Deliverable Data Items (per SDRL Table)

c. Subcontractor to present Program Management Plan, IMS, and Quality Assurance Plan

d. Subcontractor to present program organizational structure and roles and responsibilities of team members

e. Review of any open actions from prior engagements

f. Discuss issues and concerns

4.6.3 Progress Reports and Telephone Conferences

The Subcontractor **shall** participate in a weekly teleconference to discuss the current status of the program and relevant current activities. The Subcontractor **shall** ensure all necessary Subcontractor representatives participate in the teleconference. The recurring day and time of the teleconference will be established during the PAC by mutual agreement between Raytheon and Subcontractor. The teleconference may be rescheduled as necessary upon mutual agreement between Raytheon and Subcontractor.

The Subcontractor **shall** provide a status review package to be reviewed as part of the teleconference. The review package **shall** be in a Raytheon-approved format. The format will be established at the first teleconference. Each Meeting's minutes shall be provided by the Subcontractor to Raytheon at least 1 day prior to the next scheduled weekly teleconference.

4.6.4 Subcontract Program Reviews / Monthly Reports

The Subcontractor **shall** host and conduct and Raytheon will participate in a monthly Program Review (SDRL VW011). Raytheon will attend in person and/or by videoconference/ teleconference. The Subcontractor **shall** provide a written monthly report (SDRL VW011) that includes updated status, as appropriate, on the following:

a. Progress relative to the Subcontractor Management Plan/IMS

b. Completed milestones and corrective actions for any missed milestones

c. Technical and management information, status and, as appropriate, issues.

d. Risks

e. Summary of minutes of all Subcontractor-hosted meetings.

f. Action item log.

4.7 Program Work Environment (PWE)

Raytheon will participate in electronic data interchange and provide program information through an electronic PWE as much as practical, including design, development, test, installation drawings, invoices, and reporting.

The Subcontractor **shall** participate in the PWE. The PWE will be a Raytheon-provided web-based data exchange site.

Raytheon will provide access to, and usage of, Raytheon PWE to support collaboration activities by the authorized Subcontractor personnel.

If the PWE is unavailable unclassified protected data material associated with this subcontract **shall** be transmitted through a commercially encrypted channel (e.g., virtual private network [VPN]) or Pretty Good Privacy (PGP) encryption, for delivery to Raytheon-provided collaboration space as specified in this statement of work.

5 DETAILED REQUIREMENTS

The MOD C4I System requires display capabilities to provide situational awareness visualization to multiple operators and leaders. Each of the display systems must provide sufficient resolution, brightness, and video control capabilities to seamlessly support the Concept Of Operations (CONOPS).

Specific work tasks are specified in this section. These tasks, developed to satisfy program needs, are the Subcontractor work requirements.

5.1 General Requirements

The Video Wall requirements are provided in Appendix B of this SOW.

The Subcontractor **shall** perform the work, render the services, and supply the necessary personnel, materials, and supplies needed to provide each item compliant with the specifications and requirements referenced herein. The Video Wall system **shall** be designed such that a minimum number of rear projection displays is required to meet the requirements specified herein so that a minimized number of discontinuities across display surfaces is exhibited while meeting all Operational and Detailed Design requirements per survey, MOD Site 4 and Site 5 Video Walls Proposal, and Appendix B respectively. The Subcontractor **shall** follow design standards IAW Table 2-I Commercial Documents.

The Subcontractor **shall** conduct a Design Review (DR) (SDRL VW013) per Appendix E schedule with Raytheon participation. The Subcontractor DR package is conducted to confirm that the design approach satisfies the physical, functional and interface requirements with margin; the design baseline is mature; and the team is ready to initiate development with acceptable program risk. The Subcontractor shall procure system components only after receiving Raytheon's approval of the design review. The DR **shall** be held at either the Government or Subcontractor facility. The DR completion **shall** be contingent upon Raytheon acceptance of the DR minutes.

5.1.1 Planning and Design of Video Walls

The Subcontractor **shall** perform an assessment of Site 5 and Site 4 video wall operational requirements and plan the design, installation, sell-off and acceptance.

a. Generate an Integrated Master Schedule (SDRL VM012)

b. Workshop or other method **shall** be used to collect operational requirements.

c. The Subcontractor **shall** design the Site 5 and Site 4 video wall in accordance with the assessed operational, MOD Site 4 and Site 5 Video Walls Proposal, and Appendix B requirements.

d. The Subcontractor shall provide the Civil Works requirements in accordance with the with the assessed operational, MOD Site 4 and Site 5 Video Walls Proposal, and Appendix B requirements.

5.1.1.1 Video System Requirements

The Video System design includes rear projection displays, control software, and video distribution components.

The overall system has both a large and small video wall each arranged as noted.

a. Site 5, Small Video Wall; shall be a minimum of 5.3 meter by 1.5 meter

b. Site 4, Large Video Wall; shall be a minimum of 12.3 meter by 5.2 meter

5.1.1.2 Physical Characteristics

System equipment weight limits, movements, dimensional and cube limitations, requirements for transport and storage, and similar factors **shall** be consistent with its intended application and determined by the total system design subject to supplementary requirements contained herein.

a. The design and construction of the Video Wall Systems **shall** be in accordance with the requirements in Appendix B. One significant design goal is to minimize required logistics support, required maintenance, and alignment time without sacrificing reliability or performance.

b. The design of the Video Wall Systems interfaces **shall** be in accordance with the requirements in Appendix B.

c. Electronic assemblies **shall** be designed for the use of modular construction.

d. Plug-in features to allow rapid interchangeability with spare units **shall** be provided

Mechanical, electrical, and functional factors required to ensure proper operation **shall** exist between like assemblies, subassemblies, and other replacement elements, regardless of the manufacturer or Subcontractor.

The equipment **shall** meet the indoor equipment requirements matched to Site 5 and Site 4 environmental conditions. Equipment **shall** be fully functional and **shall** exhibit no damage or performance degradation due to exposure to specified environmental conditions. Compliance with each environmental requirement **shall** be demonstrated by testing except if it is a COTs product and the requirement is stated in the technical data sheet.

5.1.1.3 Safety

The design of the Video Wall system **shall** incorporate safety features which reduce or eliminate hazards to personnel. An objective in all phases of implementation is to minimize the possibility of personnel injury during installation, operation, and maintenance. Warning signs in English and Arabic **shall** be provided in accordance with industry standards. Subcontractor shall present their compliancy to safety standards during the design review. Safety compliance shall be demonstrated for the video wall, support structures, and maintenance structures.

5.1.2 Civil Works

The Subcontractor **shall** determine the specific requirements for the civil works required to successfully install and sell-off both Site 5 and Site 4 video walls. Such requirements **shall** be proposed and implemented with minimally invasive civil works. Subcontractor **shall** provide proposed design for video wall, basement, metal sub-structures, rear wall support structure, and maintenance structures with sufficient information for Raytheon to review, validate design integrity, and provide feedback. The specifications shall be suitable for the purpose of the Purchaser to design and build associated civil works at the installation facility. The Subcontractor **shall** provide the civil works design and build requirements for both Site 5 and Site 4 video walls, including but not limited to the following topics:

a. Structural changes including walls and floors

b. Power changes, power cabling, electrical panels with circuit breakers and including transformer changes if required

c. Lighting changes

d. Heat/cooling (HVAC) changes

e. Signal/network connectivity including cable trays

f. Uninterruptable Power Supplies

g. Maintainability and access requirements

h. Safety ordnances and constraints

i. Ordnances relevant for these civil works

The Subcontractor **shall** provide Raytheon with technical support during the Civil Works design and implementation. The Subcontractor shall coordinate with the civil works provider during the civil works activity and shall participate in the approval of the final Civil Works implementation. It is anticipated that there will be steps required by each party to be performed in a specific order. The following outlines a conceptual sequence of events.

Sequence	Responsible Party	Activity
1	Civil Works Vendor	Remove flooring and ceiling, add circuit breaker panel (if necessary), UPS & HVAC capacity and new ducting (as required). Prepare floor and wall to accept subfloor metal support structure and wall support structure. Remove/move lighting (as required).
2	Video Wall Subcontractor	Install subfloor metal support structure. Install wall support structure
3	Civil Works Vendor	Re-install flooring up to support structure, provide power receptacles, HVAC vents, lighting, cable trays
4	Video Wall Subcontractor	Install video wall, and maintenance structure. Install video wall to rear wall supporting structure
5	Civil Works Vendor	Build enclosure walls and reinstall ceiling up to video wall
6	Video Wall Subcontractor	Run signal and power cable, initialize video wall

5.1.3 Installation and Configuration

The Subcontractor **shall** integrate and install the video wall systems at their respective sites in accordance with the design of this SOW. The Subcontractor **shall** configure the video wall systems to meet the operational needs determined herein. Additionally, the Subcontractor **shall**:

a. Prepare and submit installation documentation (SDRL VW005) per Appendix A.

b. Prepare and submit Configuration Document (SDRL VW003) per Appendix A.

5.2 Acceptance Test

The acceptance tests are considered to be formal test events which verify each requirement as specified in Appendix B The Subcontractor **shall** conduct the following test activities:

a. Prepare and deliver to Raytheon, a Test Plan Document (SDRL VW006) which covers and describes the Subcontractor Site Acceptance Test (SSAT) (SDRL VW007) per Appendix A.

b. Perform individual Site 5 and Site 4 video wall SSATs at the Government site. The SSAT **shall** verify each configuration matches the design documentation. In addition, the SSAT **shall** include verification of operational capability by either simulating, stimulating, or providing inputs to the video walls normally from Raytheon network and video systems to verify the functionality of the Video Wall system. SSAT **shall** be witnessed and approved by Raytheon Quality Assurance (QA) and Government.

5.2.1 Subcontractor Site Acceptance Test

The Subcontractor **shall** prepare and deliver to Raytheon, SSAT Test Procedures (SDRL VW007) which the Subcontractor **shall** use to conduct SSAT, at a time defined by the Program Schedule. The SSAT test effort will require coordination between Raytheon and Subcontractor for test scheduling, conduct, and support.

Subcontractor **shall** perform SSAT dry-runs and conduct at the Government facility for the Video Wall requirements (see Appendix B). All mechanisms required to perform end-to-end testing **shall** be provided by Subcontractor. The SSAT Procedures **shall** be provided per the schedule by Subcontractor, see Appendix A [SDRL VW007] and Appendix E Schedule and **shall** contain the following information:

a. Steps to verify drawings against the delivery hardware configuration.

b. Procedures.

c. Test schedules and location.

d. Test environment hardware and software configurations.

e. Hardware and software items under test configuration.

f. Test roles and responsibilities.

g. Problem identification, tracking, reporting, and resolution process.

The SSAT Procedures **shall** detail the step-by-step process to be taken by test operators to verify the Video Wall capabilities. The SSAT Test Procedure **shall** include each step in the test to be accomplished, expected results of each step, observed results, remarks and a signature block for Subcontractor and Raytheon witnesses. Each test procedure **shall** include a cross reference to the Video Functionality Specification operational requirements. The Subcontractor **shall** allow Raytheon to approve the test procedures once developed and **shall** allow Raytheon two weeks for review. The Subcontractor **shall** allow Raytheon and Government to witness and approve the SSAT conduct.

The Subcontractor **shall** notify Raytheon at least 20 days in advance of the conduct of SSAT.

The Subcontractor **shall** conduct SSAT dry runs prior to the formal SSAT using the SSAT Test Procedures with Target Hardware and Software. Raytheon **shall** observe SSAT dry runs. The SSAT Test Procedure may be red-lined and corrected as a result of the dry run test conduct with the consent from Raytheon. The red-lined

test procedures **shall** be used in the formal SSAT conduct. Any red-lines or corrections made to the test procedures during the formal SSAT **shall** be noted.

The Subcontractor **shall** provide a SSAT Report to Raytheon, see Appendix A [SDRL VW010]. The SSAT Report **shall** contain the results of the SSAT conduct and SSAT action item status. Subcontractor **shall** complete and deliver a Certificate of Test at the successful conclusion of the post test briefing to be signed by the Subcontractor QA, and Raytheon Engineering, Raytheon QA, and Government.

Successful completion of the SSAT **shall** be a prerequisite acceptance of the Video Wall System.

5.2.2 Re-test Provisions

Subcontractor **shall** submit to Raytheon a SSAT Test Report (SDRL VW010) per Appendix A which includes a summary of the test results, applicable test data, if any, the annotated test procedures, and the Certificate of Test signed by both parties. The Test Report **shall** indicate any remaining issues and the time frame for their resolution.

5.2.3 Test Reports

Subcontractor **shall** submit to Raytheon a SSAT Test Report (SDRL VW010) per Appendix A which includes a summary of the test results, applicable test data, if any, the annotated test procedures, and the Certificate of Test signed by both parties. The Test Report **shall** indicate any remaining issues and the time frame for their resolution.

5.3 Service Level Agreement (SLA) and Warranty

The Support Activities for this effort comprise the following activities:

a. Provisioning for SLA.

b. Providing engineering support for one (2) years at the video wall locations, Site 5 and Site 4, to provide design, integration, and installation, support concurrent with video wall warranty and maintenance.

c. Technical Documentation.

d. Training.

These activities are detailed in subsequent paragraphs for clarification of tasks and deliverables.

Subcontractor **shall** provide a service level agreement for all Subcontractor-delivered products for 12 months starting from acceptance of test report (SDRL VW010). Subcontractor **shall** warrant all Subcontractor-delivered products for 24 months starting from installation and sell-off of equipment. Subcontractor **shall** provide a Bill of Quantities (SDRL VW002) per Appendix A.

The Subcontractor shall provide a telephone and fax number for the Government to notify the engineering support personnel. The Subcontractor shall provide 24 hours a day, 7 days a week, 365 days a year, incident response. The Subcontractor shall provide one (1) hour response time to acknowledge receipt of the incident.

During the service level agreement and warranty period, the Subcontractor **shall** provide error corrections (bug-fixes), updates, and new releases for all Subcontractor provided software. If a software warranty problem is identified that creates an impact to Operational Functionality, the Subcontractor **shall** act upon notification from Raytheon and on the operational severity to obtain a fix and will identify to Raytheon the resolution or the plan for the resolution. The Subcontractor **shall** respond to operational severity based on business impact as noted:

- The business Impact of an incident is determined by how many personnel or functions are affected by that incident. There are three levels of impact:
    - Severity 1, Critical (resolve within 24 hrs)
        - Server failure or database error
        - The entire video wall is down
        - No operator can log on to their desktop software
        - The issue has stopped some critical function and needs urgent response
    - Severity 2, High (resolve during normal business hrs)
        - The problem is related to specific users or clients only
        - A screen or more are down
        - The issue has stopped some non-critical process
    - Severity 3, Normal (resolve during normal business hrs)
        - General query by any user on some process change or enhanced functionality or setup

During the Warranty period, the Subcontractor **shall** provide and install with Raytheon approval the correction releases. The Subcontractor **shall** provide documentation updates to reflect these changes.

5.3.1 Provisioning

The Subcontractor **shall** provide all provisioning components to support the SLA term of 1 year after installation and sell-off of equipment. The Subcontractor **shall** provide the provisioning component data – Bill of Quantities for an SDRL in Subcontractor format (SDRL VW002) per Appendix A. The Bill of Quantities **shall** be the results from the Subcontractor performing a spare parts analysis, providing it per the SDRL and approved by Raytheon. The subcontractor **shall** replace failed video wall components during the warranty period. The subcontractor **shall** ensure that the spare parts inventory is maintained through the end of the warranty period.

5.3.2 Repair/Replacement and Spare Parts

The Subcontractor **shall** identify spares that are functionally compatible and interchangeable at the line replaceable unit (LRU) level. An indentured top-down breakdown of the equipment to the LRU **shall** be provided. The LRU is that assembly or piece part that is to be removed and replaced to accomplish preventive or corrective maintenance.

5.3.3 Spare Parts List (List of Quantities)

Subcontractor **shall** provide all required spare parts for each video wall system to support 1 year of operation after the warranty (SDRL VW002) per Appendix A. The SDRL **shall** include detailed information to enable Raytheon to develop a spares model to confirm the Subcontractor provided spares recommendation.

5.3.4 Special or Unique Tools

Use of special tools is discouraged and **shall** be approved by Raytheon. If approved the Subcontractor **shall** provide specialized tools necessary for replacing LRUs and maintenance.

5.4 Training

The Subcontractor **shall** provide the training described in the following paragraphs

5.4.1 Training Event

Subcontractor **shall** provide the following:

a. Training in the Subcontractor facility for a maximum of ten (10) persons.

b. Training to accommodate both Saudi and US citizens.

c. Training courses to be provided for a minimum of five (5) eight (8) hour days

d. Training Package (SDRL VW009) per Appendix A

e. Operational and Maintenance Document (SDRL VW004) per Appendix A Training Documentation

5.4.2 Instructor and Student Training Martials

The Subcontractor **shall** prepare the following training material for each course. The training material **shall** include the following:

- Visual aids (Microsoft PowerPoint)
- Instructor's Guide (Microsoft Word), including:
  - Syllabus, lesson plans, lesson narratives, and tests and test keys
  - A detailed listing of all hardware, software, cables, tools, and accessories required to conduct training
  - Any instructor setup, fault insertion instructions, or supporting instructions required to conduct training
- Student Guide (Microsoft Word), these materials are used, by the individual students in each lesson. They include all handouts and materials needed by an individual student to complete the course, lesson plans, and copies of classroom presentations, except for User's and Technical Manuals which are delivered separately.
- Tests and examinations (Microsoft Word)
- Course Completion Certificate for each student

5.4.2.1 Class Schedule

The Subcontractor **shall** conduct the training defined herein on a 5 day week, 8 hour instructional day. Training **shall** be conducted per the schedule in Appendix E.

5.5 Technical Documentation

Technical documentation is comprised of the data and manuals necessary for the operation and maintenance of the Video Wall system. The Subcontractor **shall** provide the necessary Engineering documentation depicting the deliverable Video Wall system architecture and documentation describing these specific implementations and operation. All Subcontractor developed drawings/documents for this SOW **shall** be the intellectual property of Raytheon.

Documentation **shall** be provided in English and Arabic, if Arabic is available. The Subcontractor **shall** provide technical documentation in hard copy and in electronic format (unlocked PDF, Microsoft Word, Microsoft Project). The Subcontractor **shall** provide technical manual data, drawings and documentation, all in native format, with limited copyright release to allow the Raytheon and the Government to reproduce the information, as required, for the sole purpose of accomplishing technical manual preparation, distribution, training, and use on this Project only

5.5.1 System Documentation

The Subcontractor **shall** develop and provide a system level description document that provides a system overview and the relationship between the display equipment and control equipment and the planning for project implementation. The Project Implementation document (SDRL VW001) per Appendix A, in Subcontractor's format, will provide sufficient detail to enable qualified operations and maintenance personnel to understand the overall system and its implementation. The document **shall** include references to Operations and Maintenance (O&M) and or Vendor/Commercial Manuals (SDRL VW004).

5.5.2 Operations and Maintenance Manuals

The Subcontractor will supply Operation and Maintenance (O&M) Manuals for each video wall (SDRL VW004) per Appendix A. The manuals **shall** include functional description of each hardware item and software component to the module level, with details of equipment layout, external interfaces and physical/electronic interconnection. Subcontractor **shall** provide the following information contained in Subcontractor's format or as part of the commercial manuals:

a. Installation and checkout procedures.

b. Configuration/setup procedures

c. Procedures to detect equipment failure.

d. Procedures to remove and replace the failed LRU.

e. Procedures to verify proper operation after the failed LRU has been replaced.

f. Procedures and frequencies for accomplishing preventive maintenance. The maintenance manuals **shall** properly describe the replacement and/or repair of each of the replaceable/repairable assemblies and subassemblies of each major item, module, etc., furnished under the subcontract consistent with the accepted video wall sparing plan.

5.5.3 Commercial Manuals

Commercial vendor manuals **shall** be provided for all COTS equipment. Manuals **shall** be in English and if available, Arabic. The manuals **shall** describe the complete operation of each of the major items in terms of operator displays, controls, indicators and initialization procedures. These manuals may be the addressed as part of the O&M Manuals defined above.

5.5.4 Delivery of Data Items

The Subcontractor **shall** deliver the SDRL data items via electronic transmission to Raytheon's predefined location or per Raytheon's predefined media delivery method, accompanied by e-mail notification of such transmission to Raytheon's subcontract manager and configuration/data manager. The deliverable data items **shall** be in accordance with the SDRL itemization provided in Appendix A of this document and as otherwise defined in this SOW. The Subcontractor **shall** respond with an updated SDRL submission in response to Raytheon comments within 10 days of comment receipt unless otherwise noted. Interim Raytheon comments or approval **shall** be provided, with final approval of all data items pending receipt of approval under Raytheon's prime contract. Deliverable data items should assume a minimum of at least one draft and one final deliverable.

5.5.5 Delivery of Services

The Subcontractor **shall** deliver management, engineering, installation, acceptance test, Operations & Maintenance (O&M), and quality services as defined in this SOW with all data in native format. Specific tasks

to be performed by the Subcontractor that are associated with these services **shall** be delivered in accordance with this SOW's schedule in Appendix E.

6 QUALITY ASSURANCE (QA)

6.1 QA Program

Subcontractor **shall** provide Quality Assurance Plan (QAP) to be approved by Raytheon as part of the Kickoff presentation.

The Subcontractor **shall** flow down applicable requirements to sub-tier subcontractors and suppliers to ensure overall compliance with the subcontract.

Subcontractor **shall** present an existing QAP or develop and maintain a QAP that specifies the means (tools, process, facilities, etc.) to be used to enable Raytheon to perform procedure reviews, procedure evaluations, surveillance, audits, product verification inspections, test verifications, and to obtain access to data.

The Plan **shall** include the processes to notify Raytheon within 20 days in advance of the conduct of activities requiring Raytheon support; respond to Raytheon-issued corrective action requests within thirty (30) calendar days of receipt; support Raytheon personnel in the witness and approval of final acceptance tests and inspections for each product, as necessary.

Raytheon reserves the right to conduct source inspection of the video wall in-place before product acceptance. Subcontractor shall notify Raytheon 20 days before any formal verification and validation test event. All activities performed by the Subcontractor shall be subject to verification by Raytheon's designated representative.

Workmanship for cables and wire harness assemblies shall be in accordance with IPC-WHMA-A-620

6.2 Quality Notes (Q-Notes)

The Subcontractor **shall** comply with all quality notes (Q-Notes) identified in the PO. The Subcontractor **shall** flow all Q-Notes to its suppliers as applicable.

7 SECURITY

7.1 General Security Provisions

The Subcontractor **shall** comply with and **shall** flow down to its suppliers and other entities working on this subcontract the security requirements herein.

7.1.1 Transmission of Protected Material

Unclassified Proprietary, Commercial In Confidence, and Export Controlled Material **shall** hereinafter be referred to collectively as "Protected" material. Unclassified Protected data material associated with this subcontract **shall** be transmitted through a commercially encrypted channel (e.g., virtual private network [VPN]) or Pretty Good Privacy (PGP) encryption, for delivery to Raytheon-provided collaboration space as specified in this statement of work.

At no time may classified military information be introduced to the unclassified collaboration space.

7.1.2 Voice Communications

Subcontractor telephonic participation in management meetings and other reviews where protect information will be discussed **shall** occur through a Contractor-approved encrypted voice channel. Acceptable methods are ZOOM and WebEX. Should encrypted communications not be available for any reason, in-person attendance may be required.

7.1.3 Requirement for Program Protection

The Subcontractor **shall** ensure appropriate safeguarding of export-controlled information.

The Subcontractor **shall** limit access and performance involving U.S. technical information under this Program to only citizens of the United States (U.S.) or the Subcontractor's country in accordance with an approved export license. Subject to advance Contractor approval, release of U.S. technical information to third country foreign nationals may only occur after the receipt of an approved U.S. Export license, Technical Assistance Agreement (TAA) and any other documentation that may be required by the US Government or Raytheon. The Subcontractor **shall** ensure all appropriate authorizations and licenses are in place prior to the release of technical or classified information owned by their Government to Contractor approved third country suppliers.

7.1.4 Public Release

Public release **shall** be in accordance with the Subcontract Agreement and the Purchase Order terms and conditions.

7.1.5 Facility and Personnel Requirements

The Subcontractor **shall** forward to Raytheon necessary security clearance and visit request information for access to site installations for performance of the contract. The Contractor will identify sites to be included in Visitor Requests. The Subcontractor **shall** provide Raytheon with any specific requirements to visit the subcontractor's facility.

7.2 Classified Security Requirements - N/A

7.2.1 Facility and Personnel Requirements: Classified Material - N/A

7.2.2 Transportation Plan for Classified Hardware and Materials - N/A

7.3 Foreign Disclosure - N/A

8 ADMINISTRATION / PROTOCOL

8.1 Contractual Authority

The Contractor's Subcontract Manager is the only Raytheon representative with contractual authority for this subcontract. Any changes, additions or deletions and/or direction, both administrative and technical, to this subcontract, its terms and conditions, Statement of Work and technical specifications, will only be recognized when previously approved in writing by Raytheon's designated Subcontract Manager.

8.2 Communications

The Subcontractor **shall** direct all official correspondence and questions (both administrative and technical) to Raytheon's Subcontract Manager. The Subcontractor **shall** copy technical correspondence to the designated Raytheon's Technical Lead, including but not limited to, requests for waivers/deviations, notifications of obsolescence issues. The Subcontractor **shall** retain email receipts of all such emails. The Subcontractor **shall** respond to all correspondence in less than 10 days unless otherwise specified.

The Subcontractor **shall** obtain written authorization from Raytheon's Subcontract Manager prior to disclosure of any information and/or data to a party other than Contractor personnel.

The Subcontractor **shall** acknowledge and respond to Raytheon communications sent to the Subcontractor's Contracts Manager within seven (7) calendar days unless otherwise specified.

8.3 Notice of Schedule Delay

The Subcontractor **shall** notify Raytheon of any schedule milestone delays. Within 24 hours of determining that a schedule delay will occur, the Subcontractor **shall** notify Raytheon's Subcontract Manager by telephone and in writing, with return receipt or other written acknowledgement of receipt.

8.4 Liaison with Raytheon's Customer

Raytheon will provide all liaisons with Raytheon's Customer regarding subcontract performance. The Subcontractor **shall** acquire written approval of Raytheon prior to communicating with Raytheon's Customer on matters pertaining to this subcontract. The Subcontractor **shall** immediately notify Raytheon by telephone when the Government or other Raytheon's Customer, or anyone other than the Subcontractor's suppliers, communicates in any manner directly regarding performance of the subcontract.

8.5 Access for Raytheon and Raytheon's Customer

The Subcontractor **shall** provide access to the Subcontractor's and sub-tier suppliers' information and facilities to Raytheon and Contractor's Customer for periodic management and/or technical surveillance. Raytheon will coordinate all such visits and requests for information with the Subcontractor.

8.6 Supplier Information Request (SIR)

When the Subcontractor needs information or clarification of information that could impact scope or performance of this subcontract, the Subcontractor **shall** request such information using the Supplier Information Request (SIR) Form (Appendix C).

The Subcontractor **shall** direct SIRs to the designated Raytheon's Technical Lead and Raytheon's Subcontract Manager. The Subcontractor **shall** maintain and track SIRs.

In the event a SIR results in any changes, additions or deletions and/or direction, both administrative and technical, in reference to this subcontract, its terms and conditions, SOW and/or technical specifications, the

Subcontractor **shall** provide written notification to Raytheon, including, but not limited to, requests for waivers/deviations and notifications of obsolescence issues. The Subcontractor **shall** retain records of SIR correspondence. The SIR response **shall** not be recognized contractually until approved in writing by Raytheon's designated Subcontract Manager. The Subcontractor **shall** not implement a change and/or deviation without Raytheon approval. The SIR process is neither a substitute for a preliminary disposition request nor a vehicle for addressing non-conformance. The Subcontractor's submissions **shall** include any potential impact to cost or schedule.

8.7 Period of Performance and Subcontract Closure

This subcontract **shall** commence on the effective date of PO placement and **shall** conclude when all required data items, hardware, and services have been approved by Raytheon and the Government.

Appendix A DELIVERABLE DATA REQUIREMENTS

A.1 Submittal of Data Items

The Subcontractor **shall** deliver each data item to Raytheon's Subcontract Manager.

With each data submittal, the Subcontractor **shall** furnish a numbered, dated transmittal letter. The Subcontractor's letter **shall** include the following information for each data item submitted:

a. Subcontract / Purchase Order (PO) number.

b. SDRL item number.

c. Subcontractor document number (as applicable).

d. Revision level of submitted SDRL item.

e. Date and title of submitted SDRL item.

f. Quantity of submitted data item(s).

g. Media format of submitted data item(s).

The Subcontractor **shall** submit the transmittal letter and the data item(s) via external collaboration services (ECS) (SharePoint) established specifically for this Subcontract.

A.1.1 Partial (incremental) Data Item Submittal

The Subcontractor **shall** note data submittals that contain less than 100 percent of the required documentation.

A.1.2 Resubmission of Data Items

When data are submitted and/or resubmitted by the Subcontractor in response to Raytheon instructions, the Subcontractor **shall**, in the data transmittal letter, reference Raytheon's correspondence number and the date of the instructions.

The Subcontractor **shall** resubmit data items requiring rework or incorporation of Raytheon's comments within 14 days of receiving Raytheon comments. The Subcontractor **shall** clearly identify the changed / new data as a resubmission of a prior data submittal and ensure that all changes from the earlier submission are easily identifiable (e.g., via change bars). The SDRL identification number shall also be included on the documentation with an alpha letter designating the version of the document (i.e., VW001-001 [initial submittal], VW001-001A [second submittal; response to comments]). For monthly submittals, the version identifier shall increase by one with each submittal; (i.e., VW011-001 [first submittal], VW011-002 [second submittal], VW011-003 [third submittal, etc.]).

A.2 Data Item Review and Notification Disposition

Raytheon will review the data submittal and notify the Subcontractor of data approval or rejection, including comments or instructions, within 14 days of receipt unless otherwise specified. This notification will be via email communication from the Supply Chain personnel.

Table A-1 contains a list of the deliverable data items required by this SOW. Unless otherwise specified Table A-I or herein, the following apply:

a. All submissions and communications **shall** be in the English language unless otherwise specified.

b. Data item delivery method **shall** be electronic. (via Contractor approved methods)

c. Data may be in Subcontractor format per the DID description in Appendix D.

d. Data medium **shall** be both PDF and editable native format (Microsoft Office, IGES or STEP media, as appropriate).

e. Data items with approval code "A" require Raytheon approval before the data item delivery can be considered complete.

f. Data items with approval code "N/A" do not require Raytheon approval before the data item delivery can be considered complete. However, Raytheon may provide comments upon review. The Subcontractor **shall** mutually disposition any comments with Raytheon.

g. Distribution is authorized to the Raytheon Company only.

h. Transmit submissions as directed by the Subcontract.

i. All SDRL items delivered in fulfillment of this PO shall be marked as follows:

j. Title Page or Sheet 1 - footer

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Table A-I. Subcontract Data Requirements List (SDRL)

Data Item Number	Data Item Title	SOW Para. Ref.	Approval Code		Submission	Language	QTY	Raytheon Response
VW001	Project Implementation Document		A		1 Month ACA	English	1 Softcopy	1 week, approval
VW002	Bill of Quantities Document		A		1 Month ACA	English	1 Softcopy	1 week, approval
VW003	Configuration Document		A		1 Month ACA and 1 week after SSAT (as-built)	English	1 Softcopy	1 week, approval
VW004	O&M and Commercial Vendor Manuals		A		1.5 Months ACA	English and Arabic	2 Softcopy	2 weeks, approval
VW005	Installation Manual Document		A		3 Months prior to installation	English	1 Softcopy	1 week, approval
VW006	Acceptance Test Plan Document		A		1 Month ACA	English	1 Softcopy	1 week, approval
VW007	SSAT Test Procedure (Project Acceptance Test Procedure)		A		3 Months prior to SAT	English	1 Softcopy	2 weeks, approval
VW009	Training Package		A		1.5 Months ACA	English and Arabic	2 Softcopy	2 weeks approval
VW010	SSAT Test Report		A		5 Days after SSAT conduct	English	1 Softcopy	2 weeks approval
VW011	Monthly Status		A		1 week after beginning of each month	English	1 Softcopy	2 weeks approval
VW012	IMS		A		10 days ACA	English	1 Softcopy	2 weeks approval
VW013	Design Review		A		Agenda and Review Package 1 Month ACA;	English	1 Softcopy	1 month after Design Review, approval
VW015	Civil Works Design and Implementation Requirements		A		1 Month ACA	English	1 softcopy	2 weeks approval

Appendix B SYSTEMS FUNCTIONAL REQUIREMENTS

Test method and test allocation will be subject to Raytheon approval. The methods of verification are:

D – Demonstration: These operate, adjust, or re-configure items to provide evidence that the designed functions were accomplished in specific scenarios, and results are directly visible to an operator without additional tools.

T – Test: A method of verification that measures equipment characteristics or performance under specific configurations and load conditions using a controlled stimulus. Quantitative values are measured, compared against previously established success criteria, and then evaluated to determine the degree of compliance.

A – Analysis: Use established technical or mathematical models or simulations, algorithms, charts, graphs, circuit diagrams, manufacturer data, or other scientific principles and procedures to provide evidence that stated requirements are met. Historical data of product performance certified by Mission Assurance is also acceptable.

I – Inspection:

1) Verification by examination consists of visual inspection of the physical characteristics of the item and the documentation associated with it to verify compliance with the specified requirements. Examination may include the comparison of documents or comparison of a document with the equipment or item it describes. It may also be an inspection of code to validate a requirement not safely or readily demonstrable or otherwise testable.

2) Verification by qualification consists of reviewing vendor documentation, specifications, supporting data or a certification that items satisfy specific requirements.

Table B-I. Requirements

Number	Requirements Text	Test Method
VW1	The video wall shall consist of a matrix of LED display panels.	I
VW2	The video wall in Site 4 shall be between 12.3m and 13.44m wide and 5.2m and 5.3m tall.	I
VW3	The video wall in Site 5 shall be between 1.5m and 1.55m tall and 5.3m and 6.75m wide.	I
VW4	The video wall cumulative displays shall provide a minimum 1920x1080 native resolution in 16:9 format.	I
VW5	The video wall individual displays shall provide at minimum 2000 nits (cd/m2) each under typical operations.	I
VW6	The video wall individual displays shall provide 3000:1 contrast ratio.	I
VW7	The video wall individual displays shall provide a horizontal viewing angle of 160 degrees.	I
VW8	The video wall individual displays shall provide a vertical viewing angle of 120 degrees.	I

Number	Requirements Text	Test Method
VW9	The video wall individual display screens shall be capable of being cleaned per manufacturer recommendations.	I
VW10	The video wall shall automatically adjust individual display brightness and color to present a uniform display.	D
VW11	The video wall shall provide bezel distance between displays of less than 1.2mm.	I
VW12	Each video wall shall accept 3 HDMI/DVI/DP inputs from the existing audio/video sources.	D
VW13	Each video wall shall be capable of accepting a total of 24 HDMI/DVI/DP input sources from existing workstations, either directly connected or through the use of adapters.	D
VW14	Each video wall shall be capable of expanding input capacity to 40 input sources, through the use of additional hardware (not provided).	I
VW15	The video wall shall provide application software to allow the operator to customize the location and size of each video source.	D
VW16-1	Video wall application software shall be compatible and integrated with existing MOD C4I equipment and network.	D
VW16	The video wall application software shall be installed and operated on the briefing workstation.	I
VW17	The video wall will meet the environmental compatibility standards of high-quality COTS devices.	I
VW18	The video wall spare parts shall be provided at the line replaceable unit level.	I
VW19	Video wall shall display video from source types including digital video recorder, Video Production System, videoconference system, remote workstations, and commercial television.	D
VW20	Video wall application software shall allow selection and display of all inputs, including directly connected inputs and captured workstation displays across the complete aggregated display surface.	D
VW21	Video wall application software shall allow modification of input display size and display location.	D
VW22	Video wall application software shall allow the same input to be displayed in multiple locations (at minimum 6) within the display without loss or resolution.	D
VW23	Video wall shall be capable of displaying at minimum 65,536 levels of color per RGB channel (16 bits per RGB channel with a total of 281 trillion colors).	I

Number	Requirements Text	Test Method
VW24	Video wall shall include technology to eliminate the effects of static image screen burn-in.	I
VW25	Video wall screens shall provide a scratch resistant technology on the screens.	I
VW26	Screen surfaces shall be designed to minimize reflections.	I
VW27	Video wall shall provide adjustable display parameters, including but not limited to brightness and contrast controls.	D
VW28	Display screens shall provide flicker free viewing under office environment lighting.	D
VW29	Video wall servers and controllers shall have the maximum number of processing and memory available in the delivered configuration.	I
VW30	The video wall system shall be designed and configured to support 24-hour-per-day operation.	A
VW31	Video wall processing hardware shall include redundant technology where available (e.g., power supplies, etc.).	I
VW32	The battery back-up power source shall be restored to full charge within 8 hours following restoration of power.	I
VW33	The battery back-up power source shall include an interface to permit the capability to remotely monitor the condition of the batteries.	I
VW34	The battery back-up power source shall provide at minimum 5 minutes of operation following power outage.	D
VW35	Video wall shall support multiple input display ratios, including 16x9 and 4x3.	D
VW36	Video wall servers and control panel shall be capable of integration with Purchaser's Active Directory system.	D
VW37	Video wall system shall provide API access which allows control from a third-party application over the local area network.	I
VW38	Servers and controllers which require communication to existing systems shall directly interface with the RTN LAN switches.	D
VW39	LAN devices shall support 10/100/1000 Mb/s interfaces.	I
VW40	Servers and controllers shall include redundant LAN connections.	D
VW41	Video wall shall be capable of displaying workstation video, through the use of a display capture application delivered over the local area network.	D
VW42	Video compression shall be implemented when displaying captured video through the network.	I
Number	**Requirements Text**	**Test Method**

VW43	Video compression settings shall be adjustable through a graphical user interface.	D
VW44	Video wall shall be capable of displaying at minimum 16 workstations simultaneously.	D
VW45	Video wall shall be emplaced and secured to both the subfloor and the rear wall, inclusive of any necessary supporting structures.	D
VW46	Video wall shall include technology to ensure seam gaps and installation alignment are maintained over time (e.g., lock washers, etc.).	I
VW47	Video wall shall employ self-protection mechanism to prevent equipment damage if environmental conditions exceed manufacturer defined specifications.	I
VW48	Video wall shall perform at safe levels of aggregate electromagnetic radiation at each operator position.	A
VW49	Video wall systems shall be designed to reduce the effect of electromagnetic interference from nearby systems or equipment.	I
VW50	Items weighing more than 20 kgs but less than 60 kgs shall be designed such that they can be lifted by multiple persons.	I
VW51	The design shall avoid the need to manually lift items weighing more than 60 kilograms by providing a dolly or other means to move the equipment.	I
VW52	The Video Wall, including the display and support and maintenance structures, shall be designed to meet best commercial safety design criteria.	I
VW53	The design and operation of the Video Wall shall pose no electrical hazard to operating personnel.	I
VW54	Video wall shall include safety markings for maintenance activities in English.	I
VW55	Equipment using high voltage shall be labeled in Arabic and English and protected to prevent inadvertent contact.	I
VW56	Video wall installation shall include basement and metal sub-structure as necessary to secure the system in the appropriate location.	I
VW57	Video wall shall include maintenance structures as necessary to allow appropriate preventative and on demand maintenance activities.	I
VW58	Video wall system shall provide maintenance mechanisms, including any necessary access structures or devices, to allow a single person to safely perform routine and non-routine maintenance activities.	I
VW59	Video wall system at Site 4 shall allow display of any input on any area of the video wall, utilizing signal splitters as necessary. Raytheon will provide a single signal for each source.	D
Number	**Requirements Text**	**Test Method**

VW60	Video wall system at Site 4 shall allow all sources to continue to be displayed in the event of a single controller failure. The source would then be displayed on the operating portion of the display.	D
VW61	Video wall equipment racks shall be of the same make, model, and design (colors, accessories) of the existing MOD C4I System equipment racks.	I
VW62	Video wall video signal extenders shall be provided utilizing fiber optic media.	I
VW63	Video wall processing equipment shall be located in the equipment room.	I
VW64	Fabricated metal components shall be prepared and painted in order to resist corrosion in the operating environment.	I
VW65	Screws, nuts, and bolts shall show no evidence of cross threading, mutilation, or burrs, and be firmly secured	I
VW66	Wires and cables shall be positioned or protected to avoid contact with rough surfaces, irregular surfaces and sharp edges.	I
VW67	Sufficient clearance shall be provided between wires or cables and heat generating parts to avoid deterioration of the wires and cables	I
VW68	Video Wall maintenance structure shall include marked guards, barriers, and access doors to facilitate safe operation.	I
VW69	Video Wall maintenance structure shall be designed to minimize trip, fall, and impact hazards to operating personnel.	I
VW70	Video Wall system shall support 24/7 operations over 5 years of operations.	I
VW71	Video Wall panels shall have a minimum backlight lifetime of 50,000 hours.	I
VW72	Video Wall panels shall have a maximum pixel pitch of 1.9mm.	I

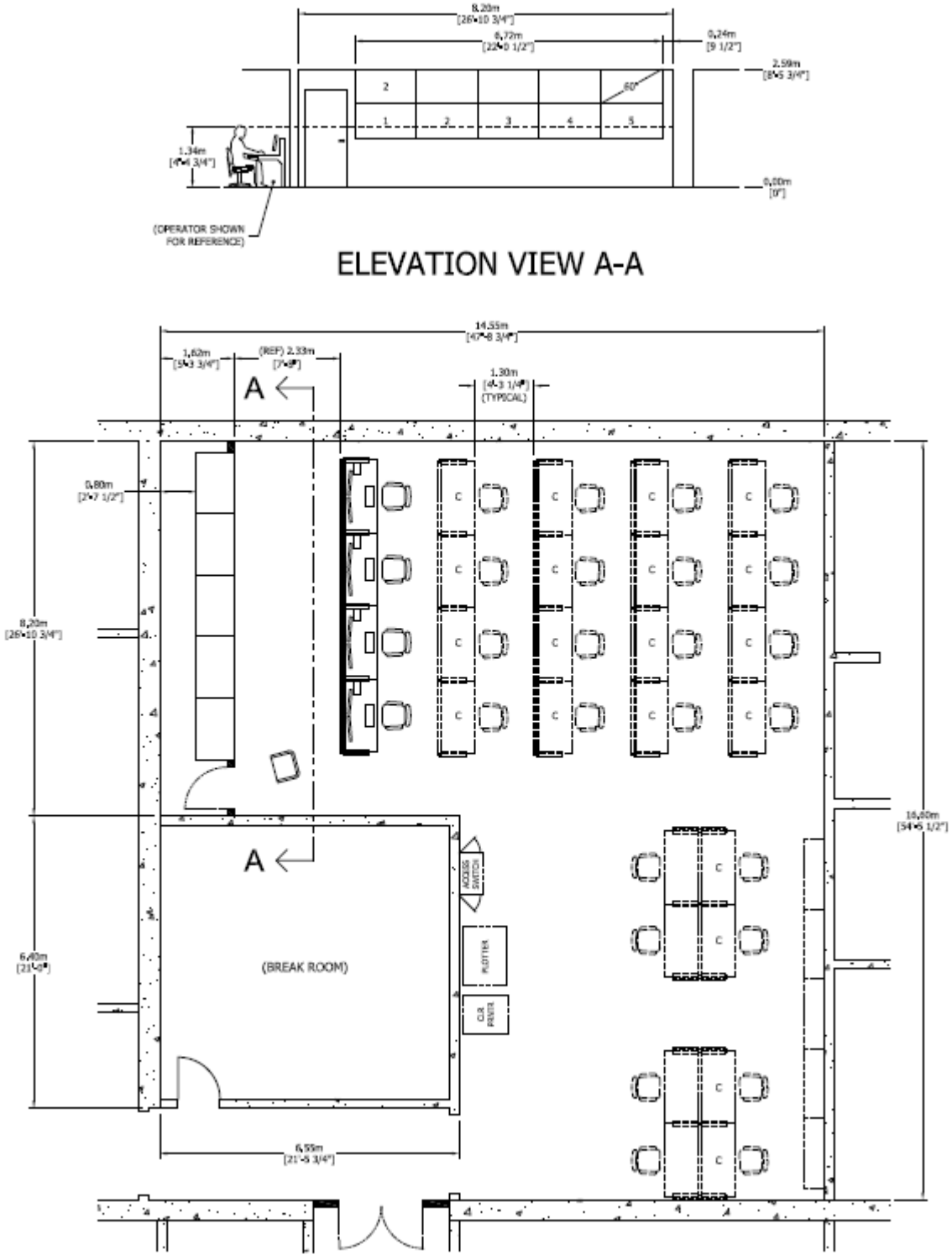
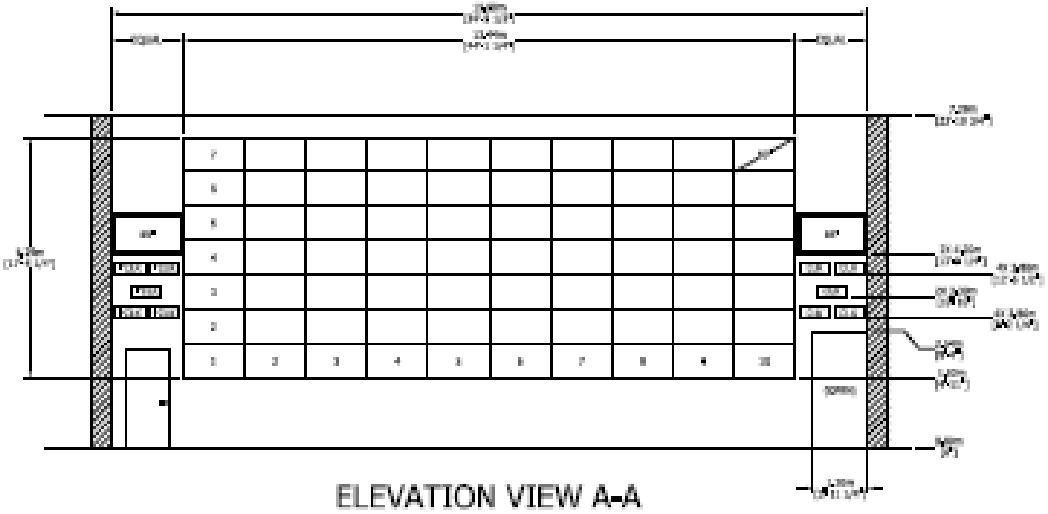
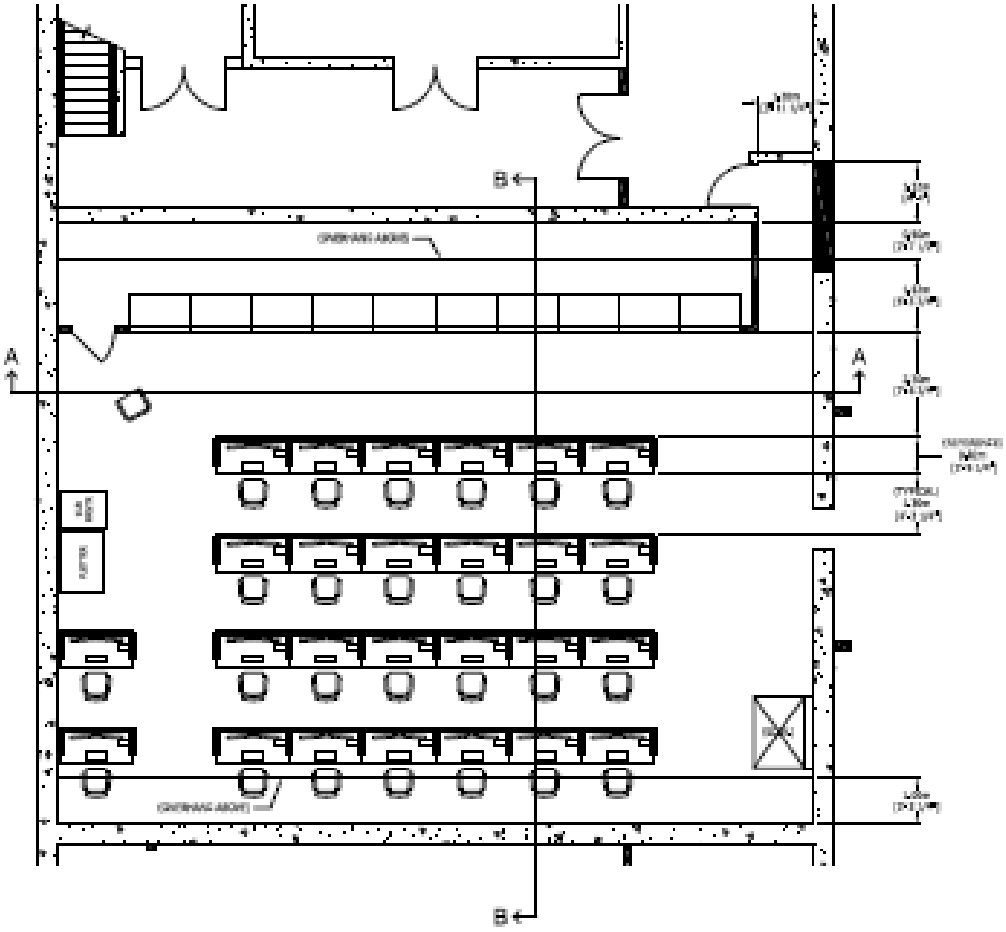


Figure B-1. Site 5 Legacy System Elevation



ELEVATION VIEW A-A



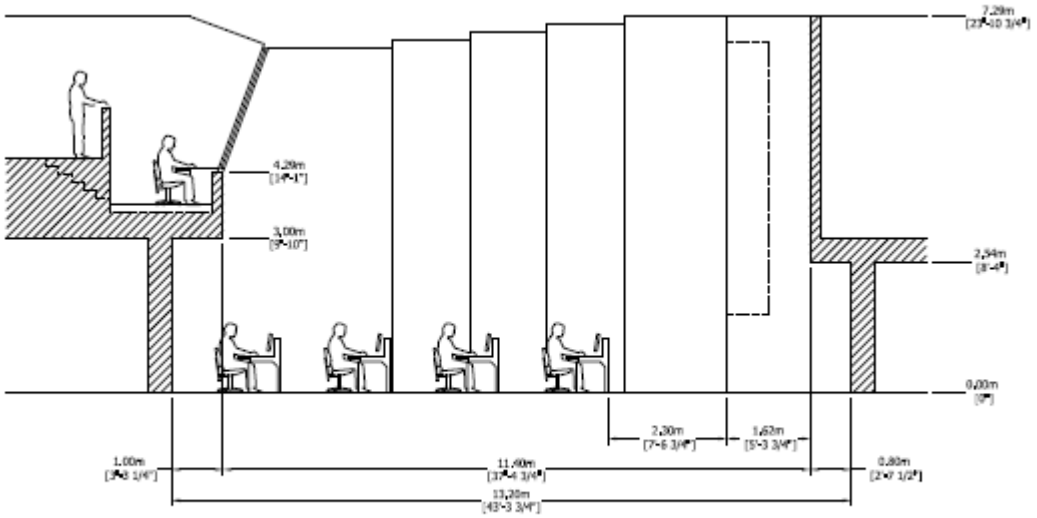


Figure B-2. Site 4 Legacy System Elevation

Appendix C SUPPLIER INFORMATION REQUEST (SIR) FORM

Raytheon Integrated Defense Systems		SUPPLIER INFORMATION REQUEST # SIR-0xx		Request Date:		Requester Name:	
Order/Configuration Data		**Reason for Request (Supplier, mark only one)**		**Program Impact**		**Reference**	
Part Number		TDP Error/Obsolescence	☐	High	☐	Requested Response Date	
Revision Level		TDP Clerical	☐	Medium	☐	IMS Need Date	
Part Name		TDP Clarification	☐	Low	☐		
Quantity		Manufacturability/Producibility	☐				
		Alternate Parts, Materials, or Construction	☐				
		Request for Waiver/Deviation	☐				

Explanation of Information Request (Include Cost and/or Schedule Impact if Applicable)

Reference (delete text for submission of SIR):
Program impact definitions –
High: Significant impact to cost and schedule, negatively impacts critical path
Medium: Moderate impact to cost and schedule, could impact critical path
Low: Minimal impact to cost and schedule, no impact to critical path

Raytheon to complete below (indicate acceptance or rejection with disposition)

Instructions/Comments:

Raytheon Action Document (Change Notice or Change Request) Number: _____

Raytheon Acknowledge of Reason for Change:	**Date:**	**Raytheon Authorization:**	**Date:**

Appendix D ACRONYMS / DEFINITIONS

Acronym	Definition
ACA	After Contract Award
A/R	As Required
COTS	Commercial Off The Shelf
CONOPS	Concept Of Operations
DID	Data Item Description
DR	Design Review
EAC	Estimate at Completion
IAW	In Accordance With
IGES	Initial Graphics Exchange Specification
IMS	Integrated Master Schedule
ISO	International Organization for Standardization
LRU	Line Replaceable Unit
O&M	Operations and Maintenance
PAC	Post Award Conference
PAR	Post Award Review
PDF	Portable Document Format
PGP	Pretty Good Privacy
PMR	Program Management Reviews
PO	Purchase Order
PWE	Program Work Environment
QA	Quality Assurance
QAP	QA Plan
Q-Notes	Quality Notes
SDRL	Subcontract Data Requirements List
SIR	Supplier Information Request
SLA	Service Level Agreement
SOW	Statement of Work
SSAT	Subcontractor Site Acceptance Test
STEP	Standard for the Exchange of Product model
TIM	Technical Interchange Meetings
TPMs	Technical Performance Measures
VoIP	Voice over IP
VPN	Virtual Private Network

Appendix E SCHEDULE

The Subcontractor **shall** provide the schedule as part of SDRL VW012. The Subcontractor **shall** be prepared to advance certain deliveries of goods and data as required for the Raytheon to review, integrate or otherwise process the Subcontractor's deliverables to meet this schedule.

Appendix F DATA ITEM DESCRIPTION

<table>
<tr><td colspan="3">TITLE: SDRL VW001 – Project Implementation Document</td><td>VW001</td></tr>
<tr><td colspan="3">SUBTITLE:</td><td>PAGES:
1</td></tr>
<tr><td>CONTRACT NO.:</td><td colspan="3">CONTRACTOR:</td></tr>
<tr><td>CONTRACT REF.:
SOW</td><td>FREQUENCY:
See Table A-I</td><td colspan="2">DATE FIRST SUBMITTED:
See Table A-I</td></tr>
<tr><td colspan="4">DESCRIPTION: The Project Implementation Document shall contain details including: planned civil works, planned site layout, Site 5 and Site 4 schedules, and all other pertinent details required to implement this system.</td></tr>
<tr><td colspan="4">DISTRIBUTION:</td></tr>
<tr><td colspan="4">PREPARATION INSTRUCTIONS:
The Project implementation Document shall contain for each site:
Detailed Civil works and video wall installation schedules
Civil works details, planned and final
Site layout, planned and final
Survey of requirements and configuration plan</td></tr>
</table>

TITLE: SDRL VW002 – Bill of Quantities		VW002
SUBTITLE:		PAGES: 1
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I

DESCRIPTION:
The Bill of Quantities **shall** document the Supplier's recommendations for maintenance spare and repair parts needed to support each video wall when they becomes operational. The Bill of Quantities **shall** be based on the delivered hardware baseline and the proposed maintenance concept for the Video Wall System.

DISTRIBUTION:

PREPARATION INSTRUCTIONS:
The Bill of Quantities **shall** include the following information for each recommended spare part:

- Part number
- Nomenclature
- Recommended number of spare and repair parts.
- Total spare and repair parts breakdown quantity allocated to various maintenance activities

TITLE: SDRL VW003 – Configuration Document		VW003
SUBTITLE:		PAGES: 1
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I
DESCRIPTION: The Configuration Document package **shall** be the "as built" "as configured" for each video wall installation.		
DISTRIBUTION:		

PREPARATION INSTRUCTIONS:

Supplier shall provide specifications for assembled rack including heat dissipation, power requirements, power connectors, weight, noise, mounting requirements, dimensions, and environmental characteristics. The supplier shall provide specification sheets for each component.

The technical drawings shall include mechanical and interconnect and parts list, to include the assembled equipment rack and video wall. A unique part number shall be assigned to the rack assembly. Demarcation points including connection types shall be clearly identified.

Following installation, Supplier provide technical drawings and details for each video wall configuration. The technical drawings and files **shall** accurately reflect the "As-Installed" and "As-built" configuration of each video wall.
All computer and display configurations **shall** be provided and descriptions/details on each specific setting.

TITLE: SDRL VW004 – O & M and Commercial Off-The-Shelf (COTS) Manuals		VW004
SUBTITLE:		PAGES: 1
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I

DESCRIPTION:
O&M Manuals **shall** describe the MOD C4I System video equipment installation, configuration, operation, maintenance, modification and safety procedures. COTS documentation and media (Manuals, licenses, media and material) for the Supplier provided COTS items.

DISTRIBUTION:

PREPARATION INSTRUCTIONS:

The Operation and Maintenance (O&M) Manuals for each video wall will include functional description of each hardware item and software component to the module level, with details of equipment layout, external interfaces and physical/electronic interconnection. Subcontractor **shall** provide the following information contained in Subcontractor's format or as part of the commercial manuals:

i. Installation and checkout procedures.

ii. Procedures to detect equipment failure.

iii. Procedures to remove and replace the failed LRU.

iv. Procedures to verify proper operation after the failed LRU has been replaced.

v. Procedures and frequencies for accomplishing preventive maintenance. The maintenance manuals **shall** properly describe the replacement and/or repair of each of the replaceable/repairable assemblies and subassemblies of each major item, module, etc., furnished under the subcontract.

COTS manuals - original COTS packaging if practicable.

TITLE: SDRL VW005 – Installation Manual Document			VW005
SUBTITLE:			PAGES: 1
CONTRACT NO.:	CONTRACTOR:		
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I	
DESCRIPTION: The Installation Manual Document package **shall** provide installation instructions describing the "as built" and "as configured" for each video wall installation.			
DISTRIBUTION:			

PREPARATION INSTRUCTIONS:
Supplier provides technical drawings and details for each video wall configuration. The technical drawings and files **shall** accurately reflect the "As-Installed" and "As-built" configuration of each video wall with all details required to replicate the installation of all facets of the video walls:

- Specific mechanical drawings showing installation details
- Electrical cabling drawings for signal and power at the system level
- Heat and cooling requirements including ducting and heat load changes to each site and their installations
- Installation of components in the video server cabinet, signal and power wiring diagrams

TITLE: SDRL VW006 - Test Plan Document		VW006
SUBTITLE:		PAGES: 1
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I
DESCRIPTION: The Test Plan **shall** describe the objectives and approach to formal acceptance testing each of the video walls		
DISTRIBUTION:		
PREPARATION INSTRUCTIONS: The test plan **shall** discuss the overall Subcontractor Site Acceptance Test (SSAT) philosophy used in establishing test objectives, test approach, test sequences, items for verification, priorities and major milestones. The test plan contains the test environment and methodology, the test schedule, responsibility assignments, human and programmatic interfaces. It also describes the process for recovery from non-conformances and final acceptance criteria as well as risk tracking & mitigation. It includes sufficient granularity in the description of test conduct to permit a sound technical assessment of proposed testing.		

TITLE: SDRL VW007 – Subcontractor Site Acceptance Test (SSAT)		VW007
SUBTITLE:		PAGES: 1
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I
DESCRIPTION: The Test Procedure **shall** describe the formal acceptance tests for each video wall		
DISTRIBUTION:		

PREPARATION INSTRUCTIONS:
The Test Procedure **shall** include detailed test information for each test specified. The test procedure **shall** describe detailed test steps used to support video wall sell-off. Each sell-off **shall** include Pass/Fail criteria.
The test procedure **shall** describe the following:

i. Steps to verify drawings against the delivery hardware configuration.

ii. Procedures.

iii. Test schedules and location

iv. Test environment hardware and software configurations.

v. Hardware and software items under test configuration.

vi. Test roles and responsibilities.

vii. Problem identification, tracking, reporting, and resolution process.

The SSAT Procedures **shall** detail the step-by-step process to be taken by test operators to verify the Video Wall capabilities. The SSAT Test Procedure **shall** include each step in the test to be accomplished, expected results of each step, observed results, remarks and a signature block for Subcontractor and Raytheon witnesses. Each test procedure **shall** include a cross reference to the Video Functionality Specification operational requirements. The Subcontractor **shall** allow Raytheon to approve the test procedures once developed and **shall** allow Raytheon sufficient time for review.
Where applicable, a description of all subsystems having a direct bearing on the purpose of the test should be included. Description of any data analysis required.
Extent of Raytheon participation and skills required.
Type of recording devices to be used and number of parameters to be recorded.

TITLE: SDRL VW009 - Training Materials		VW009
SUBTITLE:		PAGES: 1
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I

DESCRIPTION:
The Training Materials **shall** be those items that are used in presenting the training program to the individual students. They **shall** be an expansion of the course descriptions and course schedules provided in the IMS

DISTRIBUTION:

PREPARATION INSTRUCTIONS:
This material **shall** provide the training materials to be used in presenting each training course for the video wall systems. Training **shall** include the fundamentals of theory of operations, setup, diagnostics, maintenance and repair for each wall and supporting electronics. Training **shall** be provided on each configuration. Each trainee **shall** be provided with a complete set of service manuals to support the training. It **shall** include the Instructor guides and student material, as described below.
The Subcontractor **shall** prepare the following training material for each course. The training material **shall** include the following:

- Visual aids (Microsoft PowerPoint)
- Instructor's Guide (Microsoft Word), including:
  - Syllabus, lesson plans, lesson narratives, and tests and test keys
  - A detailed listing of all hardware, software, cables, tools, and accessories required to conduct training
  - Any instructor setup, fault insertion instructions, or supporting instructions required to conduct training
- Student Guide (Microsoft Word), these materials are used, by the individual students in each lesson. They include all handouts and materials needed by an individual student to complete the course, lesson plans, and copies of classroom presentations, except for User's and Technical Manuals which are delivered separately.
- Tests and examinations (Microsoft Word)
- Course Completion Certificate for each student

Delivery Instructions:
Changes developed during the conduct of each course **shall** be incorporated and a final copy delivered 60 days after the conclusion of the Subcontractor's final iteration of the course.

TITLE: SDRL VW010 - SSAT Test Report			VW010
SUBTITLE:			PAGES: 2
CONTRACT NO.:	CONTRACTOR:		
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I	

DESCRIPTION:
Test Reports **shall** provide the results of formal testing required by applicable specifications and program test plans, and show the degree to which the system and its components meet the objectives of the tests.
Test Reports will be hand-amended with corrections and results as the tests are conducted. At the end of each test day and/or immediately upon completion of the test (or test stage), the amended report will be signed and counter-signed by an authorized Raytheon representative and possibly an authorized Customer representative to signify that the report contains an accurate record of the proceedings.

DISTRIBUTION:

PREPARATION INSTRUCTIONS:
Final Test Reports.
Final Test Reports **shall** include the following:
1. Identification of the specific test as defined by the Test Plan (SDRL 006) or other contractual document.
2. Identification of test objectives, including applicable requirement, specification title, number, and date, as appropriate.
3. Description of test article, including test configuration identification and photographs as appropriate.
4. Summary of the test results (details provided in enclosure to this SDRL), stating which tests were performed and the results of each test. Where these tests were to show compliance with a given specification, a matrix **shall** be provided comparing test results with specification requirement.
5. Description of test facility and test procedures, including a detailed description of how the test item was operated during the test, and any control conditions imposed.
6. Test set-up diagrams/photos, showing arrangement of test item in relation to test equipment used.
7. A list of all test equipment, identifying manufacturer, model, calibration status, and serial number.
8. Recorded test data or logs, as appropriate, including instrument readings, correction factors, and reduced results, presented in tabular and graphic form. If value of the data has been compromised due to test conditions, the reason and implication should be related.
9. Test date/time, and identification of ambient and other test conditions.

10. Discussions of test analyses, including calculation examples as appropriate, and conclusions relative to test effectivity and problems. When tests fail to meet the test objectives, the report **shall** discuss the probable impact, design changes and intended actions.
11. Certification that the test results are authentic, accurate, current, and in accordance with related specifications and test plans.

Final Report Addendum.

These reports are used to update final reports when design changes are made and tests are performed after the final report has been published. The update information **shall** be related to the previous data provided in the final report.

Interim Test Report.

Interim reports are prepared when the test period is long and reporting of interim test status is required.

l. Initial interim reports **shall** contain the same scope of coverage as for final reports, except that results and conclusions **shall** be preliminary.
2. Subsequent interim reports need not include descriptive data provided in the initial report, but only changes thereto.

Report Format.

Test reports **shall** be submitted as standalone documents.

TITLE: SDRL VW011 - Monthly Status Report		VW011
SUBTITLE:		PAGES: 2
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I

DESCRIPTION:
The Weekly and Monthly status Reports **shall** describe the current status of the project in terms of schedule, task completion, and problems encountered. Raytheon may comment on the content of the reports but they will not be subject to formal approval.

DISTRIBUTION:

PREPARATION INSTRUCTIONS:
These reports are a report to Raytheon describing progress made during the reporting period. The Telecom Technical Interchange **shall** focus on technical accomplishments from the last week and planned technical accomplishments for the next week including Risks. The Progress Reports **shall** be delivered on electronic media in a mutually agreed form and format. These reports **shall** comprise the following sections:

Executive Summary. This section **shall** briefly summarize the status of the project as described in the body of the report, highlighting critical obstacles, status of deliverables and other accomplishments.

Technical. This section **shall** detail:
The significant technical achievements during the reporting period. It **shall** also highlight technical difficulties encountered and state clearly the likely threat such difficulties may have on related areas of work both within the Supplier's area of responsibility and associated interface areas. Details of the action the Supplier intends to take to correct the situation are also required.

The technical work planned to take place during the next reporting period. "Technical" in this context includes, but may not be limited to, data items, system engineering, all areas of hardware and software development and test, production, delivery, logistics, training, and site implementation.

Schedule. This section **shall** include:
Subcontractor baseline schedule and critical path(s) identified. Any proposed updates to the schedule. An updated version of the Supplier's Project Schedule will be included as an attachment.

Schedules for the ensuing program showing significant milestones - i.e., events that can be scheduled for a specific point in time and evaluated on the basis of actual accomplishment. Examples of significant milestones may include, but not be limited to, the following:

- Development - Accomplishment of technically significant events.
- Schedule dates for required facilities, resources, tests, and decisions by the Raytheon or Government or any of its affiliated agencies.
- Test - Testing to be performed, reflecting both target dates for beginning and ending of each major subdivision of the overall test program and the date the test on each item was accomplished.

Project Risks and Opportunities. This section **shall** identify:

- Risks.
- Risk Mitigation Plans
- Opportunities

Commercial. This section **shall** discuss any financial or contractual matters that may impact the Suppliers' performance and require action or resolution by Raytheon. Within this section, the Supplier **shall** identify the specific support actions required from Raytheon, during the six-month period following the period of the report.

Meeting Minutes. This section **shall** provide the meeting minutes from the prior either weekly or monthly status report including action items.

TITLE: SDRL VW012 – Integrated Master Schedule (IMS)		VW012
SUBTITLE:		PAGES: 2
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I

DESCRIPTION:
The IMS **shall** reflect all authorized subcontract work, required milestone events, and tasks necessary to complete the authorized work. The IMS **shall** show the current status of the project in terms of schedule, task completion, and problems encountered.

DISTRIBUTION:

PREPARATION INSTRUCTIONS:
The SDRL **shall** comprise the following sections:

Summary. This section **shall** briefly summarize the status of the schedule, highlighting critical paths, status of deliverables, status of near term items, risks and other issues.

Schedule. This section **shall** include:
Any proposed updates to the schedules. An updated version of the Supplier's Program Schedule will be included as an attachment.
Schedules for the ensuing program showing significant milestones - i.e., events that can be scheduled for a specific point in time and evaluated on the basis of actual accomplishment. Examples of significant milestones may include, but not be limited to, the following:
Development - Accomplishment of technically significant events.
Schedule dates for required facilities, resources, tests, and decisions by the Raytheon or Customer or any of its affiliated agencies.
Test - Testing to be performed, reflecting both target dates for beginning and ending of each major subdivision of the overall test program and the date the test on each item was accomplished.
The following items are required on the IMS, at a minimum:
Milestones. The initiation or conclusion of a significant program task.
Significant Tasks. These are tasks that produce a specified result substantiating an event that indicates the level of progress or maturity directly related to each product or process. Each identified task **shall** be a required step to complete an event and not just time coinciding with that event.
Success Criteria. Definitive measures for judging task completion. These criteria **shall** be tied to completion of significant tasks.
Design, readiness, test, and management reviews.
Product procurement, fabrication, assembly, and integration and test activities for all deliverable items.
Civil works details

Interdependencies between the Raytheon team and the Supplier and any major interdependencies within the Supplier team.
Test plans, test procedures and verification reports.
Product deliveries
Critical Paths
SDRL Items

TITLE: SDRL VW013– Design Review		VW013
SUBTITLE:		PAGES: 1
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I

DESCRIPTION:

The Subcontractor **shall** conduct a Design Review (DR). The Subcontractor DR package is conducted to confirm that the design approach satisfies the functional and interface requirements with margin; the architecture is compatible with planned manufacturing implementation methods and processes; the critical design (architecture) baseline is mature; and the team is ready to initiate development with acceptable program risk. The DR completion **shall** be contingent upon Raytheon acceptance of the DR minutes.

DISTRIBUTION:

PREPARATION INSTRUCTIONS:

The Subcontractor **shall** document the following from the DR:
Agenda
Entrance criteria
Product design
Site 5 and Site 4 Video Wall design documents
Support structures (sub-structure, wall support, maintenance structure) design documents
Schedule
Equipment lists
Test plan
Test procedures
Risks and risk management plan
Exit criteria
DR package
Baseline detailed design
DR lessons learned
DR findings and assessment
DR actions and meeting minutes
Safety standards compliancy and hazard analysis (including video wall and support/maintenance structures.

TITLE: SDRL VW015– Civil Works Design and Implementation Requirements		VW015
SUBTITLE:		PAGES: 1
CONTRACT NO.:	CONTRACTOR:	
CONTRACT REF.: SOW	FREQUENCY: See Table A-I	DATE FIRST SUBMITTED: See Table A-I
DESCRIPTION: The Civil Works Design and Implementation Requirements **shall** describe the specific requirements for the civil works required to successfully install and sell-off both Site 5 and Site 4 video walls. The document will be used to provide detailed information to the Civil works contractor for use in performing facility modifications which accommodate the installation and operation of each video wall.		
DISTRIBUTION:		

PREPARATION INSTRUCTIONS:

The Subcontractor shall provide the civil works design and build requirements for both Site 5 and Site 4 video walls, including but not limited to the following topics:

i. Structural changes including walls and floors
ii. Power changes, power cabling, electrical panels with circuit breakers and including transformer changes if required
iii. Lighting changes
iv. Heat/cooling (HVAC) changes
v. Signal/network connectivity including cable trays
vi. Uninterruptable Power Supplies
vii. Maintainability and access requirements
viii. Safety ordnances and constraints
ix. Ordnances relevant for these civil works