Attachment 3

ExhibitA-1_Vol_IIofV_Install_and_ProjSchedule

E.F. JOHNSON COMPANY

Agreement for Services of Independent Contractor: System Equipment and Installation Exhibit A: Scope of Services

Exhibit A-1: Revised Proposal Documents/Volume II of V

Volume II Components: Project Management, Implementation and Migration and Project Schedule

May 1, 2021

v.2.1

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Table of Contents

Table of Figures

E.F. JOHNSON COMPANY

Agreement for Services of Independent Contractor: System Equipment and Installation

Exhibit A-1.3 Project Management, Implementation, and Migration

May 1, 2021

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JVCKENWOOD

A-1.3 Project Management, Implementation and Migration

A-1.3.1 Document Overview

JVCKENWOOD has established a standard for best-in-class integration services to provide the County of Santa Barbara (the County) with a stable transition to the new ATLAS® P25 System. JVCKENWOOD's approach to project management is addressed in the sections below, providing:

- A preliminary **Project Management Plan** (PMP) for the project which includes a Project Scope overview, Work Breakdown Structure, Project Structure, Project Schedule, QA/QC plan, Project Risk Plan, Deliverables overview with Responsibility Matrix, Change Order Plan, and Punch List Management overview
- A preliminary **System Implementation Plan** containing JVKCENWOOD's phased approach with special considerations for the County of Santa Barbara
- A preliminary **Migration Pla**n covering the goals of cutting over to the County's new ATLAS P25 Public Safety Radio System, pre-cutover preparation, cutover approach, post-cutover activities, and a checklist for each stage of migration

A-1.3.2 Project Management Plan

The Project Management Plan (PMP) describes how JVCKENWOOD will manage the successful implementation of the County of Santa Barbara's new P25 Radio System deployment. This section presents a preliminary Project Management Plan for the County of Santa Barbara's new ATLAS P25 Public Safety Radio System. Upon contract award, JVCKENWOOD will work with the County to further develop this document and present the final version as part of the Detailed Design Review documentation.

A-1.3.2.1 Project Scope

The project scope encompasses deliverables, equipment, and services to be rendered to the County. Third-party products and services are included as part of the JVCKENWOOD offering. JVCKENWOOD will fill the role of prime contractor, and unless otherwise stated in this document, JVCKENWOOD will take responsibility for quality assurance over products and services provided by JVCKENWOOD as well as our subcontractors.

The components of the County project include the following major subsystems:

- Nineteen (19) site, 5-channel**, P25 UHF Phase 2** trunked subsystem distributed across six (6) simulcast zones
- Eighteen (18) site, 6-channel**, P25 VHF Conventional Analog** subsystem distributed across a single County-wide simulcast zone (*collocated at the UHF sites with the exception of Sudden Peak)*
- Seven (7) site, 5-channel, **P25 Phase 2 800 MHz** mixed Simulcast/Multicast subsystem (*6 locations collocated at the VHF/UHF sites, 1 location collated at EOC Fire Dispatch Center*)
- Eight (8) dispatch consoles with backup UHF and VHF control stations at the Sheriff Dispatch Center
- Eight (8) dispatch consoles with backup UHF and VHF control stations at the EOC Fire Dispatch Center
- Ten (10) dispatch consoles with backup UHF and VHF control stations at the Santa Maria Backup Dispatch Center
- ATLAS Network Management Servers and alarm equipment
- AVIAT Microwave backhaul utilizing Nokia routers with OmniStack switches
- -48VDC Power Plant at each site
- Architectural and engineering (A&E), structural analysis, and site remediation work
- KENWOOD Viking portable and mobile radios

Per the County's request, JVCKENWOOD is offering system support services during the initial warranty and maintenance period (Years 1-2). Under a separate contract, the County has agreed to purchase extended support for Years 3–15.

Upon contract signing, the scope will be updated to reflect any necessary changes and become part of the contract, which will be the principal project scope document. The project team will develop a Detailed Design Document, to be reviewed at the Detailed Design Review, as the first step in defining the detailed scope of work. The Detailed Design Document, which will be jointly approved by JVCKENWOOD and the County will be added to the contract scope statement and include all deliverable details.

A-1.3.2.2 Work Breakdown Structure

JVCKENWOOD uses a work breakdown structure (WBS) to support development of the project schedule and determine associated project costs. JVCKENWOOD uses a time-phased approach to break the County project into the following major phases:

- Phase 1—Final Detailed Design
- Phase 2A— Site Readiness
- Phase 2B — Equipment Staging
- Phase 3A — Installation and Verification
- Phase 3B — Subscribers
- Phase 4 — Cutover and Acceptance

For more effective management, the work required in each phase is further subdivided into individual work packages allowing the PM to manage the project's scope effectively as the project team works on the tasks necessary for project completion. The WBS for the County of Santa Barbara project is depicted in Figure 1.3-1.

Phase 1: Final Detailed Design
- **Project Management**
  - Project Management Plan
  - System Implementation Plan
  - Migration Plan
  - Project Schedule
  - Communications Management Plan
  - Quality Management Plan
  - Risk Management Plan
- **Engineering**
  - Detailed Design Documentation
  - Staging Acceptance Plan
  - Coverage Acceptance Test Plan
  - Final Acceptance Test Plan
  - Frequency Planning
  - FCC Coordination & Licensing
  - Project Equipment List
- **Site Engineering**
  - Site Surveys
  - Structural Analysis
  - Permitting Services
  - Construction Drawings
  - Title search/Site Candidate Info Package
  - Geotechnical boring and reports
  - FAA Filings

Phase 2A: Site Readiness
- **Site Preparation**
  - Site remediation work
  - Grounding system work

Phase 2B: Equipment Staging
- **Fleet mapping**
- **Material Procurement**
  - **ATLAS Infrastructure Equipment**
    - System Management
    - Stations
    - Controllers
    - Timing & Frequency Reference
    - Dispatch
    - Gateways
    - Eventide Logger
  - **KENWOOD Viking Subscriber Equipment**
    - Portables
    - Mobiles
    - Accessories
  - **3rd Party Equipment**
    - Site Equipment Rack Components
    - Antenna & Feedline Equipment
    - Microwave Equipment
- **Staging**
  - Racking and stacking
  - Equipment configuration
  - Grounding system work

Phase 3A: Installation & Verification
- **System Installation**
  - Radio Site Installation
  - Dispatch Site Installation
  - Conventional Repeaters Replacement
  - Final Equipment Commissioning
- **Site Acceptance**
  - System Integration Testing
  - Site Acceptance Testing
  - System Optimization

Phase 3B: Subscribers
- **Subscriber Programming**
- **Control Station Radio Installation**
- **Mobile Radio Installation**
- **Portable Radio Deployment**

Phase 4: Cutover & Acceptance
- **Training Delivery**
- **System Verification**
  - System Acceptance Testing
  - Coverage Acceptance Testing
- **Cutover**
  - System Migration
  - System Burn-in & Loading test
- **Final Acceptance**
  - Equipment Decommissioning/Removal
  - As-Built Documentation
  - Warranty Support Transition

Figure 1.3-1. Work Breakdown Structure

A-1.1.3.2.2.1 Project Structure

The project structure consists of an integrated project team including representatives of the County, JVCKENWOOD, and the following vendors:

- ***Applied Technology Group, Inc. (ATG)***—ATLAS system equipment installation and local maintenance services
- ***Aviat Networks***—Microwave backhaul system design and installation
- ***Tower Systems, Inc. (TSI)***—New site construction and existing site remediation

JVCKENWOOD will serve as the system integrator, as well as the single point of contact, integrating all vendors' efforts in delivering the system solution to the County of Santa Barbara.

Gregory Senter, a certified Project Management Professional (PMP # 1259346) will serve as JVCKENWOOD's Project Manager (PM) as well as the main contact for the County, directly working with the County's Project Manager and serving as the principal point person for coordination with the County, the County's System consultant and with other vendors related to the County's System.

Jason Jerrel, with over 20 years of experience in two-way radio communications and implementation, will serve as the Project Engineer. In this role, he will direct the design of the project, configure systems in staging, implement the system, and perform system acceptance. After system acceptance, Jason will work with the service department on system support.

A-1.1.3.2.2.2 Project Schedule

JVCKENWOOD proposes to implement the County of Santa Barbara system over a period of 46 months after receipt of an executed contract and notice to proceed. A preliminary project schedule in Gantt format is included as an attachment to this section. JVCKENWOOD structured the proposed schedule based on information contained with the County's RFP and the following assumptions:

- Contract execution by June 30, 2021
- Notice to Proceed (NTP) by July ~~2~~1, 2021
- Available of the County's resources to support proposed project activities such as meetings, site walks, and acceptance testing on a timely basis
- Material Procurement for the project will not begin until after zoning is approved for the new tower sites

- The County's civils vendor selection process takes approximately 5 months following approval of the Detailed Design with the selected vendor able to complete required site builds by May 25, 2023
- The proposed radio sites are ready for installation by ~~January~~ May 26~~27~~, 2023
- Radio system users will be fully trained and ready to facilitate migration to the new ATLAS P25 Public Safety Radio System within the first 30 days of cutover readiness

Information not included in the RFP or not revealed during site visits may have an impact on the delivery schedule. Changes to any deliverables will be mutually agreed upon by the County and JVCKENWOOD including an update to the project schedule. The schedule will also be adjusted due to factors that are outside of JVCKENWOOD control including weather delays, regulatory approvals, or unforeseen events. In such a case, JVCKENWOOD will work with the County to establish a new project completion date.

A-1.3.2.3 Quality Assurance/Quality Control Plan

The Quality Assurance Plan (QAP) establishes the goals, processes, and responsibilities required to implement effective quality management procedures for the County of Santa Barbara project. The QAP defines how the project team will implement, support, and communicate project quality practices, as well as the activities and processes related to managing the quality of the system implementation effort. The plan is applicable to all aspects of system implementation, including project management, detailed analysis, design, configuration, testing, installation, implementation, training, and temporary post-implementation until the start of the warranty phase.

The QAP accomplishes the following objectives:

- Outlines the purpose and scope of quality activities
- Defines how quality will be planned and managed
- Defines quality assurance/quality control (QA/QC) activities
- Defines acceptable quality standards
- Defines roles and responsibilities for quality management activities

To meet the project quality objectives, JVCKENWOOD will employ an integrated quality approach for both products and processes that defines quality standards, measures quality, and focuses on continuous quality improvement. This approach

will allow the team to focus on items related to quality in the initial stages so specific quality activities and standards are incorporated earlier in the project.

JVCKENWOOD will use industry best practices as a tool to reduce quality risks that may arise during integration. These practices include lean process improvement, Kaizen opportunities, and scheduled system testing (factory, site, and system testing).

A-1.1.3.2.3.1 Quality Standards for Implementation

JVCKENWOOD will adhere to the following standards during implementation:

- TIA-569 Telecommunications Pathways and Spaces
- TIA-607 Generic Telecom Bonding and Grounding

To ensure quality, an iterative quality process will be used throughout the project lifecycle. JVCKENWOOD's QA process ensures that the methods used to manage and deliver the project are applied effectively, while JVCKENWOOD's QC process is used to monitor project deliverables to verify that said deliverables are of acceptable quality, complete, and correct. The JVCKENWOOD PM will schedule meetings to review the findings of QA and QC activities. The outcome of these meetings may result in process/product improvements and/or test plan revisions.

Figure 1.3-2 below outlines JVCKENWOOD's QA and QC standards for the County of Santa Barbara project.

Project Process	Quality Assurance Standard	Quality Control Standards	Inputs
Final Design Review	• Design review meetings occur and are well-attended • Modifications to design documents are approved, tracked, and documented • Process is in place to communicate/approve design changes • Roles and responsibilities are well-defined • Design review processes are implemented to ensure design inputs are correctly selected and incorporated	• Proper tools used to create design • Approvals obtained and documented in the design	• Design Standards • Design Review Process Document • Functional Design Plan

Project Process	Quality Assurance Standard	Quality Control Standards	Inputs
Test Management	• Test review procedures are well-defined • Rigorous verification approach in place and in use • Test procedures are clear and are understood by all parties involved • Test results are tracked in the testing tool	• Review post-test execution related artifacts, including test results, problem reports, etc. • Integration test exists for every feature • RF performance tests are adequate • Unit test plan defines coverage requirements • System test design for each component • Realistic testing in project schedule	• Test Standards and Guidelines • Test Management Plan and Approach

Figure 1.3-2. JVCKENWOOD Quality Assurance and Quality Control Standards

A-1.1.3.2.3.2 Quality Management Records and Reports

The project team will maintain records that document assessments performed on the project—such as completed checklists and test reports—to ensure the assessments are objective and can be tracked throughout the project's lifecycle. The project team will use a secure shared document repository to store the reporting data and the reports produced as part of the quality activities and reviews. These records will be maintained through the implementation phase of the project, or longer as required.

A-1.1.3.2.3.3 Test Plans

JVCKENWOOD will create a set of quality tests to be mutually agreed upon by the County, its Consultants, and JVCKENWOOD prior to execution. The County or its designated representative are encouraged to witness all testing. Preliminary Test Plans are included in as an attachment to this section.

- **(Factory) Staging Acceptance Testing**: The goal of the staging acceptance test is to test the configuration of the system prior to shipment. The test measures the RF performance of each device, along with the agreed-upon configuration. Various features included in the County's system configuration are tested as well. If extra time is available, additional unscheduled testing can be completed based on the County's requirements.

- **Site Acceptance Testing**: The goal of the site acceptance test is to test the RF performance of each device after installation, as well as site functionality and operation. Various features included in the purchase are also tested. The data from this set of tests is needed to optimize the system.
- **Coverage Acceptance Testing**: The goal of the coverage acceptance test is to test system coverage in accordance with the terms of the contract. The data from this set of tests is used to document the actual coverage.
- **Final (System) Acceptance Testing**: The goal of the final acceptance test is to test the configuration of the system. This testing focuses on the various features included in the purchase.
- **30-Day Reliability Test**: The goal of the 30-day reliability test is to demonstrate the reliability (burn in), long-term stability, and maintainability of the system under full operational load by operating the system for 30 continuous days without a major network failure

A-1.3.2.4 Project Risk Plan

The Project Risk Plan will establish the framework by which the project team will identify risks and develop strategies to mitigate or avoid those risks. The plan will also define how risks associated with the project will be recorded and monitored throughout the lifecycle of the project.

The Project Risk Plan is comprised of a number of elements, including:

- Risk Management Approach—Deciding how to approach and conduct risk management activities for the project
- Roles and Responsibilities—Defining how each team role contributes to managing the risk process
- Risk Identification—Initial and continuous effort to identify, quantify, and document risks as they are identified
- Risk Response Planning—Action plan for addressing risks and assigning responsibility
- Risk Monitoring, Controlling, and Reporting—Capturing, compiling, and reporting risks

JVCKENWOOD will work with the County's project teams to identify risk by evaluating environmental factors, organizational culture, and the project

management plan. JVCKENWOOD may use the following methods to assist in the identification of risks associated with the County's project:

- Interviews and surveys
- Risk assessment meetings
- Historical reviews of similar projects
- Brainstorming
- Observations
- SWOT analysis

The PM is primarily responsible for managing project risks and will maintain a risk register to track, monitor, control, and report risks throughout the County's project lifecycle. All risks will be reviewed to determine if mitigation action is required, and the PM will take the necessary steps to ensure the mitigation response is implemented at the appropriate time during the project. As risk events occur or expire, the risk register will be re-prioritized to reflect any changes.

A-1.3.2.5 Responsibility Matrix and Deliverables

The following figure summarizes the integrated project team's responsibilities and deliverables.

JVCKENWOOD	JVCKENWOOD	County
Contract Execution	X	X
System Design Engineering	X	
Coverage Analysis and Guarantee	X	
Design Review and Approval	X	X
New Site Environmental and Code Compliance		X
CONTRACTOR to assist with reviewing applications for the COUNTY with National Environmental Protection Act (NEPA), regional, and/or local municipalities.	X	X
New Tower Construction		X
FAA and FCC New Tower Registrations		X
FAA Coordination and Forms Preparation (for new towers)	X	
New Generator Installation		X
New Shelter Installation		X
Microwave Procurement and Installation	X	
FCC RF Frequency Licensing Preparation	X	
FCC coordination and licensing fees	X	

JVCKENWOOD	JVCKENWOOD	County
Radio System Equipment Procurement	X	
Factory Staging	X	
Factory Staging Acceptance Testing	X	X
Equipment packaging, shipment, delivery, and storage	X	
RF Site Installation and Commissioning	X	
Site Acceptance Testing	X	X
Subscriber Template Creation and Deployment	X	
Subscriber Delivery	X	
Subscriber Programming	X	
Dispatch Console Installation	X	
System Optimization and Post-Installation Testing	X	
Final System Acceptance Testing	X	X
Coverage Acceptance Testing	X	X
Training	X	X
Cutover/Migration Planning	X	X
Cutover to New System	X	X
30-day Burn-In Verification	X	X
Final System Acceptance	X	X
Decommissioning of Legacy System	X	
As-Built System Documentation	X	

Figure 1.3-3. County of Santa Barbara Project Responsibility Matrix—Roles and Deliverables

A-1.3.2.6 Change Order Plan

The project scope is defined using a multi-step process with the initial scope in this document, based on the County's RFP, with input from JVCKENWOOD's project management, wireless engineering, technical support, and network engineering subject matter experts. Upon contract signing, the scope will be updated to reflect any necessary changes and become part of the contract, which will be the principal project scope document. The project team will develop a Detailed Design Document, to be reviewed at the Detailed Design Review, as the first step in defining the detailed scope of work. The Detailed Design Document, which will be jointly approved by JVCKENWOOD and the County, will be added to the contract scope statement and include all deliverable details.

If the County believes a change to the project scope is needed, the process for doing so shall be mutually agreed-upon using a Project Change Request Form and included in the resulting contract. The County can request a change to the project scope and all change requests must follow the process as defined in the contract. A sample Project Change Request Form is included as an attachment to this section.

A-1.3.2.7 Punch List Management

The testing plans highlighted in section 6.2.4.3 will detail step-by-step procedures designed to test the functionality of the ATLAS P25 system and JVCKENWOOD supplied subsystems to ensure they are in accordance with the contract reequipments. Testing is performed together with the JVCKENWOOD Project Engineer and County representatives with test results recorded. In the event of a failure, JVCKENWOOD will quickly analyze the failure, and come to an agreement with the County whether to fix the failure immediately or move it to the punch list. If the item is moved to the punch list, a detailed record of the failure will be documented, along with a potential resolution.

Punch list items will be tracked and reviewed during the regular project status meetings until all discrepancies are resolved. Once all punch list items have been resolved as mutually agreed with the County, JVCKENWOOD will present a single report to the County for its records.

A-1.3.3 System Implementation Plan

A-1.3.3.1 JVCKENWOOD's Approach to Implementation

With JVCKENWOOD's four-phased project deployment methodology, there are a minimum number of deliverables that determine completion of each phase and enable a gated approach in transitioning from phase to phase. These deliverables are described in detail in the sections corresponding to each phase. Each phase includes a responsibility matrix that outlines JVCKENWOOD and the County's tasks and responsibilities. Each phase also includes acceptance criteria for each deliverable.

Included in this preliminary implementation plan are the components that are necessary for a comprehensive project deployment. Depending on the outcome of the County's subsystem choices, we will revise our implementation plan to maximize cooperation among all vendors to deploy the County's system efficiently and effectively.

JVCKENWOOD's proven phased approach to delivering custom P25 solutions is summarized in the paragraphs that follow.

PHASE 1—Final Detailed Design

- Mobilize the project team following contract award and coordinate a kickoff meeting together with the County's stakeholders.
- Conduct site surveys to make a detailed assessment of the current system to feed into JVCKENWOOD's project planning and detailed system design, ensuring an accurately planned approach to executing project deliverables.
- Present the County with a finalized tower elevation plan for approval to proceed with the structural analysis.
- Finalize project plan and schedule based on this compilation of information shared with the County.
- Conduct a Detailed Design Review at the culmination of the detailed design phase to provide a comprehensive equipment list for manufacturing and procurement.

PHASE 2A—Site Readiness

- The County uses the Site Engineering documentation from the Detailed Design to contract a civils vendor to build out the new towers, new shelters, and new generators as required following zoning and permitting approvals.
- JVCKENWOOD coordinates with the County and site owners to prepare the sites for installation based upon the approved site plans prepared and discussed at part of the Detailed Design Review.
- Tower Systems completes the included site remediation work.

PHASE 2B—Equipment Staging

- Using the final equipment list from the approved Detailed Design, begin manufacturing and procuring equipment.
- Once the manufacturing/procurement process is complete, stage and integrate equipment at the JVCKENWOOD Staging Facility as part of a thorough Factory Staging Acceptance Test Plan (SATP), demonstrating the functional requirements of the integrated system to the County.
- Following successful factory staging, package, and ship equipment to the County. JVCKENWOOD's Local Service Provider (LSP), Applied Technology Group, Inc., will facilitate equipment storage.

PHASE 3A—Installation and Verification

- Install and commission the full ATLAS P25 Public Safety Radio System solution on-site including radio sites and dispatch centers. Conduct acceptance testing at each site to ensure installation quality and compliance with contract requirements.
- Perform proposed replacement of the existing conventional analog repeaters.
- Perform full system integration testing of all individual systems to verify performance and intended functionality prior to cutover.

PHASE 3B—Subscribers

- Program and assign KENWOOD Viking® subscribers to field users.
- Coordinate with the County to perform vehicular mobile and control station installations.
- Distribute the KENWOOD Viking portable radios.

PHASE 4—Cutover and Acceptance

- Conduct training activities pertaining to the new ATLAS P25 Public Safety Radio System.
- Perform Final Acceptance Testing together with County representatives ensuring the ATLAS P25 Public Safety Radio System solution.
- Verify coverage by conducting system coverage acceptance testing according to the Coverage Acceptance Test Plan (CATP).
- Migrate end-users from the legacy system to the new ATLAS P25 Public Safety Radio System in coordination with the County.
- Allow the County to evaluate performance of the integrated system during the 30-day operational burn-in period.
- Provide the County with a final as-built system documentation package. This will be integral in providing timely and efficient technical support post-project closeout.
- Finalize the project by conducting a project closeout meeting and soliciting lessons learned for a successful handover to warranty services.
- Support the County in decommissioning of identified legacy equipment and Warranty Support at the appropriate time following System Acceptance.

Implementation Approach for Santa Barbara County

Parallel Build

- In order to provide the County with minimal interruptions to the current communications system, the System Implementation Plan has assumed a parallel build, where the new antennas are installed on existing towers alongside the legacy antennas and the new radio equipment is installed in existing facilities alongside the legacy radio equipment. This allows for the new system to be installed, configured, and tested without interruption to the current communications system. Supporting a parallel build approach requires special consideration for each radio site:
  - Tower capacity to support both existing and planned loading
  - Shelter space to accommodate both existing and planned equipment

Frequency Planning

- In order to provide the County with the required coverage and meet capacity needs, the System Implementation Plan has assumed new frequencies to be licensed for the use of the County on a new system incorporating multiple simulcast sites and multicast sites. This approach will allow the current frequencies to remain in place as the new system is installed and tested.

The components of JVCKENWOOD's phased approach are explained in more depth in the sections that follow.

A-1.3.3.2 PHASE 1—Final Detailed Design

Phase 1 commences at notice to proceed and concludes when the final design is approved. It involves the following milestones:

- Project kickoff and technical site surveys
- Regulatory and Compliance Filings
- Santa Barbara County Notice-to-Proceed (NTP) for tower structural analysis
- Detailed Design Review

A-1.1.3.3.2.1 Project Kickoff and Technical Site Surveys

At contract award, the JVCKENWOOD PM will schedule a project kickoff meeting to be attended by both JVCKENWOOD and County personnel. At this meeting project stakeholders will be introduced, the contract scope will be reviewed, and the project management structure will be covered touching on areas of

communications management, risk management, task management, and the project timeline.

The JVCKENWOOD team, in coordination with the County, will visit each site proposed in the design to perform a technical site survey in support of further detailing aspects of the site plan. The goal of the site walks is to identify any required site remediation or improvements that may be necessary to ensure both regulatory compliance and adherence to contract requirements. The information gathered will be utilized as part of the overall site design process. Individual site layout drawings will be generated to account for the placement of equipment within the space available and to coordinate equipment placement during the creation of installation plans and diagrams. Upon completion of the technical site surveys, JVCKENWOOD will move forward with a formal design prepared for each site and presented to the County for approval.

As part of the site walks, JVCKENWOOD's microwave partner Aviat Networks will be performing path surveys between planned microwave hops and verifying the actual tree and/or structure clutter heights which is when antenna centerlines will be optimized for clear Line-of-Sight for each path.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Project kickoff meeting	X	X
Deliver kickoff meeting presentation	X	
Supply existing system documentation		X
Provide access to sites		X
Technical site surveys	X	
Technical site survey report development	X	
Microwave path surveys	X	
Microwave path survey report development	X	

Completion Criteria:

This milestone is considered complete when the following tasks have been accomplished:

- Project kickoff meeting minutes are distributed to County stakeholders
- Technical site survey report is completed
- Microwave path survey report is completed

A-1.1.3.3.2.2 Regulatory and Compliance Filings

In parallel to the technical site surveys of existing sites, JVCKENWOOD will use a licensed land surveyor to conduct topographical surveys of the proposed greenfield sites and determine the placement of proposed new towers, new shelters, new generators, and fuel tanks. This information is used to generate the 1A Certification Letter submitted to the Federal Aviation Association (FAA) for approval. Upon consensus with the County for the proposed towers and shelters, JVCKENWOOD will conduct geotechnical borings to gather information on soil conditions' physical properties to support the proposed foundations' design.

A-1.1.3.3.2.3 Structural Analysis Notice-to-Proceed

Following completion of both the technical site surveys and microwave path surveys, JVCKENWOOD will validate the proposed antenna placements and make updates as necessary based on availability and design considerations. Once final mounting heights for the radio antennas and microwave dishes have been determined, JVCKENWOOD will present a tower elevation plan to the County for review and approval. Upon County approval, JVCKENWOOD will perform a structural analysis on all existing sites included in the design in accordance with the latest ANSI/TIA-222 standard to ensure each structure can support the proposed loading. In the event of a failed structural analysis, JVCKENWOOD will provide the County with a separate cost proposal for remediation, replacement, or site relocation as required to ensure compliance with coverage requirements.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Update tower profile drawings	X	
Supply tower elevation plan with planned antenna mounting locations	X	
Approval of antenna placements		X
Perform structural analysis	X	
Supply results of the structural analysis	X	

Completion Criteria:

This milestone is considered complete when the following tasks have been accomplished:

- Supply tower elevation plan with planned antenna mounting locations
- Supply results of structural analysis (sample provided as an attachment to this section)

A-1.1.3.3.2.4 Final Detailed Design Review

Using the information gathered from site surveys and existing system documentation, the Project Engineer will begin the detailed design process. Working closely with the County's technical personnel and JVCKENWOOD's PM, the Project Engineer will refine the system design and the detailed system design documentation. The detailed design includes a review of all P25 system and subsystem elements. A major deliverable in conjunction with the comprehensive system design document is the detailed equipment list of all components and subcomponents of the radio system.

The JVCKENWOOD PM will develop a final detailed Project Management Plan describing JVCKENWOOD's approach toward all aspects of the project management process. The County will review this document to ensure the approach to managing and delivering a successful project is outlined. Following the detailed design process, the JVCKENWOOD PM and Project Engineer will meet with the County's staff to conduct a Detailed Design Review (DDR). The DDR includes substantive topics such as project schedule updates, system diagrams, and the draft Cutover Plan to keep the legacy system operational while the new system is being implemented. The PM will provide an agenda for this meeting to ensure a comprehensive review of the design.

During the DDR, the JVCKENWOOD Project Engineer will present each component of the design, furnish detailed drawings, and make any updates required. Once the County reviews the design and approves the DDR, the system design and equipment list are considered finalized.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Project Management Plan	X	
Frequency planning	X	
Review and approve frequencies	X	X

Task/Deliverable	JVCKENWOOD	County
FCC coordination and licensing	X	X
Microwave path design	X	
Coverage design and coverage maps	X	
Design documentation	X	
Site development plans	X	
Technical and operational manuals	X	
Site-by-site equipment list	X	
Preliminary staging acceptance test plan	X	
Preliminary system final acceptance test plan	X	
Preliminary coverage acceptance test plan	X	
Preliminary cutover plan (concept phase)	X	X
Signoff upon completion of design process		X

Completion Criteria:

This milestone is considered complete when the following tasks have been accomplished:

- Project Management Plan (including updated schedule) is finalized
- System design is finalized
- Site Development plans are finalized
- Final coverage maps are submitted to the County
- Equipment list is finalized
- FCC license applications are submitted
- Preliminary acceptance test plans are supplied
- High-level Cutover Plan is developed as a joint collaboration between JVCKENWOOD, the County's technical team, and system users
- County representative signs off on the final design

A-1.3.3.3 PHASE 2A—Site Readiness

Phase 2A commences at approval of the Final Detailed Design Review documentation and concludes when all of the required radio sites and dispatch centers are ready for equipment installation. It involves the following milestones:

- Civils Vendor Selection
- Site Preparation

A-1.1.3.3.3.1 Civils Vendor Selection

Using the information supplied as part of the Final Detailed Design Review documentation, the County has determined to solicit separate bids for the civils work necessary for greenfield site development, including the supply and construction of new towers, new shelters, and new generators. As part of its preliminary project schedule, JVCKENWOOD has assumed the County's civils vendor selection process will take approximately five months following approval of the Detailed Design to prepare the Request for Proposal (RFP) document, release the RFP, review received proposals, and select the best responder to contract this work. JVCKENWOOD will work closely with the County to provide support during this process.

A-1.1.3.3.3.2 Site Preparation

After the DDR and the County approves the site development plans, JVCKENWOOD will coordinate with the County to commence preparing the selected radio site locations following zoning and permitting approvals. The JVCKENWOOD PM will work closely with the County to coordinate activities at each site while supplying regular status updates. JVCKENWOOD will closely monitor site preparation activities as performed by its subcontractor, Tower Systems, Inc. (TSI), and the County's selected Civils Vendor to ensure sites are prepared according to the site development plans while maintaining the project schedule.

A-1.1.3.3.3.3 Site Remediation

JVCKENWOOD has proposed the following preliminary list of site remediation work to achieve the County's desired coverage goals based on information obtained from the County's RFP, subsequent addenda, and site visits.

Site Name	Proposed Site Work (JVCKENWOOD)
Mount Abel	• Provide and install feed through port in concrete block wall[1] • Provide materials and labor for extensive interior grounding remediation • Provide and install exterior feed through port & exterior ground buss bar with ancillary hardware • Provide and install interior buss bar and interior surge protection device (SPD) trapeze with ancillary hardware
Plowshare	• Provide and install new feedthrough port under the existing, if no space can be opened; installation performed under the existing feed through port

[1] Existing facility assumed to be earthquake hardened with rebar expected within the block walls

Site Name	Proposed Site Work (JVCKENWOOD)
	• Provide and install exterior buss bar under the new feed through port with ancillary hardware • Provide and install upper and lower buss bars and others not to exceed 75' intervals up the tower with ancillary hardware • Replace and Cadweld ground leads to the tower base legs, if needed • Provide and install lightning rod extension
Tepusquet	• Provide materials and labor for additional tower perimeter grounding on the guyed tower • Provide and install upper and lower buss bars and others not to exceed 75' intervals up the tower with ancillary hardware • Provide and install Unistrut coax securement horizontals on the outside face of the guyed tower • Provide and install exterior feed through port and exterior ground buss bar with ancillary hardware on the guyed tower side of the building • Provide and install interior buss bar and interior surge protection device (SPD) trapeze with ancillary hardware • Provide materials and labor for minimal interior grounding remediation • Provide and install lightning rod extension
Betteravia	• Provide materials and labor for extensive interior grounding remediation • Provide and install lightning rod extension
San Antonio	• Provide and install exterior feed through port • Provide and install interior buss bar and interior surge protection device (SPD) trapeze with ancillary hardware • Provide materials and labor for extensive interior grounding remediation • Provide and install approximately 5' x 24" grip strut for waveguide bridge with mounting hardware • Provide materials and labor for the shelter perimeter ground remediation following standard driven rod grounding procedures[2] • Provide materials and labor for the tower perimeter ground remediation following standard driven rod grounding procedures[3] • Provide and install approximately 50' waveguide ladder on the tower • Provide and install upper and lower ground buss bars on the tower with ancillary hardware • Provide and install lightning rod extension
Harris Grade	• Provide and install exterior feed through port • Provide and install interior buss bar and interior surge protection device (SPD) trapeze with ancillary hardware • Provide materials and labor for minimal interior grounding remediation • Provide and install approximately 5' x 24" grip strut for waveguide bridge with mounting hardware • Reinforce shelter floor to support the battery loading, as needed • Provide and install lightning rod extension

[2] A chemical ground system may be required If soils are too hard or of poor composition; all connections to be exothermic bonded
[3] A chemical ground system may be required If soils are too hard or of poor composition; all connections to be exothermic bonded

Site Name	Proposed Site Work (JVCKENWOOD)
Lompoc Civic Center	• Provide materials and labor for extensive interior grounding remediation • Provide and install lightning rod extension
Sudden Peak	• Provide and install upper and lower ground buss bars on the tower with ancillary hardware • Provide and install lightning rod extension
Mount Solomon	• Provide and install upper and lower ground buss bars on the tower with ancillary hardware • Provide and install lightning rod extension
Valley Peak	• Provide and install lightning rod extension
Admin	• Provide materials and labor for minimal interior grounding remediation • Provide and install lightning rod extension
Comm Center	• Provide materials and labor for extensive interior grounding remediation • Provide and install lightning rod extension
EOC	• Provide and install lightning rod extension
Rincon	• Provide and install exterior feed through port • Provide and install interior buss bar and interior surge protection device (SPD) trapeze with ancillary hardware • Provide materials and labor for extensive interior grounding remediation • Provide and install approximately 20' x 24" grip strut and posts for waveguide bridge with mounting hardware • Provide materials and labor for the shelter perimeter ground remediation following standard driven rod grounding procedures[4] • Provide materials and labor for the tower perimeter ground remediation following standard driven rod grounding procedures[5] • Provide and install upper and lower ground buss bars on the tower with ancillary hardware • Provide and install lightning rod extension

Figure 1.3-4. Site Remediation

[4] A chemical ground system may be required If soils are too hard or of poor composition; all connections to be exothermic bonded

[5] A chemical ground system may be required If soils are too hard or of poor composition; all connections to be exothermic bonded

A-1.1.3.3.3.4 Site Build

JVCKENWOOD has proposed the following preliminary list of site work to achieve the County's desired coverage goals based on information obtained from the County's RFP, subsequent addenda, and site visits. This work shall be completed by the County's selected Civils Vendor.

Site Name	Proposed Site Work to be supplied under Separate Contract
Mount Abel	• New 120/240VAC 200A electrical service • New solar power plant *(if electrical service is unavailable)* • New 60' self-supporting tower with foundation • New site generator including associated ATS and fuel tank • New grounding system for equipment shelter and tower • New waveguide bridge between tower and equipment shelter • New fencing for the compound grounded per TIA-607
Ventucopa	• New 120/240VAC 200A electrical service • New 130' self-supporting tower with foundation • New 10' x 20' equipment shelter and foundation • New site generator including associated ATS and fuel tank • New grounding system for equipment shelter and tower • New waveguide bridge between tower and equipment shelter • New fencing for the compound grounded per TIA-607
Fire Station 41	• New 120/240VAC 200A electrical service • New 150' self-supporting tower with foundation • New 10' x 20' equipment shelter and foundation • New site generator including associated ATS and fuel tank • New grounding system for equipment shelter and tower • New waveguide bridge between tower and equipment shelter • New fencing for the compound grounded per TIA-607
Tepusquet	• New site generator including associated ATS and fuel tank
Betteravia	• New mounting pipes for microwave dishes[6]

[6] Rooftop grounding and rooftop penetrations are assumed to be adequate

Site Name	Proposed Site Work to be supplied under Separate Contract
Lompoc Civic Center	• New mounting pipes for microwave dishes[7]
Oak Mountain-GATR	• New 120/240VAC 200A electrical service, if required • New site generator including associated ATS and fuel tank, if required • New antenna mounts on existing shelter roof/wall • New shelter feed through ports, as needed • Grounding system improvements to comply with TIA-607, as needed
Fire Station 24	• New 120/240VAC 200A electrical service • New 320' self-supporting tower with foundation • New 10' x 20' equipment shelter and foundation • New site generator including associated ATS and fuel tank • New grounding system for equipment shelter and tower • New waveguide bridge between tower and equipment shelter • New fencing for the compound grounded per TIA-607
Figueroa Mountain	• New 120/240VAC 200A electrical service • New 130' self-supporting tower with foundation • New 10' x 20' equipment shelter and foundation • New site generator including associated ATS and fuel tank • New grounding system for equipment shelter and tower • New waveguide bridge between tower and equipment shelter • New fencing for the compound grounded per TIA-607
Santa Ynez	• New 120/240VAC 200A electrical service • New 90' self-supporting tower with foundation • New 10' x 20' equipment shelter and foundation • New site generator including associated ATS and fuel tank • New grounding system for equipment shelter and tower • New waveguide bridge between tower and equipment shelter • New fencing for the compound grounded per TIA-607
Gaviota	• New 120/240VAC 200A electrical service • New 50' self-supporting tower with foundation • New 10' x 20' equipment shelter and foundation • New site generator including associated ATS and fuel tank • New grounding system for equipment shelter and tower • New waveguide bridge between tower and equipment shelter

[7] Rooftop grounding and rooftop penetrations are assumed to be adequate

Site Name	Proposed Site Work to be supplied under Separate Contract
	• New fencing for the compound grounded per TIA-607
La Cumbre Peak	• New 120/240VAC 200A electrical service • New 80' self-supporting tower with foundation • New 10' x 20' equipment shelter and foundation • New site generator including associated ATS and fuel tank • New grounding system for equipment shelter and tower • New waveguide bridge between tower and equipment shelter • New fencing for the compound grounded per TIA-607
Admin	• New antenna mounting structures[8]
Comm Center	• New antenna mounting structures[9]

Figure 1.3-5. Proposed Site Work to be supplied under Separate Contract

A-1.3.3.4 PHASE 2B—Equipment Staging

PHASE 2B commences with the procurement of equipment and concludes when the Factory Staging Acceptance Test is approved, and the equipment is shipped to the field. It involves the following milestones:

- Fleet mapping
- Equipment parts ordering, manufacturing, and procurement
- Equipment staging
- Factory staging acceptance testing
- Shipment and delivery verification

[8] Rooftop grounding and rooftop penetrations are assumed to be adequate
[9] Rooftop grounding and rooftop penetrations are assumed to be adequate

A-1.1.3.3.4.1 Fleet Mapping

Once the Detailed Design Phase is complete, JVCKENWOOD has proposed in its schedule to begin working with the County on a fleet mapping plan to properly plan for and manage the users and agencies that will be using the new ATLAS® P25 Radio System. Any existing County fleet mapping plan will serve as the starting point for this process. The JVCKENWOOD Project Engineer will work closely with the County's designated System Administrators to develop the new or revised fleet map. It is the County's responsibility to supply a complete assessment of both its existing subscriber fleet as well as forecasting future needs. JVCKENWOOD will then work with the County to create a master fleet map table to serve as the database that will be uploaded to the ATLAS NMS.

JVCKENWOOD has proposed both ATLAS System Administrator Training on the infrastructure side and ARMADA Administrator Training for the KENWOOD Viking Radio Management to bring the County's System Administrators up to speed on the tools they'll have available to manage their fleet.

The ATLAS NMS Fleet Map application provides subscriber profile management and Talkgroup management on the system. Subscriber Management configures the subscriber and Talkgroup databases, specifying valid subscribers, Talkgroups, and their privileges. Depending on the security privileges, the County's System Administrators may view, add, modify, and remove subscribers, subscriber profiles, and Talkgroups.

The following can be configured through subscriber management:

- Check Radio Status
- Subscriber profiles
- Inhibit/Uninhibit radios
- Talkgroup definitions
- Create/edit groups/regroups (trunked only)
- Activate/deactivate Storm Plan (trunked only)
- Import/export fleet map data

The ARMADA Fleet Management software allows the County's Administrator to create a master template to be applied to multiple radios in the fleet. Each user group will be able to develop a single profile for their specific agency and designate it as a template. Each radio assigned to that agency can be linked to the template (the template will be downloaded into each radio). Once linked, Armada will update the radio profile as indicated by the fleet manager. Templates can be edited, with the corresponding radio profiles updated simultaneously, providing consistency and error-free programming across the radio fleet.

The County and JVCKENWOOD will be responsible for reviewing the proposed configurations for accuracy. Prior to system cutover, the County is responsible for verifying the data and testing the results (e.g., page each field unit to ensure the accuracy of the entries). A sample fleet mapping document can be found in section 6 attachments.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Provide existing configurations		X
Assess both existing and future needs		X
Develop master fleet map	X	
Upload fleet map to ATLAS NMS	X	

Completion Criteria:

This milestone is considered complete when JVCKENWOOD completes development of the master fleet map and uploads it to the ATLAS NMS.

A-1.1.3.3.4.2 Equipment Parts Ordering, Manufacturing, and Procurement

After DDR and design approval by the County, JVCKENWOOD's PM will start the ordering process working with its procurement department. The microwave radio equipment will be delivered to Aviat's staging facility in Austin, Texas. The ATLAS infrastructure equipment will be delivered to a staging facility in the Dallas, Texas metroplex. The KENWOOD Viking radio subscribers as well as some additional third-party equipment (cables, antennas, etc.) will be delivered directly to ATG's local warehouse.

JVCKENWOOD will keep the County informed of equipment status and any long-lead items that may affect shipping, and subsequently the system Factory Staging Acceptance Test Plan.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Place order for all JVCKENWOOD equipment	X	
Place order for all third-party equipment	X	
ATLAS equipment manufacturing	X	
Receive equipment at warehouse/staging facility	X	

Completion Criteria:

This milestone is considered complete when all JVCKENWOOD and third-party equipment has been received at the JVCKENWOOD warehouse/staging facility in Irving, Texas.

A-1.1.3.3.4.3 Equipment Staging

Equipment staging begins once equipment has been received at the staging facilities. Most of the project equipment will remain there until Factory Staging Acceptance Testing is completed. The JVCKENWOOD staging area will be set up to accommodate the actual rack configuration at each site. As the staging process begins, system components will be installed in the designated racks.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Provision of RF system staging facility and staging of equipment	X	

Completion Criteria:

This milestone is considered complete when all major radio system components are assembled at the Irving, Texas staging facility and configured as they would be at each site.

A-1.1.3.3.4.4 Factory Staging Acceptance Test

Factory Staging Acceptance Testing, a critical part of the installation of a new project, will simulate as closely as possible the final configuration of the system. JVCKENWOOD will integrate details obtained during each major phase of the project into system configuration and testing procedures.

JVCKENWOOD will develop a SATP and schedule the test. The County's project manager, prior to the actual test, will approve the SATP. System drawings, cabling diagrams, and interconnect diagrams will be available for viewing. The Project Engineer will document and correct any open items found during the Factory Staging Acceptance Testing before system equipment is moved to the final installation sites, reducing risk of complications during site acceptance and cutover.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Develop SATP	X	
Approve SATP prior to test	X	X
Perform SATP	X	X
Document open items found during SATP	X	
Witness and sign SATP Document		X

Completion Criteria:

This milestone is considered complete when the Factory Staging Acceptance Testing is completed, the SATP Document is signed by the County, and all equipment is fully operational.

A-1.1.3.3.4.5 Shipment and Delivery Verification

Following the customer witnessed SATP and approval, JVCKENWOOD will package and ship the equipment to a secure warehouse in the County of Santa Barbara area.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Equipment Packaging and Shipment	X	
Ensure equipment warehouse storage	X	

Completion Criteria:

This milestone is considered complete when all equipment is delivered.

A-1.3.3.5 PHASE 3A—Installation and Verification

PHASE 3A commences with the installation of the system and concludes when the Site Acceptance Test Procedures are performed and approved. It involves the following milestones.

- Radio Site Installations
- Dispatch Center Installations
- Conventional Analog Repeater Replacement
- Site Acceptance Testing
- System Optimization

A-1.1.3.3.5.1 Radio Site Installations

Radio Site installations will consist of the ATLAS infrastructure and microwave radio communication equipment at the proposed radio sites. As each site is ready for equipment installation, equipment racks will be transported from the warehouse to the actual sites for final installation. Installation activities will be performed per County specifications as detailed in the RFP. All installations will be completed in a neat and workmanlike manner, and will comply with all local, State, and Federal building, electrical, and construction codes. All cables will be labeled and color-coded per industry best practices, and all grounding will meet TIA-607 specifications.

JVCKENWOOD will also install the new antennas at each radio site. Antenna heights will be installed per FCC licensing parameters after licenses have been granted or modified. All new antenna system equipment (antennas, transmission lines, combiners, multi-couplers, tower top amplifiers, etc.) will be installed following industry standards and will be grounded per TIA-607 grounding standard. After the antenna subsystem has been fully installed, JVCKENWOOD will sweep the new feedlines to ensure the lines are within manufacturer specifications and provide the collected data to the County for their records as part of the Site Acceptance Test plan document.

JVCKENWOOD understands that various P25 and legacy system components will be in use at different times during system installation. The site installation process will be accomplished with total transparency to the County, with minimal impact to its users. JVCKENWOOD will provide a written request to the County in the event a scheduled outage needs to take place.

Mount Abel

- Install three (3) equipment racks in in existing facility
  - Two (2) racks for microwave communications equipment
  - One (1) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install two (2) GPS antennas and associated transmission line on new proposed 60' tower
- Install microwave antennas and associated waveguide on new proposed 60' self-supporting tower
  - 6' antenna for link to La Cumbre Peak site
  - 6' antenna for link to La Cumbre Peak site (*Space Diversity*)
  - 6' antenna for link to Fire Station 41 site
  - 6' antenna for link to Fire Station 41 site (*Space Diversity*)
  - 6' antenna for spur link to Ventucopa site
  - Supply associated mounts per manufacturers specifications

Ventucopa

- Install eight (8) equipment racks in new equipment shelter
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on new proposed 130' self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni dual-port antenna
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on new proposed 130' self-supporting tower
  - 6' antenna for link to Mount Abel site
  - Supply associated mounts per manufacturers specifications

Fire Station 41

- Install eight (8) equipment racks new equipment shelter
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on new proposed 150' self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on new proposed 150' self-supporting tower
  - 6' antenna together with ice shield for link to Plowshare site

- 6’ antenna together with ice shield for link to Plowshare site (*Space Diversity*)
- 6’ antenna for link to Mount Abel site
- 6’ antenna together with ice shield for link to Mount Abel site (*Space Diversity*)
- Supply associated mounts per manufacturers specifications

Plowshare

- Install eight (8) equipment racks in existing equipment shelter
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on existing self-supporting 80’ tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on existing self-supporting 80’ tower
  - 6’ antenna for link to Fire Station 41 site
  - 6’ antenna together with ice shield for link to Fire Station 41 site (*Space Diversity*)
  - 6’ antenna for link to Tepusquet site
  - Supply associated mounts per manufacturers specifications

Tepusquet

- Install eight (8) equipment racks in existing equipment shelter
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on existing 125’ guyed tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on existing 125’ guyed tower
  - 6’ antenna together with ice shield for link to Plowshare site
  - 6’ antenna together with ice shield for link to Betteravia site
  - 6’ antenna together with ice shield for link to Mount Solomon site
  - Supply associated mounts per manufacturers specifications

Betteravia

- Install two (2) equipment racks in existing facility
  - One (1) rack for microwave communications equipment

  - One (1) rack for -48VDC power plant and batteries
  - All new equipment grounding

- Install two (2) GPS antennas and associated transmission line on building rooftop

- Install microwave antennas and associated waveguide on rooftop mounts
  - 6' antenna for link to Tepusquet site
  - 6' antenna for link to San Antonio site
  - 6' antenna for spur link to Santa Maris Backup Dispatch
  - Supply associated mounts per manufacturers specifications

San Antonio

- Install ten (10) equipment racks in existing facility
  - Five (5) racks for LMR/MW communications equipment
  - Five (5) racks for -48VDC power plant and batteries
  - All new equipment grounding

- Install antennas and associated transmission line on existing self-supporting 52' tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - One (1) 800MHz Omni antenna for receive including tower top amplifier
  - One (1) 800MHz Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications

- Install microwave antennas and associated waveguide on existing self-supporting 52' tower
  - 6' antenna for link to Betteravia site
  - 6' antenna for link to Harris Grade site
  - Supply associated mounts per manufacturers specifications

Harris Grade

- Install eight (8) equipment racks in existing equipment shelter
  - Four (4) racks for LMR communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding

- Install antennas and associated transmission line on existing 100' tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications

- Install microwave antennas and associated waveguide on existing 100' tower
  - 6' antenna together with ice shield for link to Lompoc Civic Center site
  - 6' antenna together with ice shield for link to San Antonio site

- Supply associated mounts per manufacturers specifications

Lompoc Civic Center

- Install eight (8) equipment racks in existing facility
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on building rooftop
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on rooftop mounts
  - 6' antenna for link to Harris Grade site
  - 6' antenna for link to Sudden Peak site
  - Supply associated mounts per manufacturers specifications

Sudden Peak

- Install seven (7) equipment racks in existing facility
  - Four (4) racks for LMR/MW communications equipment
  - Three (3) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on existing 150' self-supporting tower
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on existing 150' self-supporting tower
  - 6' antenna at for link to Figueroa Mountain site
  - 6' antenna together with ice shield for link to Figueroa Mountain site (*Space Diversity*)
  - 6' antenna for link to Lompoc Civic Center site
  - 4' antenna for spur link to Oak Mountain-GATR site
  - Supply associated mounts per manufacturers specifications

Oak Mountain-GATR

- Install eight (8) equipment racks in existing equipment shelter
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on shelter roof/wall antenna mount

  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni dual-port antenna
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications

- Install microwave antennas and associated waveguide on shelter roof/wall antenna mount
  - 4' antenna for link to Sudden Peak site
  - Supply associated mounts per manufacturers specifications

Mount Solomon

- Install eight (8) equipment racks in existing facility
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding

- Install antennas and associated transmission line on existing 100' self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications

- Install microwave antennas and associated waveguide on existing 100' self-supporting tower
  - 6' antenna for link to Fire Station 24 site
  - 6' antenna together with ice shield for link to Tepusquet site
  - Supply associated mounts per manufacturers specifications

Fire Station 24

- Install eight (8) equipment racks in in new equipment shelter
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding

- Install antennas and associated transmission line on new proposed 320' self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications

- Install microwave antennas and associated waveguide on new proposed 320' self-supporting tower
  - 6' antenna for link to Mount Solomon site
  - 6' antenna together with ice shield for link to Figueroa Mountain site
  - Supply associated mounts per manufacturers specifications

Figueroa Mountain

- Install eight (8) equipment racks in new equipment shelter
  - Four (4) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on new proposed 130' self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on new proposed 130' self-supporting tower
  - 6' antenna for link to Sudden Peak site
  - 6' antenna for link to Sudden Peak site (*Space Diversity*)
  - 6' antenna for link to Fire Station 24 site
  - 6' antenna for link to Santa Ynez site
  - Supply associated mounts per manufacturers specifications

Santa Ynez

- Install eleven (11) equipment racks in in new equipment shelter
  - Six (6) racks for LMR/MW communications equipment
  - Five (5) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on new proposed 90' self-supporting tower
  - One (1) VHF Corner reflector directive antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - One (1) 800MHz Omni antenna for receive including tower top amplifier
  - One (1) 800MHz Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on new proposed 90' self-supporting tower
  - 6' antenna together with ice shield for link to Valley Peak site
  - 6' antenna together with ice shield for link to Valley Peak site (*Space Diversity*)
  - 6' antenna for spur link to Heritage Oil Platform site
  - 6' antenna together with ice shield for spur link to Heritage Oil Platform site (*Space Diversity*)
  - 6' antenna together with ice shield for link to Figueroa Mountain site
  - 6' antenna together with ice shield for link to EOC Fire Dispatch
  - 6' antenna together with ice shield for link to Comm Center
  - 6' antenna together with ice shield for link to Admin site
  - Supply associated mounts per manufacturers specifications

Gaviota

- Install seven (7) equipment racks in new equipment shelter
  - Three (3) racks for LMR communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on new proposed 50' self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni dual-port antenna
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications

Heritage Oil Platform

- Install four (4) equipment racks in existing facility
  - Four (4) racks for LMR/MW communications equipment
  - All new equipment grounding
- Install antennas and associated transmission line at existing oil platform mounting locations
  - One (1) VHF Corner reflector directive antenna for receive
  - One (1) VHF Corner reflector directive antenna for transmit
  - One (1) UHF Corner reflector directive antenna for receive including tower top amplifier
  - One (1) UHF Corner reflector directive antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide at existing oil platform mounting locations
  - 6' antenna together with ice shield for link to Santa Ynez site
  - 6' antenna together with ice shield for link to Santa Ynez site (*Space Diversity*)
  - Supply associated mounts per manufacturers specifications

Valley Peak

- Install nine (9) equipment racks in existing equipment shelter
  - Five (5) racks for LMR/MW communications equipment
  - Four (4) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on existing 45' self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Corner reflector directive antenna for transmit
  - One (1) UHF 120° panel antenna for receive including tower top amplifier
  - One (1) UHF 180° panel antenna for transmit
  - One (1) 800MHz Omni antenna for receive including tower top amplifier
  - One (1) 800MHz Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on existing 45' self-supporting tower

- 6’ antenna for link to Santa Ynez site
- 6’ antenna for link to Santa Ynez site (*Space Diversity*)
- 6’ antenna for link to La Cumbre Peak site
- 6’ antenna for link to La Cumbre Peak site (*Space Diversity*)
- Supply associated mounts per manufacturers specifications

La Cumbre Peak

- Install eleven (11) equipment racks in new equipment shelter
  - Six (6) racks for LMR/MW communications equipment
  - Five (5) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on new proposed 80’ self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - One (1) 800MHz Omni antenna for receive including tower top amplifier
  - One (1) 800MHz Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on new proposed 80’ self-supporting tower
  - 6’ antenna for link to Mount Abel site
  - 6’ antenna for link to Mount Abel site (*Space Diversity*)
  - 4’ antenna for link to Comm Center
  - 6’ antenna for link to Valley Peak site
  - 6’ antenna together with ice shield for link to Valley Peak site (*Space Diversity*)
  - 4’ antenna for link to Admin site
  - Supply associated mounts per manufacturers specifications

Admin

- Install ten (10) equipment racks in existing facility
  - Five (5) racks for LMR/MW communications equipment
  - Five (5) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on building rooftop mounting pole
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive
  - One (1) UHF Omni antenna for transmit
  - One (1) 800MHz Omni antenna for receive including tower top amplifier
  - One (1) 800MHz Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on rooftop mounts

- 6’ antenna for link to Santa Ynez site
- 6’ antenna for spur link to Rincon site
- 4’ antenna for link to La Cumbre Peak site
- Supply associated mounts per manufacturers specifications

Rincon

- Install ten (10) equipment racks in existing facility
  - Five (5) racks for LMR/MW communications equipment
  - Five (5) racks for -48VDC power plant and batteries
  - All new equipment grounding
- Install antennas and associated transmission line on existing 100’ self-supporting tower
  - One (1) VHF Omni antenna for receive
  - One (1) VHF Omni antenna for transmit
  - One (1) UHF Omni antenna for receive including tower top amplifier
  - One (1) UHF Omni antenna for transmit
  - One (1) 800MHz Omni antenna for receive including tower top amplifier
  - One (1) 800MHz Omni antenna for transmit
  - Two (2) GPS antennas
  - Supply associated mounts per manufacturers specifications
- Install microwave antennas and associated waveguide on existing 100’ self-supporting tower
  - 6’ antenna for link to Admin site
  - Supply associated mounts per manufacturers specifications

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Transport racked and staged equipment to RF sites	X	
Grounding in accordance with TIA-607 specifications	X	
Install ATLAS repeater site equipment racks per system design	X	
Provide power to ATLAS equipment	X	X
Connect all RF cables	X	
Interface to network, verify network connectivity	X	X
Install new antennas per manufacturer specifications	X	
Install antenna coax, connectors, and jumpers	X	
Install antenna lightning protection	X	
Sweep test each new antenna line	X	
Remove from the premises all packaging, crates, and other litter due to work	X	
Confirm site acceptance	X	X

Completion Criteria:

This milestone is considered complete when the following tasks have been accomplished:

- The installation work is complete at each radio site
- A County representative has confirmed that the installation is complete at each site

A-1.1.3.3.5.2 Dispatch Centers Installation

Eight (8) dispatch consoles will be installed at the Sheriff Dispatch Center, eight (8) dispatch consoles will be installed at the EOC Fire Dispatch Center, and ten (10) dispatch console will be installed at the Santa Maria Backup Dispatch Center. Backup Control Station Radio (CSR) equipment for each position is also supplied at these locations. In addition to the consoles, ATLAS network management equipment will be also be installed at each of these dispatch locations. This equipment includes the ATLAS NMS Server, Castle Rock SNMPc Alarm Management Server (AMS), Aviat Provision NMS Server, and ATLAS Network Management Terminal workstations. Additionally, an ATLAS KMF server, ATLAS ISSI Gateway, and IP Data Gateway will also be installed.

Sheriff Dispatch Center

- Install console equipment
  - Eight (8) dispatch consoles, one at each position
  - Eight (8) HM Operator Connection Interface Modules, one at each position for 6-wire headset
  - Eight (8) HM Supervisor Connection Interface Modules, one at each position for 6-wire headset
  - One (1) maintenance console
  - One (1) training console
- Install seven (7) equipment racks in existing equipment room
  - Four (4) racks for LMR/MW communications equipment
    - Includes eight (8) VHF Control Station Radios, eight (8) UHF Control Station Radios, and eight (8) 800 MHz Control Station Radios along with associated combining equipment
    - Includes EVENTIDE Voice Logging Recorder
  - One (1) rack for -48VDC power plant and batteries
  - Two (2) racks for dispatch console equipment
  - All new equipment grounding
- Install antennas and associated transmission line on existing 50’ monopole
  - One (1) VHF Omni antenna for CSR transmit
  - One (1) VHF Omni antenna for CSR receive
  - One (1) UHF Omni antenna for CSR transmit
  - One (1) UHF Omni antenna for CSR receive
  - One (1) 800MHz Omni antenna for CSR transmit

  - One (1) 800MHz Omni antenna for CSR receive
  - Two (2) GPS antennas

- Install microwave antenna and associated waveguide on existing 50' monopole
  - 4' microwave antenna at 45' AGL for link to Comm Center

Comm Center

- Install two (2) equipment racks in existing equipment room
  - One (1) rack for microwave communications equipment
  - One (1) rack for -48VDC power plant and batteries
  - All new equipment grounding

- Install two (2) GPS antennas and associated transmission line on building rooftop

- Install microwave antennas and associated waveguide on new rooftop tower
  - 4' antenna for link to Sheriff Dispatch Center
  - 4' antenna for link to La Cumbre Peak site
  - 6' antenna for link to Santa Ynez site
  - Supply associated mounts per manufacturers specifications

EOC Fire Dispatch Center

- Install console equipment
  - Eight (8) dispatch consoles, one at each position
  - Eight (8) HM Operator Connection Interface Modules, one at each position for 6-wire headset
  - Eight (8) HM Supervisor Connection Interface Modules, one at each position for 6-wire headset
  - One (1) deployable console

- Install eight (8) equipment racks in existing equipment room
  - Five (5) racks for LMR/MW communications equipment
    - Includes eight (8) VHF Control Station Radios, eight (8) UHF Control Station Radios, and eight (8) 800 MHz Control Station Radios along with associated combining equipment
    - Includes EVENTIDE Voice Logging Recorder
  - Three (3) racks for -48VDC power plant and batteries
  - All new equipment grounding

- Install antennas and associated transmission line on existing 50' self-supporting tower
  - One (1) 800MHz Omni antenna for receive including tower top amplifier
  - One (1) 800MHz Omni antenna for transmit
  - One (1) 800MHz Omni antenna for CSR transmit
  - One (1) 800MHz Omni antenna for CSR receive
  - One (1) VHF Omni antenna for CSR transmit
  - One (1) VHF Omni antenna for CSR receive
  - One (1) UHF Omni antenna for CSR transmit
  - One (1) UHF Omni antenna for CSR receive
  - Two (2) GPS antennas

- Install microwave antenna and associated waveguide on existing tower
  - 4' antenna at 40' for link to Santa Ynez site
  - Supply associated mounts per manufacturers specifications

Santa Maria Backup Dispatch Center

- Install console equipment
  - Ten (10) dispatch consoles, one at each position
  - Ten (10) HM Operator Connection Interface Modules, one at each position for 6-wire headset
  - Ten (10) HM Supervisor Connection Interface Modules, one at each position for 6-wire headset
- Install seven (7) equipment racks in existing equipment room
  - Four (4) racks for LMR/MW communications equipment
    - Includes ten (10) VHF Control Station Radios, ten (10) UHF Control Station Radios, and ten (10) 800 MHz Control Station Radios along with associated combining equipment
    - Includes EVENTIDE Voice Logging Recorder
  - One (1) rack for -48VDC power plant and batteries
  - Two (2) racks for dispatch console equipment
  - All new equipment grounding
- Install antennas and associated transmission line on existing self-supporting tower
  - One (1) VHF Omni antenna for CSR transmit
  - One (1) VHF Omni antenna for CSR receive
  - One (1) UHF Omni antenna for CSR transmit
  - One (1) UHF Omni antenna for CSR receive
  - One (1) 800MHz Omni antenna for CSR transmit
  - One (1) 800MHz Omni antenna for CSR receive
  - Two (2) GPS antennas
- Install microwave antenna and associated waveguide on existing tower
  - 6’ antenna for spur link to Betteravia
  - Supply associated mounts per manufacturers specifications

Responsibilities:

Task/Deliverable – Each Center	JVCKENWOOD	County
Provide floor space at the dispatch center for new system equipment		X
Transport equipment	X	
Provide UPS for equipment		X
Install wiring including line protectors, line conditioners, and surge protectors	X	
Install specific cabling needed for dispatch consoles	X	
Install console positions	X	
Install rack-mounted backup control stations with remote control heads at each console position	X	
Install ATLAS NMS and AMS server racks	X	
Install ATLAS 6300 workstations	X	
Install Internet Firewall	X	

Completion Criteria:

This milestone is considered complete when the installation of the ATLAS Network Management Equipment, dispatch consoles, and KENWOOD Viking control stations is completed.

A-1.1.3.3.5.3 System Optimization

After the installation, if required, JVCKENWOOD will optimize all system equipment and ensure coverage on the ground meets the guaranteed coverage levels following system updates at DDR.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Prepare all installed sites for site inspections	X	
Verify P25 system levels and parameters are set for simulcast operations	X	
Verify P25 system alarm and system monitoring system is operational	X	
Verify system database is installed and operating correctly	X	
Verify proper dispatch operation	X	
Verify proper P25 system operation	X	
Verify proper network switching operation	X	
Verify proper interoperability operation from gateway (if purchased)	X	

Completion Criteria:

This milestone is considered complete when the equipment is optimized, coverage on the ground is determined to meet the guaranteed coverage, and system alarming is fully operational.

A-1.3.3.6 PHASE 3B— Subscribers

PHASE 3B consists of the programming and supply of all subscribers purchased from JVCKENWOOD by the County concluding when the subscribers are programmed and deployed. It involves the following key components:

- Subscriber Programming
- Control Station Radios
- Mobile Radios
- Portable Radios

A-1.1.3.3.6.1 Subscriber Programming

ATG will coordinate programming of all proposed KENWOOD Viking radios for the County. Well in advance, ATG technicians will receive advanced Armada programming training to support the County's Talkgroup creation and fleet management for all user agencies including Viking Advanced Armada Programmer Training to create Talkgroup profiles and agency templates.

A-1.1.3.3.6.2 Control Station Radios

Control Station Installations will be performed per contract requirements in coordination with the following County Departments as specified in the RFP:

- Five (5) for CEO
- Eleven (11) for Sheriff
- Twenty-three (23) for Fire
- Two (2) for Parks
- One (1) for Probation
- One (1) for Public Health – EMS
- Three (3) for Public Works – Floods
- Four (4) for Public Works – Roads
- Two (2) for Public Works – Miscellaneous

A-1.1.3.3.6.3 Mobile Radios

ATG will coordinate with County representatives to schedule the mobile radio installation for each vehicle/installation type. The KENWOOD Viking mobile radios will be programmed and installed at either the County or ATG's facility. ATG will work with County agency representatives to develop an installation schedule to mitigate operational downtime.

A County representative will inspect completion of each vehicle type for approval prior to proceed with the remainder of the mobile installations. This process will continue until all vehicle variations are completed and approved and will ensure each vehicle type follows a similar installation methodology.

A-1.1.3.3.6.4 Portable Radios

The JVCKENWOOD PM will coordinate with County representatives to deploy all programmed portable radios.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Develop and program templates for radios	X	X
Program new Viking portable radio units	X	
Deploy new Viking portable radio units	X	X
Program new Viking mobile radio units	X	
Provide access to vehicles for installation		X
Mobile radio vehicle installation	X	
Inspection and approve mobile radio vehicle installation		X
All anomalies or failures documented in a project punch list	X	X

Completion Criteria:

This milestone is considered complete when all subscriber and control station radios have been programmed, deployed, and/or installed.

A-1.3.3.7 PHASE 4—Cutover and Acceptance

PHASE 4 commences with training and concludes with the Project Closeout Meeting and transition to Warranty Services. It comprises the following milestones:

- Training
- System Acceptance Testing
- New Radio System Cutover
- Final System Acceptance

A-1.1.3.3.7.1 Training

JVCKENWOOD will provide the County with training for all aspects of the new system. JVCKENWOOD offers a comprehensive suite of training courses to cover the operation, management, interoperability, and maintenance of the ATLAS P25 system suite, KENWOOD Viking subscriber radios, and associated equipment. The training for County personnel is section 10.

JVCKENWOOD will work with the County to identify and review all features incorporated into the new ATLAS radio system. From this list of features, the Training Plan will be finalized and mutually agreed upon between the County and JVCKENWOOD.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Schedule training classes as defined in the Training Plan	X	X
Provide training facility for scheduled training classes		X
Provide access to required system equipment	X	X
Provide training to Customer personnel as described in the Training Plan	X	

Completion Criteria:

This milestone is considered complete when all training has been provided to County personnel according to the Training Plan.

A-1.1.3.3.7.2 System Acceptance Testing

After system installation is complete, all system testing will be conducted. These tests are outlined in the following sections:

Final Acceptance Testing

After the system has been fully installed, programmed, and optimized, JVCKENWOOD will notify the County in writing that the system is ready for final acceptance testing. A preliminary System Final Acceptance Test Plan (FATP) is included as an attachment to this section.

The system acceptance procedures will detail a step-by-step plan designed to test the functionality of the ATLAS P25 system and subsystems against the design specifications developed from the Detailed Design Review. After each test, the JVCKENWOOD Project Engineer and County representatives will record the test result. In the event of a component failure, JVCKENWOOD will quickly analyze the failure, and come to an agreement with the County whether to fix the failure immediately or move it to the punch list. If the item is moved to the punch list, a detailed record of the failure will be documented, along with a potential resolution.

JVCKENWOOD will dispatch engineers to troubleshoot and repair any items on the punch list. After the repairs, the functionality will be retested, and the results documented. Once the test plan is completed and all discrepancies are cleared, the System Acceptance Test is completed. JVCKENWOOD will present a single test report to the County for its records.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Submit Final Acceptance Test Plan (FATP)	X	
Approve FATP		X
Perform FATP	X	X
Record and submit test results	X	X
Document successful completion of FATP	X	X

Completion Criteria:

This milestone is considered complete when the FATP is successfully completed, discrepancies have been cleared, and all test results have been recorded.

Coverage Acceptance Test

The CATP is designed to verify that the voice radio system implemented by JVCKENWOOD meets or exceeds the County's required coverage guarantee. A preliminary CATP is included as an attachment to section 5 System Design.

JVCKENWOOD will work with the County to provide a final detailed CATP prior to the start of the RF coverage testing. This mutually approved-upon final CATP procedure will be submitted to the County to be used as the official coverage testing document.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Submit draft CATP	X	
Approve draft CATP		X
Perform CATP	X	X
Assist with performance of CATP		X
Record test results	X	X
Review and approve test results		X
Document successful completion of CATP	X	X

Completion Criteria:

This milestone is considered complete when the CATP has been successfully completed and all test results have been recorded.

A-1.1.3.3.7.3 New Radio System Cutover

The County and JVCKENWOOD will collaborate to develop a mutually agreed upon detailed cutover plan to fully transition from the County's existing VHF analog system to the new ATLAS P25 Public Safety Radio System. The plan will contain a complete timeline of events that will dictate the actions leading up to, during, and following the actual transition from the existing systems to the new system. A preliminary migration plan is included in A-1.3.4

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Execute cutover according to Cutover Plan	X	X
Provide approval for removal of legacy components		X
Remove existing infrastructure equipment from sites	X	

Completion Criteria:

This milestone is considered complete when the Cutover Plan has been executed.

A-1.1.3.3.7.4 Decommissioning of Legacy system

Following successful cutover to the new ATLAS P25 Public Safety Radio System, JVCKENWOOD will coordinate with the County to decommission and remove equipment from the legacy radio system in accordance with contract requirements. All legacy equipment will be inventoried and delivered to the storage point designated by the County representative.

JVCKENWOOD has included in its cost proposal decommissioning of the following allowances for existing tower equipment:

- Removal of existing legacy microwave dishes and associated waveguide
- Removal of up to four (4) antennas and mounts per site
- Removal of up to two (2) tower-top amplifiers per site
- Removal of decommissioned GPS antennas and associated cabling
- Removal of a maximum of 1200' of transmission lines, cabling, and hardware

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Removal of legacy radio equipment	X	
Removal of legacy antennas, TTAs, cabling	X	
Specify disposal location for removed equipment		X
Deliver removed equipment to disposal location	X	
Supply detailed inventory of removed equipment	X	

Completion Criteria:

This milestone is considered complete when the following task has been accomplished:

- Legacy equipment is removed and delivered to designated location

A-1.1.3.3.7.5 Final System Acceptance OR Beneficial Use

At the finalization of the project, JVCKENWOOD will schedule a Project Closeout Meeting to facilitate the system Final Acceptance signature and handoff to Warranty Services.

Responsibilities:

Task/Deliverable	JVCKENWOOD	County
Identify and resolve punch list items	X	X
Confirm resolution of punch list items		X
Project Closeout Presentation	X	
Submit as-built system documentation	X	
Acknowledge and accept final project completion		X
Handover project to warranty services	X	

Completion Criteria:

This milestone is considered complete when the following tasks have been accomplished:

- Project Closeout Meeting has been held with JVCKENWOOD and the County
- The County acknowledges final completion of the project

A-1.3.3.8 Clarifications and Assumptions

A-1.1.3.3.8.1 Architectural & Engineering services for existing sites

- The County or site owner will provide existing equipment shelter, tower, foundation, and geotechnical documentation (CDs, calculations, and reports).
- Proposal for tower mapping and structural engineering services assumes JVCKENWOOD is allowed to perform structural services by tower owner and JVCKENWOOD is under contract as an approved vendor. If the tower owner does not allow JVCKENWOOD to perform the structural analysis, the County will be notified. The County may elect to issue a PO directly to the tower owner for the structural analysis and a price deduct option will be provided to the County at this point from JVCKENWOOD for the said structural analysis. Pricing for the structural analysis includes one iteration and will be performed in accordance with EIA/TIA-222; additional iterations can be provided for an additional fee. Structural analysis includes stamped and sealed report by state licensed PE/SE.

- After the structural analysis is complete, additional items such as structural modifications for strengthening towers and geotechnical services can be provided as a separate cost proposal. Design and construction costs will be quoted at the time additional services are determined necessary after JVCKENWOOD has conducted a thorough review of all available alternatives to mitigate or negate any cost or schedule impacts. The County will approve the design and costs and issue an appropriate change order prior to proceeding with the work.
- Construction drawings for upgrading existing facility and tower collocation will be provided for requisite permitting and to obtain landlord approval needed to formally lease the tower space and ground for the P25 Radio solution. Zoning drawings excluded; preliminary construction drawings will be utilized where administrative review is required for zoning/land use.

A-1.1.3.3.8.2 Site Leasing

- JVCKENWOOD will complete and deliver a detailed summary of co-location requirements to complete the project for the County. The County information will consist of, but not limited to, the following: property and structure location and ownership information; zoning requirements and timelines; permitting requirements and timelines; environmental requirements; access restrictions or requirements; contact information and any additional documents or information as requested by the County.
- JVCKENWOOD will provide support to the County as part of the execution of the SLA (Site lease Agreement) in accordance with dictated protocols and processes
- Site acquisition services are not included.

A-1.1.3.3.8.3 Zoning/Regulatory

- It is assumed any zoning support required by the County will be addressed under a separate contract.
- Fees for permitting, zoning, and those required by local jurisdiction are not included and will be passed through at cost.
- It is assumed site owners hold regulatory responsibility for existing towers, buildings, and site facilities.
- It is assumed site owners will be responsible for providing Programmatic Agreement Letter (PAL) to satisfy client NEPA requirements.

A-1.1.3.3.8.4 Site Work

- Generator recommendations have been supplied per RFP as it is unknown whether additional site generators need to be supplied at this time.
- It is not known whether selected equipment room facilities have adequate HVAC, working site alarms, or adequate security and therefore have not been included in the list of proposed site work but are subject to discussion and revision prior to contract award.
- Cost for non-standard delivery of site materials has not been included in the JVCKENWOOD. Examples of non-standard delivery methods include airlifts, deployment of swamp mats, barge delivery, or the improvements or installation of temporary roads, bridges, or access-ways.

A-1.1.3.3.8.5 Decommissioning

- Removed tower equipment is assumed not intended for repurposing and may be disassembled or segmented for removal/disposal. Re-stacking of existing cables is not expected and has been excluded

A-1.3.4 Migration Plan

The preliminary migration plan outlines the proposed strategy for moving the user groups operating on the County's legacy system to the new ATLAS® Public Safety Radio System. As part of the Detailed Design Phase, JVCKENWOOD will collaborate with the County to develop a detailed Cutover Plan to fully transition from the County's legacy system to the new ATLAS P25 UHF and Conventional Analog VHF System. This preliminary Cutover Plan will be submitted as part of the DDR documentation and will contain a complete timeline of events that will guide the collective actions leading up to, during, and following the actual transition from the legacy systems to the new ATLAS Public Safety Radio System. JVCKENWOOD understands the importance of this crucial phase of the project and has experience transitioning radio system communications in critical environments, always taking care to minimize the operational impact of the process.

A preliminary high-level Cutover Plan is provided below.

A-1.3.4.1 Goals of Operational Cutover Plan

JVCKENWOOD's Cutover Plan is designed to achieve the following:

- No interruption to mission-critical operations during the cutover process
- Seamless transition from legacy systems to the new P25 system
- All KENWOOD Viking® subscribers programmed with all pre-identified software and installed in the field
- Successful interoperability with current interoperability plans

A-1.3.4.2 Pre-Cutover Preparation

Key elements for preparing the migration of users onto the new system are the Fleet Mapping workshop, Dispatch Console screen building workshop, subscriber programming, system configuration, and User Group training.

A-1.1.3.4.2.1 Fleet Map Workshop

The purpose of the Fleet Map workshop is to identify all user groups on the radio system and receive input from the County's key stakeholders for each user group. The input received from the County during this process will be used to generate the master radio configuration files for each user group. Once the Fleet Map is finalized, migration process is ready to move to the subscriber programming phase.

Examples of key considerations for the Fleet Mapping workshop are provided below:

- User Group Definitions
  - Fire
  - Sheriff
  - EMS
  - Local Government
- Unit ID Assignment Range for each User Group
- Talkgroup ID Assignment Range for each User Group
- Radio System Zones
  - Channels / Talkgroups assigned to each zone
- System Patches required between legacy and new ATLAS System

- Interoperability Communications
  - Analog
  - P25 ISSI

A-1.1.3.4.2.2 Subscriber Programming

During the subscriber programming phase of the process radio configuration files generated during the Fleet Mapping workshop shall be programmed into the County's new JVCKENWOOD radios. Verifying the functionality of the radio configuration profiles for each user group shall be performed as part of the preparation for the System Acceptance Testing.

A-1.3.4.3 Dispatch Console Screen Building Workshop

The purpose of the Dispatch Console Screen Building Workshop is to provide examples of dispatch console screens to the County's key dispatch console system stakeholders, receive feedback from the County, and generate dispatch console screens that are tailored to meet the needs of each user group.

A-1.3.4.4 System Configuration

The ATLAS system shall be configured with the finalized output from the Fleet Mapping and Dispatch Console Screen Building workshops.

A-1.3.4.5 User Group Training

Each user group will attend training on subscriber radios, dispatch consoles, or system configuration as applicable before the migration starts. The training will highlight the key differences regarding moving from an analog system to a trunked system, operation of the new subscriber radios, operation of the new dispatch consoles, and in-depth system configuration training for system administrators. User group training is recommended to be performed as close as possible to the migration date so that users can retain and utilize the information provided during the training courses.

A-1.3.4.6 Cutover

JVCKENWOOD's migration plan for the County leverages the fact that the County's legacy systems will remain operational for the entire process. The ATLAS system capabilities allow for a simple and transparent migration, however fallback to the legacy system shall be possible at any point during the process.

During the initial design phase and FCC licensing activities, JVCKENWOOD will assist the County with frequency licensing by providing the County with proposed frequency plans for all sub systems. As part of the Detailed Design Review, JVCKENWOOD will work with the County to finalize the frequencies to be used during deployment of the system.

A-1.1.3.4.6.1 Console System Cutover

In order to support a smooth migration, JVCKENWOOD recommends an early deployment of the eight (8) consoles at the Sheriff Dispatch Center, eight (8) consoles at the Emergency Operations Center (Fire Dispatch), and ten (10) consoles at the Santa Maria Backup Dispatch Center locations. The Dispatch Consoles shall be deployed in conjunction with the ATLAS 8410 analog radio gateways, which will allow the new console system to interface with the legacy analog systems. After the system has been installed and tested with the legacy system, Dispatch Operators shall migrate to the console system. The legacy console system will remain installed and operational if a need to fallback arises.

A-1.1.3.4.6.2 User Group Migration from Legacy System to ATLAS System

The final phase of the cutover process will be the migration of the County's radio system user groups to the new system. Upon completion of the installation, system testing, and coverage testing of the ATLAS P25 UHF and Conventional Analog VHF infrastructure, JVCKENWOOD will create patches on the console system between the legacy and new system as identified during the Fleet Mapping workshop. Each patch will associate a selected analog channel on the legacy system with an appropriate Talkgroup or analog channel on the new ATLAS Public Safety Radio System, allowing users operating on the new radio system to communicate with users on the legacy system who have not yet been transitioned.

Once the ATLAS Public Safety Radio System is tested and verified, each agency will transition to the predefined Talkgroup or channel on the new radio system, with the legacy radios continuing to transmit and receive all calls through the legacy system using the console patch. When the final agency has been transitioned, the County's radio system user groups will be completely migrated to the new ATLAS Public Safety Radio System and the legacy radio system will be ready for decommissioning.

Note: Agency transfer grouping and timeline will be determined based on agency priority transition availability.

At this time, JVCKENWOOD, with approval from the County, will begin the performance test phase. The County's legacy system shall remain online during the performance testing and shall be available as to be used as a fall back system if necessary.

A-1.3.4.7 Post-Cutover

After the successful execution of the cutover plan, post-cutover activities will commence. After the County grants removal approval of the legacy system analog equipment, JVCKENWOOD will remove the components that are no longer needed. The removal of these components will be executed without compromising the new ATLAS Public Safety Radio System operations.

Following cutover, County representatives will track all post-cutover outstanding action items. JVCKENWOOD's PM will coordinate the resolution of any outstanding issues with County representative. The status and resolution of each issue will be logged by the JVCKENWOOD PM, and regular updates will be provided to the County.

A-1.3.4.8 Preliminary Cutover Plan Checklist

Below is the preliminary structure to effectively track milestone completion and ownership. Many of the milestones listed will have parallel tasks and are not structured in a linear format.

	#	Task	Owner	Dependency	Duration in hours	Planned Start Date	Planned End Date	Status	Signoff
1	**Cutover Planning**								
	1.1	Finalize cutover plan and checklists							
	1.2	Conduct cutover planning and coordination meetings							
	1.3	Communicate go-live timeline as appropriate and mutually agreed upon by the County and JVCKENWOOD							
	1.4	Plan and perform physical inventory of all system and subscriber components--and secure storage							
	1.5	Build fleet map and code plugs							
	1.6	Coordinate regional interoperability functionality							
	1.7	Implement configuration management plan							
	1.8	Provision system							
2	**Define Cutover Contingency Plan**								
	2.1	Define contingency strategy							
	2.2	Determine contingency support staff and costs							
	2.3	Determine contingency project team							

	#	Task	Owner	Dependency	Duration in hours	Planned Start Date	Planned End Date	Status	Signoff
	2.4	Fall-back Coordination Planning							
	2.5	Define users/management procedures							
	2.6	Final Cutover Planning session							
3	**System Design & Subscriber Programming**								
	3.1	Develop legacy system and subsystem interfaces							
	3.2	Identify subscriber test team							
	3.3	Program and test subscribers							
4	**System and Subscriber Installation and Field Provisioning**								
	4.1	Install and validate subscribers							
	4.2	Install dispatch consoles							
	4.3	Install ATLAS system							
	4.4	Interface to logging recorder							
	4.5	Enable ISSI interconnectivity (if preparation is complete)							
	4.6	Roll out system, subscriber, and system management training							
	4.7	Migrate agencies/users according to joint schedule							

	#	Task	Owner	Dependency	Duration in hours	Planned Start Date	Planned End Date	Status	Signoff
5	**System Validation and Performance Testing**								
	5.1	Review responsibilities for the acceptance test with the team							
	5.2	Validate the acceptance test environment							
	5.3	Field installation and system commissioning							
	5.4	Execute the acceptance test script							
	5.5	Document the results							
	5.6	Determine required actions for problem resolution							
	5.7	Make recommendations for application changes or corrections based on acceptance testing							
	5.8	Site Acceptance testing							
	5.9	System Acceptance testing							
	5.10	Ensure system is actively monitored via NMS							
	5.11	Coverage Testing							
	5.12	System readiness training							
	5.13	Confirm/Finalize Go/No-Go Cutover Decision (Mtg)							
	5.14	Determine transition event sequence and schedule (i.e., length of time legacy and new P25 system will operate in parallel)							

	#	Task	Owner	Dependency	Duration in hours	Planned Start Date	Planned End Date	Status	Signoff
	5.15	Report and triage field issues (system and subscribers)							
	5.16	Secure acceptance of acceptance test results							
6	**Verify System and Agency/Group Readiness**								
	6.1	Review the system readiness verification checklist							
	6.2	Conduct system readiness verification							
	6.3	Prepare the support team							
	6.4	Verify that users are trained							
	6.5	Verify commitment and readiness of internal and external support personnel							
	6.6	Confirm senior management commitment via the steering committee							
	6.7	Distribute the initial schedule							
	8.8	Obtain approval to begin							
7	**Begin Cutover**								
	7.1	Initiate Cutover							
	7.2	Initiate incident/technical issue management procedures							
	7.3	Initiate open issues and create a resolution list							

	#	Task	Owner	Dependency	Duration in hours	Planned Start Date	Planned End Date	Status	Signoff
	7.4	Initiate support							
	7.5	Confirm that all RF system and sub-system components are operational							
	7.6	Check interface between P25 voice system to VHF conventional analog system via dispatch consoles							
	7.7	Check logging recorder features via consoles							
	7.8	Check P25 system for capacity, reliability, and Network management functionality							
	7.9	Roll back to legacy system until JVCKENWOOD system issues are resolved (if required)							
	7.10	30-day burn-in							
	7.11	Final System Acceptance							
	7.12	Declare the new system live							
	7.13	Cutover any remaining agencies							
	7.14	Shut down legacy systems and subscribers at appropriate time							
	7.15	Decommission legacy system and equipment							

Figure 1.3-6. Preliminary Cutover Plan Checklist

E.F. JOHNSON COMPANY

Contract #1: System Equipment and Installation Agreement

Project Schedule

May 1, 2021

EFJohnson | **a JVCKENWOOD Company**
1440 Corporate Drive, Irving, TX 75038
800.328.3911 | www.efjohnson.com

JVCKENWOOD

A-1.3.5 Project Schedule

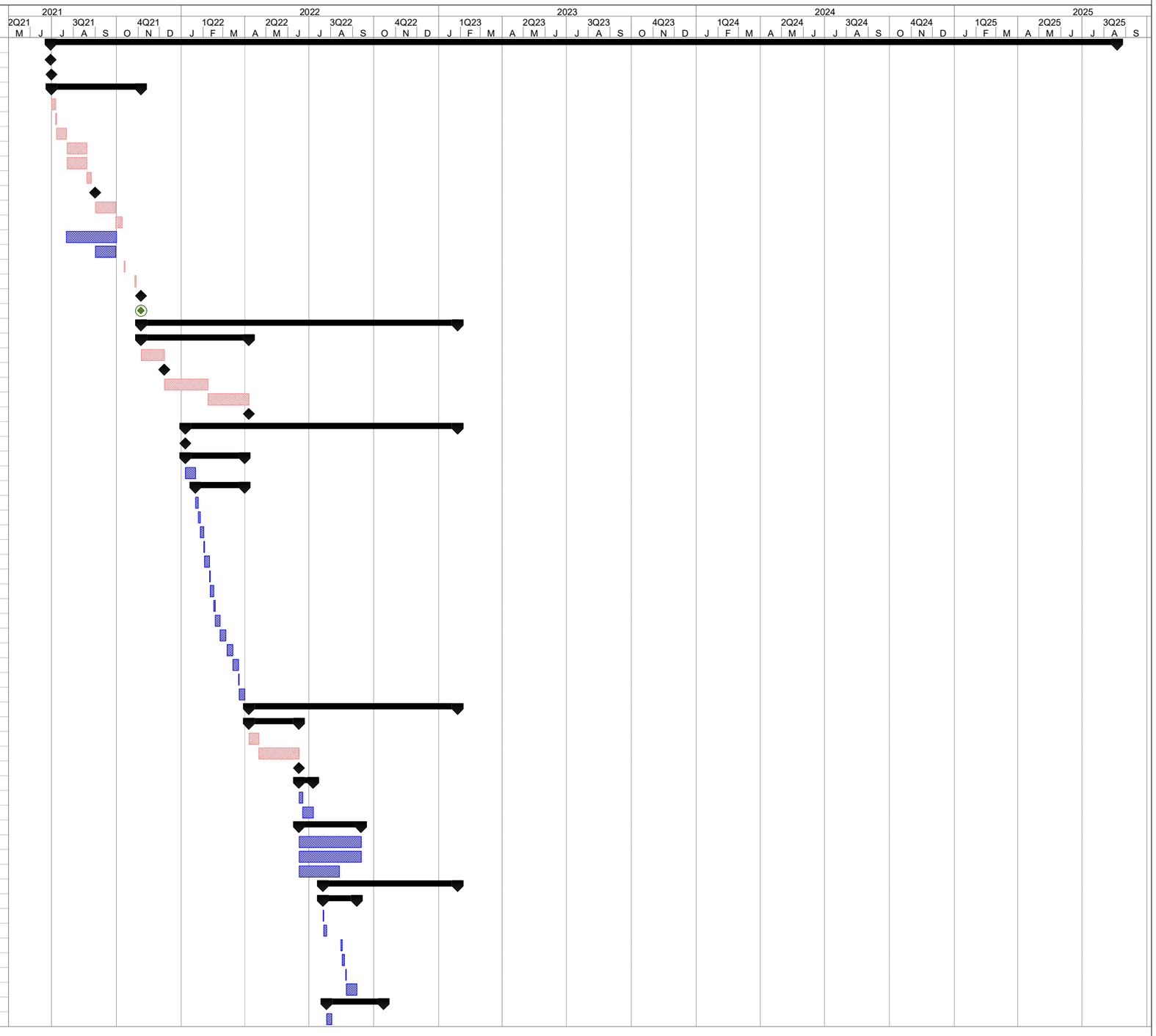
A preliminary project plan has been included on the following pages.

County of Santa Barbara P25 Public Safety Radio Network

PRELIMINARY PROJECT SCHEDULE

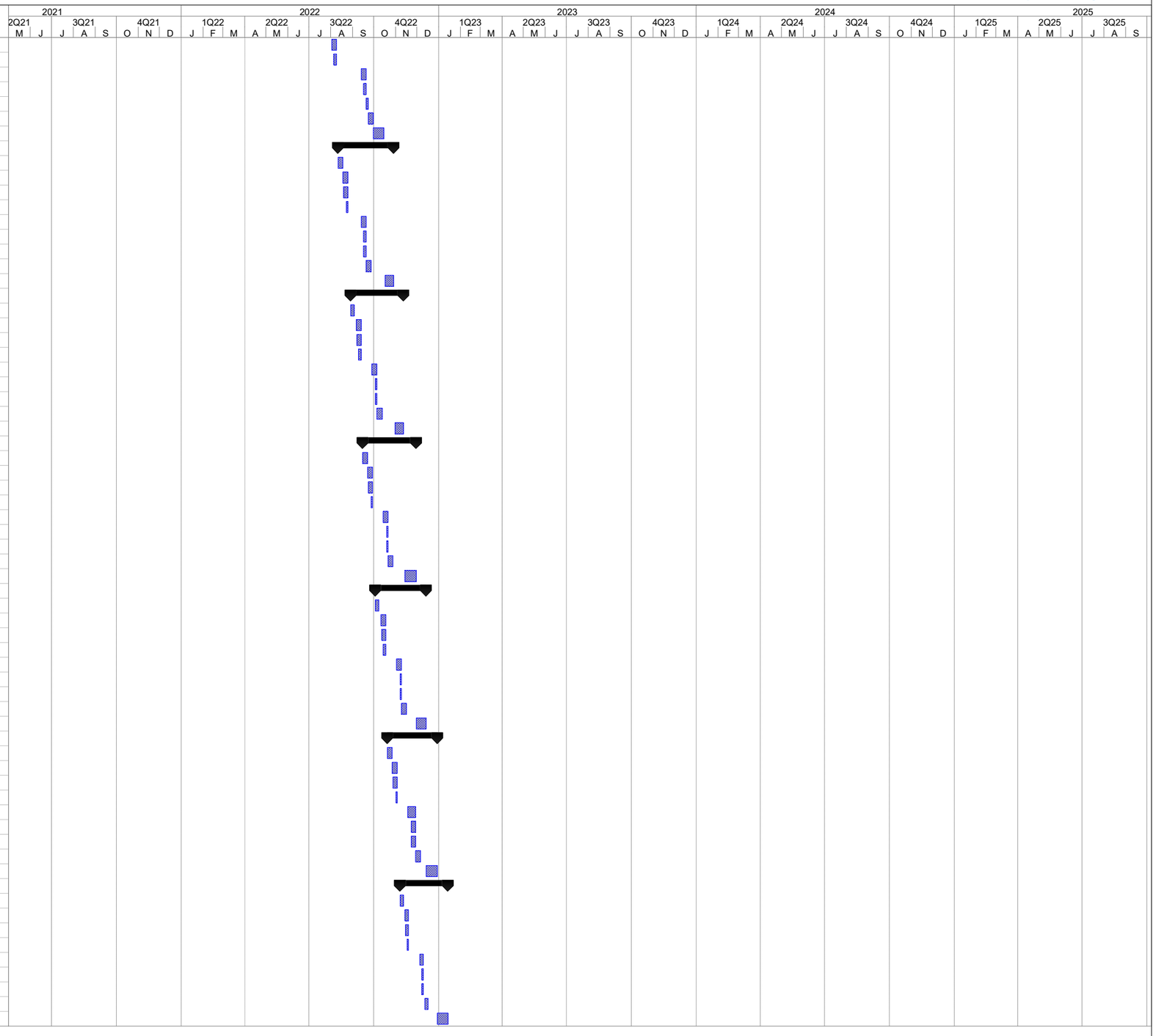
Updated May 5, 2021

ID	Task Name	Start	End	Duration	Predecessors
1	**County of Santa Barbara P25 Radio System Deployment**	**Wed 6/30/21**	**Tue 8/19/25**	**1039 days**	
2	**Contract Execution**	**Wed 6/30/21**	**Wed 6/30/21**	**0 days**	
3	***Start Date – Notice To Proceed***	***Thu 7/1/21***	***Thu 7/1/21***	***0 days***	
4	**Phase 1: Final Detailed Design**	**Thu 7/1/21**	**Thu 11/4/21**	**88 days**	
5	Preliminary project planning & coordination	Thu 7/1/21	Tue 7/6/21	3 days	3
6	**Kickoff Meeting On-Site**	Wed 7/7/21	Wed 7/7/21	1 day	5
7	Technical Site Survey walks / FAA 1A Surveys	Thu 7/8/21	Wed 7/21/21	10 days	6
8	Technical Site Survey report development	Fri 7/23/21	Thu 8/19/21	4 wks	7FS+1 day
9	Microwave Path Survey report development	Fri 7/23/21	Thu 8/19/21	4 wks	7FS+1 day
10	Update Tower Profile Drawings with antenna locations	Fri 8/20/21	Wed 8/25/21	4 days	8,9
11	**County NTP for Tower Structural Analysis**	**Tue 8/31/21**	**Tue 8/31/21**	**0 days**	**10FS+4 days**
12	Tower Structural Analysis reports	Wed 9/1/21	Wed 9/29/21	20 days	11
13	MW FCC coordination and PCN	Thu 9/30/21	Fri 10/8/21	7 days	12
14	Regulatory and Compliance Filings (including Geotechnical Surveys	Thu 7/22/21	Thu 9/30/21	10 wks	7
15	Finalize Detailed Design Package	Wed 9/1/21	Wed 9/29/21	4 wks	11
16	Detailed Design Package submission	Tue 10/12/21	Tue 10/12/21	1 day	12,15,13,14
17	**Final Detailed Design Review**	**Wed 10/27/21**	**Thu 10/28/21**	**2 days**	**16FS+10 days**
18	**Final Detailed Design Review Approval**	**Thu 11/4/21**	**Thu 11/4/21**	**0 days**	**17FS+5 days**
19	**Phase 1 Complete**	**Thu 11/4/21**	**Thu 11/4/21**	**0 days**	**18**
20	**Phase 2A: Site Readiness**	**Fri 11/5/21**	**Fri 1/27/23**	**306 days**	
21	***Civils Vendor Selection Process***	***Fri 11/5/21***	***Wed 4/6/22***	***103 days***	
22	*RFP Preparation*	*Fri 11/5/21*	*Tue 12/7/21*	*1 mon*	*18*
23	*RFP Release*	*Tue 12/7/21*	*Tue 12/7/21*	*0 mons*	*22*
24	*Proposals Received*	*Wed 12/8/21*	*Mon 2/7/22*	*2 mons*	*23*
25	*Proposals Reviewed / Civils Vendor selected*	*Tue 2/8/22*	*Wed 4/6/22*	*2 mons*	*24*
26	*Civils Vendor Contracted / NTP issued*	*Wed 4/6/22*	*Wed 4/6/22*	*0 days*	*25*
27	**Site Preparation**	**Thu 1/6/22**	**Fri 1/27/23**	**266 days**	
28	**Site Leasing Agreements Finalized**	**Thu 1/6/22**	**Thu 1/6/22**	**0 days**	**18FS+2 mons**
29	**JVCKENWOOD Site Preparation Tasks**	**Fri 1/7/22**	**Thu 3/31/22**	**59 days**	
30	Site Remediation Material Procurement	Fri 1/7/22	Thu 1/20/22	2 wks	28
31	**Site Remediation Work**	**Fri 1/21/22**	**Thu 3/31/22**	**49 days**	
32	Admin Building	Fri 1/21/22	Mon 1/24/22	2 days	30
33	Betteravia	Tue 1/25/22	Thu 1/27/22	3 days	32
34	Comm Center	Fri 1/28/22	Tue 2/1/22	3 days	33
35	EOC / Fire Dispatch (Lightning Rod Extension only)	Wed 2/2/22	Wed 2/2/22	1 day	34
36	Harris Grade	Thu 2/3/22	Wed 2/9/22	5 days	35
37	Sudden Peak	Thu 2/10/22	Thu 2/10/22	1 day	36
38	Lompoc Civic Center	Fri 2/11/22	Tue 2/15/22	3 days	37
39	Mount Solomon	Wed 2/16/22	Thu 2/17/22	2 days	38
40	Plowshare	Fri 2/18/22	Thu 2/24/22	4 days	39
41	San Antonio	Fri 2/25/22	Fri 3/4/22	6 days	40
42	Mount Abel	Mon 3/7/22	Mon 3/14/22	6 days	41
43	Tepusquet	Tue 3/15/22	Tue 3/22/22	6 days	42
44	Valley Peak (Lightning Rod Extension only)	Wed 3/23/22	Wed 3/23/22	1 day	43
45	Rincon	Thu 3/24/22	Thu 3/31/22	6 days	44
46	**Civils Vendor Site Preparation Tasks**	**Thu 4/7/22**	**Fri 1/27/23**	**203 days**	
47	**Zoning**	**Thu 4/7/22**	**Thu 6/16/22**	**50 days**	
48	Zoning Package Preparation (New Tower Sites)	Thu 4/7/22	Wed 4/20/22	2 wks	26
49	Zoning Submissions	Thu 4/21/22	Thu 6/16/22	2 mons	48
50	Zoning Approved	Thu 6/16/22	Thu 6/16/22	0 days	49
51	**Permitting**	**Fri 6/17/22**	**Wed 7/6/22**	**13 days**	
52	Permitting Submissions	Fri 6/17/22	Tue 6/21/22	3 days	50,28
53	Permitting Approved	Wed 6/22/22	Wed 7/6/22	2 wks	52
54	**Site Material Procurement**	**Fri 6/17/22**	**Mon 9/12/22**	**60 days**	
55	Shelter Manufacturing	Fri 6/17/22	Mon 9/12/22	12 wks	52SS
56	Tower Materials Manufacturing	Fri 6/17/22	Mon 9/12/22	12 wks	52SS
57	Generator and Fuel Tanks Manufacturing	Fri 6/17/22	Fri 8/12/22	8 wks	52SS
58	**Site Builds**	**Thu 7/21/22**	**Fri 1/27/23**	**130 days**	
59	**Tepusquet**	**Thu 7/21/22**	**Tue 9/6/22**	**33 days**	
60	Compound Preparation	Thu 7/21/22	Thu 7/21/22	1 day	53FS+2 wks
61	Generator and Fuel Tank Foundations	Fri 7/22/22	Mon 7/25/22	2 days	60
62	Generator and Fuel Tank Installation	Mon 8/15/22	Tue 8/16/22	2 days	57,61FS+3 edays
63	Generator ATS Install and Electrical Work	Wed 8/17/22	Fri 8/19/22	3 days	62
64	Final Compound Site Work	Mon 8/22/22	Mon 8/22/22	1 day	63
65	Site Inspection / Punchlist	Tue 8/23/22	Tue 9/6/22	2 wks	64
66	**Mount Abel**	**Tue 7/26/22**	**Fri 10/14/22**	**57 days**	
67	Compound Preparation	Tue 7/26/22	Mon 8/1/22	5 days	60FS+2 days



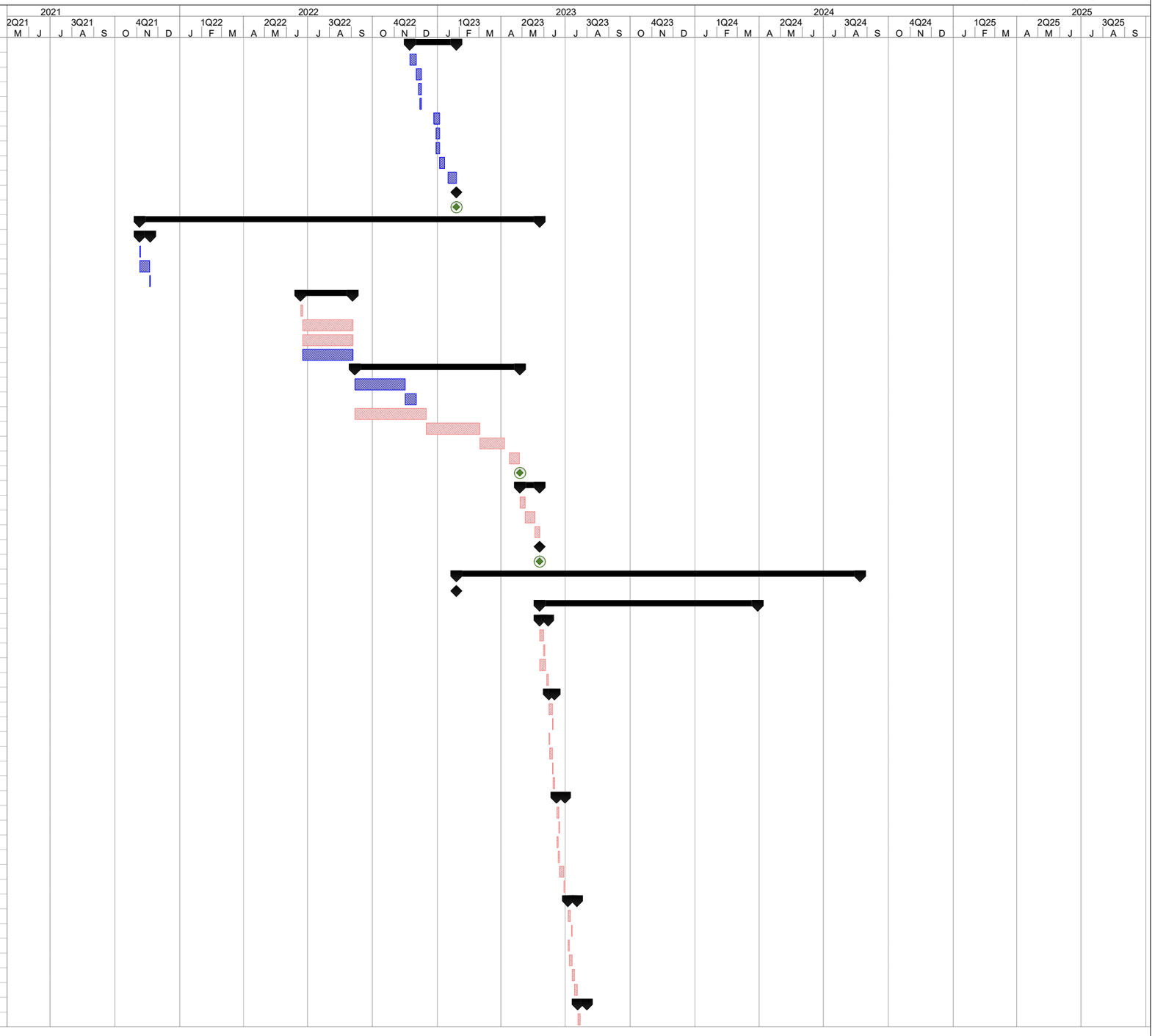
Project Gantt Chart Legend: Task | Milestone | Key Milestone | Summary | Critical Path | Progress

ID	Task Name	Start	End	Duration	Predecessors
68	Tower Foundation	Tue 8/2/22	Mon 8/8/22	1 wk	67
69	Generator and Fuel Tank Foundations	Fri 8/5/22	Mon 8/8/22	2 days	68FF
70	Tower Erection	Tue 9/13/22	Mon 9/19/22	1 wk	56,68FS+15 edays
71	Generator and Fuel Tank Installation	Fri 9/16/22	Mon 9/19/22	2 days	69FS+3 edays,70FF
72	Generator ATS Install and Electrical Work	Tue 9/20/22	Thu 9/22/22	3 days	71
73	Final Compound Site Work	Fri 9/23/22	Thu 9/29/22	1 wk	72
74	Site Inspection / Punchlist	Fri 9/30/22	Fri 10/14/22	2 wks	73,65
75	**Figueroa Mountain**	**Thu 8/11/22**	**Fri 10/28/22**	**55 days**	
76	Compound Preparation	Thu 8/11/22	Wed 8/17/22	1 wk	68FS+2 days
77	Tower Foundation	Thu 8/18/22	Wed 8/24/22	1 wk	76,68
78	Shelter Foundation	Fri 8/19/22	Wed 8/24/22	4 days	77FF
79	Generator and Fuel Tank Foundations	Tue 8/23/22	Wed 8/24/22	2 days	77FF
80	Tower Erection	Tue 9/13/22	Mon 9/19/22	1 wk	56,77FS+15 edays
81	Shelter Delivered and Installed	Fri 9/16/22	Mon 9/19/22	2 days	55,78FS+7 edays,80FF
82	Generator and Fuel Tank Installation	Fri 9/16/22	Mon 9/19/22	2 days	79FS+3 edays,80FF
83	Final Compound Site Work	Tue 9/20/22	Mon 9/26/22	1 wk	81,82
84	Site Inspection / Punchlist	Mon 10/17/22	Fri 10/28/22	2 wks	83,74
85	**Fire Station 24**	**Mon 8/29/22**	**Fri 11/11/22**	**53 days**	
86	Compound Preparation	Mon 8/29/22	Fri 9/2/22	5 days	77FS+2 days
87	Tower Foundation	Tue 9/6/22	Mon 9/12/22	1 wk	86
88	Shelter Foundation	Wed 9/7/22	Mon 9/12/22	4 days	87FF
89	Generator and Fuel Tank Foundations	Fri 9/9/22	Mon 9/12/22	2 days	87FF
90	Tower Erection	Wed 9/28/22	Tue 10/4/22	1 wk	87FS+15 edays,56
91	Shelter Delivered and Installed	Mon 10/3/22	Tue 10/4/22	2 days	88FS+7 edays,90FF,55
92	Generator and Fuel Tank Installation	Mon 10/3/22	Tue 10/4/22	2 days	89FS+3 edays,90FF
93	Final Compound Site Work	Wed 10/5/22	Wed 10/12/22	1 wk	91,92
94	Site Inspection / Punchlist	Mon 10/31/22	Fri 11/11/22	2 wks	93,84
95	**Fire Station 41**	**Thu 9/15/22**	**Tue 11/29/22**	**51 days**	
96	Compound Preparation	Thu 9/15/22	Wed 9/21/22	5 days	87FS+2 days
97	Tower Foundation	Thu 9/22/22	Wed 9/28/22	1 wk	96
98	Shelter Foundation	Fri 9/23/22	Wed 9/28/22	4 days	97FF
99	Generator and Fuel Tank Foundations	Tue 9/27/22	Wed 9/28/22	2 days	97FF
100	Tower Erection	Fri 10/14/22	Thu 10/20/22	1 wk	97FS+15 edays,56
101	Shelter Delivered and Installed	Wed 10/19/22	Thu 10/20/22	2 days	98FS+7 edays,100FF,55
102	Generator and Fuel Tank Installation	Wed 10/19/22	Thu 10/20/22	2 days	99FS+3 edays,100FF
103	Final Compound Site Work	Fri 10/21/22	Thu 10/27/22	1 wk	101,102
104	Site Inspection / Punchlist	Mon 11/14/22	Tue 11/29/22	2 wks	103,94
105	**Gaviota**	**Mon 10/3/22**	**Tue 12/13/22**	**49 days**	
106	Compound Preparation	Mon 10/3/22	Fri 10/7/22	5 days	97FS+2 days
107	Tower Foundation	Tue 10/11/22	Mon 10/17/22	1 wk	106
108	Shelter Foundation	Wed 10/12/22	Mon 10/17/22	4 days	107FF
109	Generator and Fuel Tank Foundations	Fri 10/14/22	Mon 10/17/22	2 days	107FF
110	Tower Erection	Wed 11/2/22	Tue 11/8/22	1 wk	107FS+15 edays,56
111	Shelter Delivered and Installed	Mon 11/7/22	Tue 11/8/22	2 days	108FS+7 edays,110FF,55
112	Generator and Fuel Tank Installation	Mon 11/7/22	Tue 11/8/22	2 days	109FS+3 edays,110FF
113	Final Compound Site Work	Wed 11/9/22	Tue 11/15/22	1 wk	111,112
114	Site Inspection / Punchlist	Wed 11/30/22	Tue 12/13/22	2 wks	113,104
115	**La Cumbre Peak**	**Thu 10/20/22**	**Thu 12/29/22**	**47 days**	
116	Compound Preparation	Thu 10/20/22	Wed 10/26/22	5 days	107FS+2 days
117	Tower Foundation	Thu 10/27/22	Wed 11/2/22	1 wk	116
118	Shelter Foundation	Fri 10/28/22	Wed 11/2/22	4 days	117FF
119	Generator and Fuel Tank Foundations	Tue 11/1/22	Wed 11/2/22	2 days	117FF
120	Tower Erection	Fri 11/18/22	Mon 11/28/22	1 wk	117FS+15 edays,56
121	Shelter Delivered and Installed	Wed 11/23/22	Mon 11/28/22	2 days	118FS+7 edays,120FF,55
122	Generator and Fuel Tank Installation	Wed 11/23/22	Mon 11/28/22	2 days	119FS+3 edays,120FF
123	Final Compound Site Work	Tue 11/29/22	Mon 12/5/22	1 wk	121,122
124	Site Inspection / Punchlist	Wed 12/14/22	Thu 12/29/22	2 wks	123,114
125	**Santa Ynez**	**Mon 11/7/22**	**Fri 1/13/23**	**45 days**	
126	Compound Preparation	Mon 11/7/22	Fri 11/11/22	5 days	117FS+2 days
127	Tower Foundation	Mon 11/14/22	Fri 11/18/22	1 wk	126
128	Shelter Foundation	Tue 11/15/22	Fri 11/18/22	4 days	127FF
129	Generator and Fuel Tank Foundations	Thu 11/17/22	Fri 11/18/22	2 days	127FF
130	Tower Erection	Mon 12/5/22	Fri 12/9/22	1 wk	127FS+15 edays,56
131	Shelter Delivered and Installed	Thu 12/8/22	Fri 12/9/22	2 days	128FS+7 edays,130FF,55
132	Generator and Fuel Tank Installation	Thu 12/8/22	Fri 12/9/22	2 days	129FS+3 edays,130FF
133	Final Compound Site Work	Mon 12/12/22	Fri 12/16/22	1 wk	131,132
134	Site Inspection / Punchlist	Fri 12/30/22	Fri 1/13/23	2 wks	133,124



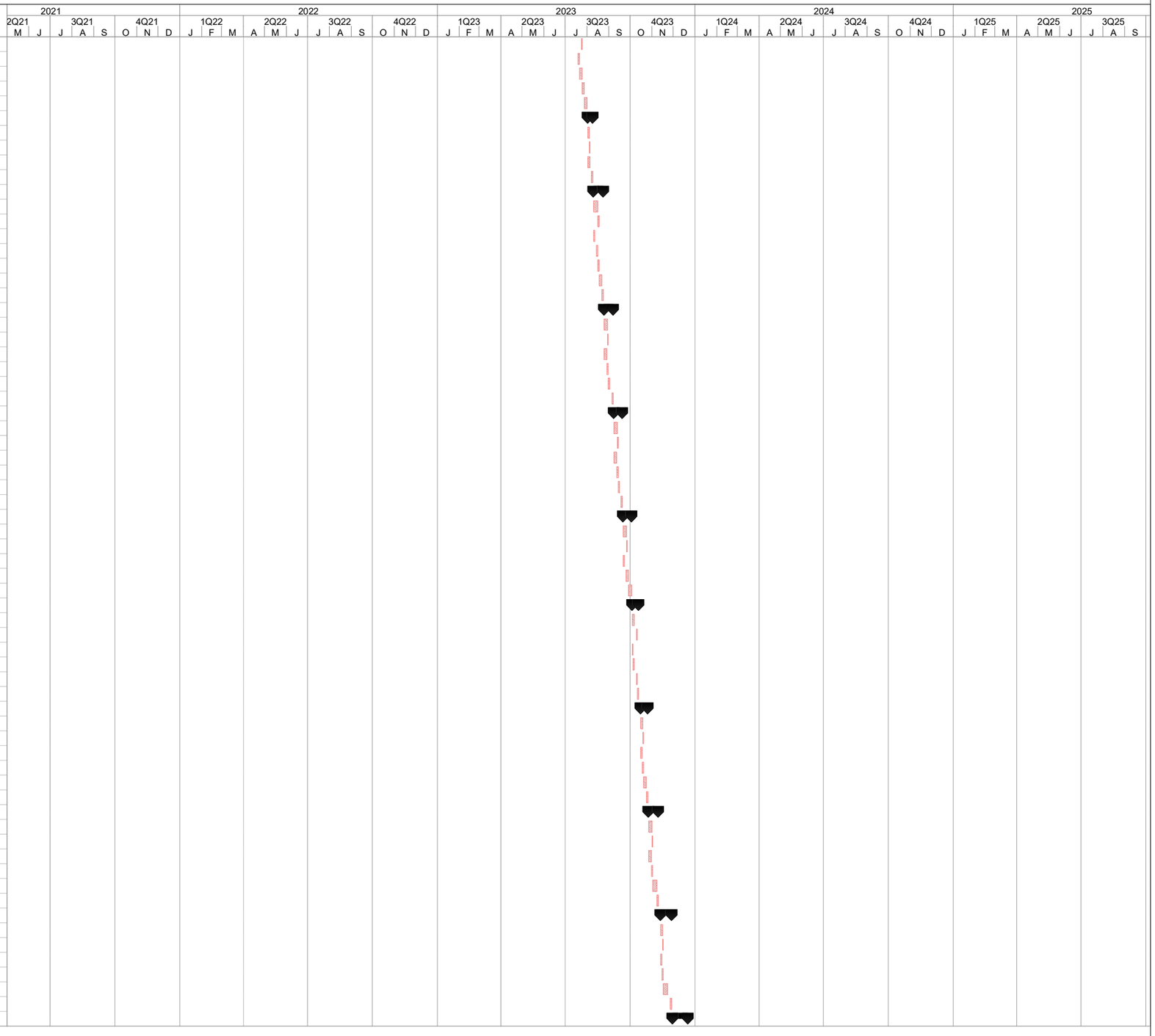
Project Gantt Chart Legend: Task | Milestone | Key Milestone | Summary | Critical Path | Progress

ID	Task Name	Start	End	Duration	Predecessors
135	**Ventucopa**	**Wed 11/23/22**	**Fri 1/27/23**	**43 days**	
136	Compound Preparation	Wed 11/23/22	Thu 12/1/22	5 days	127FS+2 days
137	Tower Foundation	Fri 12/2/22	Thu 12/8/22	1 wk	136
138	Shelter Foundation	Mon 12/5/22	Thu 12/8/22	4 days	137FF
139	Generator and Fuel Tank Foundations	Wed 12/7/22	Thu 12/8/22	2 days	137FF
140	Tower Erection	Tue 12/27/22	Tue 1/3/23	1 wk	137FS+15 edays,56
141	Shelter Delivered and Installed	Fri 12/30/22	Tue 1/3/23	2 days	138FS+7 edays,140FF,55
142	Generator and Fuel Tank Installation	Fri 12/30/22	Tue 1/3/23	2 days	139FS+3 edays,140FF
143	Final Compound Site Work	Wed 1/4/23	Tue 1/10/23	1 wk	141,142
144	Site Inspection / Punchlist	Mon 1/16/23	Fri 1/27/23	2 wks	143,134
145	**Site Builds Completed**	**Fri 1/27/23**	**Fri 1/27/23**	**0 days**	**65,74,84,94,104,114,124,134,144**
146	**Phase 2A Complete**	**Fri 1/27/23**	**Fri 1/27/23**	**0 days**	**45,145**
147	**Phase 2B: Equipment Staging**	**Fri 11/5/21**	**Thu 5/25/23**	**389 days**	
148	**Fleet mapping**	**Fri 11/5/21**	**Fri 11/19/21**	**11 days**	
149	Fleet map discussion	Fri 11/5/21	Fri 11/5/21	1 day	18
150	Fleet map development	Fri 11/5/21	Thu 11/18/21	2 wks	149SS
151	Fleet map presentation / Console Configuration	Fri 11/19/21	Fri 11/19/21	1 day	150
152	**Material Procurement**	**Tue 6/21/22**	**Fri 9/2/22**	**53 days**	
153	Equipment Orders Placed	Tue 6/21/22	Thu 6/23/22	3 days	50FS+2 days
154	ATLAS System Equipment	Fri 6/24/22	Fri 9/2/22	10 wks	153
155	3rd Party System Equipment	Fri 6/24/22	Fri 9/2/22	10 wks	153
156	Microwave Equipment	Fri 6/24/22	Fri 9/2/22	10 wks	153
157	**Staging**	**Tue 9/6/22**	**Thu 4/27/23**	**161 days**	
158	Microwave Equipment Staging	Tue 9/6/22	Tue 11/15/22	10 wks	156
159	Microwave Factory Equipment Configuration & Testing	Wed 11/16/22	Thu 12/1/22	2 wks	158
160	P25 Factory Equipment Staging	Tue 9/6/22	Thu 12/15/22	14 wks	151,153,154,155
161	Integrated Factory Equipment Staging	Fri 12/16/22	Wed 3/1/23	10 wks	159,160
162	Equipment commissioning and pre-FAT testing	Thu 3/2/23	Wed 4/5/23	5 wks	161
163	**Staging Acceptance Testing**	**Thu 4/13/23**	**Wed 4/26/23**	**2 wks**	**162FS+1 wk**
164	**SATP Approval**	**Thu 4/27/23**	**Thu 4/27/23**	**0 days**	**163FS+1 day**
165	**Delivery**	**Fri 4/28/23**	**Thu 5/25/23**	**20 days**	
166	Resolve Punch-list items	Fri 4/28/23	Thu 5/4/23	1 wk	164
167	Pack Equipment	Fri 5/5/23	Thu 5/18/23	2 wks	166
168	Shipping Transit	Fri 5/19/23	Thu 5/25/23	1 wk	167
169	Delivery of equipment to warehouse	Thu 5/25/23	Thu 5/25/23	0 days	168
170	**Phase 2B Complete**	**Thu 5/25/23**	**Thu 5/25/23**	**0 days**	**169**
171	**Phase 3A: Installation and Verification**	**Fri 1/27/23**	**Wed 8/21/24**	**395 days**	
172	***Sites ready for installation***	***Fri 1/27/23***	***Fri 1/27/23***	***0 days***	***146***
173	**Radio Sites**	**Fri 5/26/23**	**Fri 3/29/24**	**211 days**	
174	**Site Installation (Mount Abel)**	**Fri 5/26/23**	**Tue 6/6/23**	**7 days**	
175	Microwave Equipment Racks Installation	Fri 5/26/23	Tue 5/30/23	2 days	172FS+1 day,169
176	DC Power Plant Installation	Wed 5/31/23	Thu 6/1/23	2 days	175
177	Microwave installations (5x6' dishes)	Fri 5/26/23	Fri 6/2/23	5 days	175SS
178	Equipment Commissioning and Site Testing	Mon 6/5/23	Tue 6/6/23	2 days	176,177
179	**Site Installation (Ventucopa)**	**Thu 6/8/23**	**Thu 6/15/23**	**6 days**	
180	ATLAS/MW Equipment Racks Installation	Thu 6/8/23	Mon 6/12/23	3 days	178FS+1 day
181	DC Power Plant Installation	Tue 6/13/23	Tue 6/13/23	1 day	180
182	UHF TX/RX Antenna installation	Thu 6/8/23	Thu 6/8/23	1 day	180SS
183	VHF TX & RX Antennas installation	Fri 6/9/23	Mon 6/12/23	2 days	182
184	Microwave installations (1x6' dishes)	Tue 6/13/23	Tue 6/13/23	1 day	183
185	Equipment Commissioning and Site Testing	Wed 6/14/23	Thu 6/15/23	2 days	181,184
186	**Site Installation (Fire Station 41)**	**Mon 6/19/23**	**Fri 6/30/23**	**10 days**	
187	ATLAS/MW Equipment Racks Installation	Mon 6/19/23	Wed 6/21/23	3 days	185FS+1 day
188	DC Power Plant Installation	Thu 6/22/23	Thu 6/22/23	1 day	187
189	UHF TX & RX (w/TTA) Antennas installation	Mon 6/19/23	Tue 6/20/23	2 days	187SS
190	VHF TX & RX Antennas installation	Wed 6/21/23	Thu 6/22/23	2 days	189
191	Microwave installations (4x6' dishes)	Fri 6/23/23	Wed 6/28/23	4 days	190
192	Equipment Commissioning and Site Testing	Thu 6/29/23	Fri 6/30/23	2 days	188,191
193	**Site Installation (Plowshare)**	**Wed 7/5/23**	**Mon 7/17/23**	**9 days**	
194	ATLAS/MW Equipment Racks Installation	Wed 7/5/23	Fri 7/7/23	3 days	192FS+1 day
195	DC Power Plant Installation	Mon 7/10/23	Mon 7/10/23	1 day	194
196	UHF TX & RX (w/TTA) Antennas installation	Wed 7/5/23	Thu 7/6/23	2 days	194SS
197	VHF TX & RX Antennas installation	Fri 7/7/23	Mon 7/10/23	2 days	196
198	Microwave installations (3x6' dishes)	Tue 7/11/23	Thu 7/13/23	3 days	197
199	Equipment Commissioning and Site Testing	Fri 7/14/23	Mon 7/17/23	2 days	195,198
200	**Site Installation (Tepusquet)**	**Wed 7/19/23**	**Mon 7/31/23**	**9 days**	
201	ATLAS/MW Equipment Racks Installation	Wed 7/19/23	Fri 7/21/23	3 days	199FS+1 day



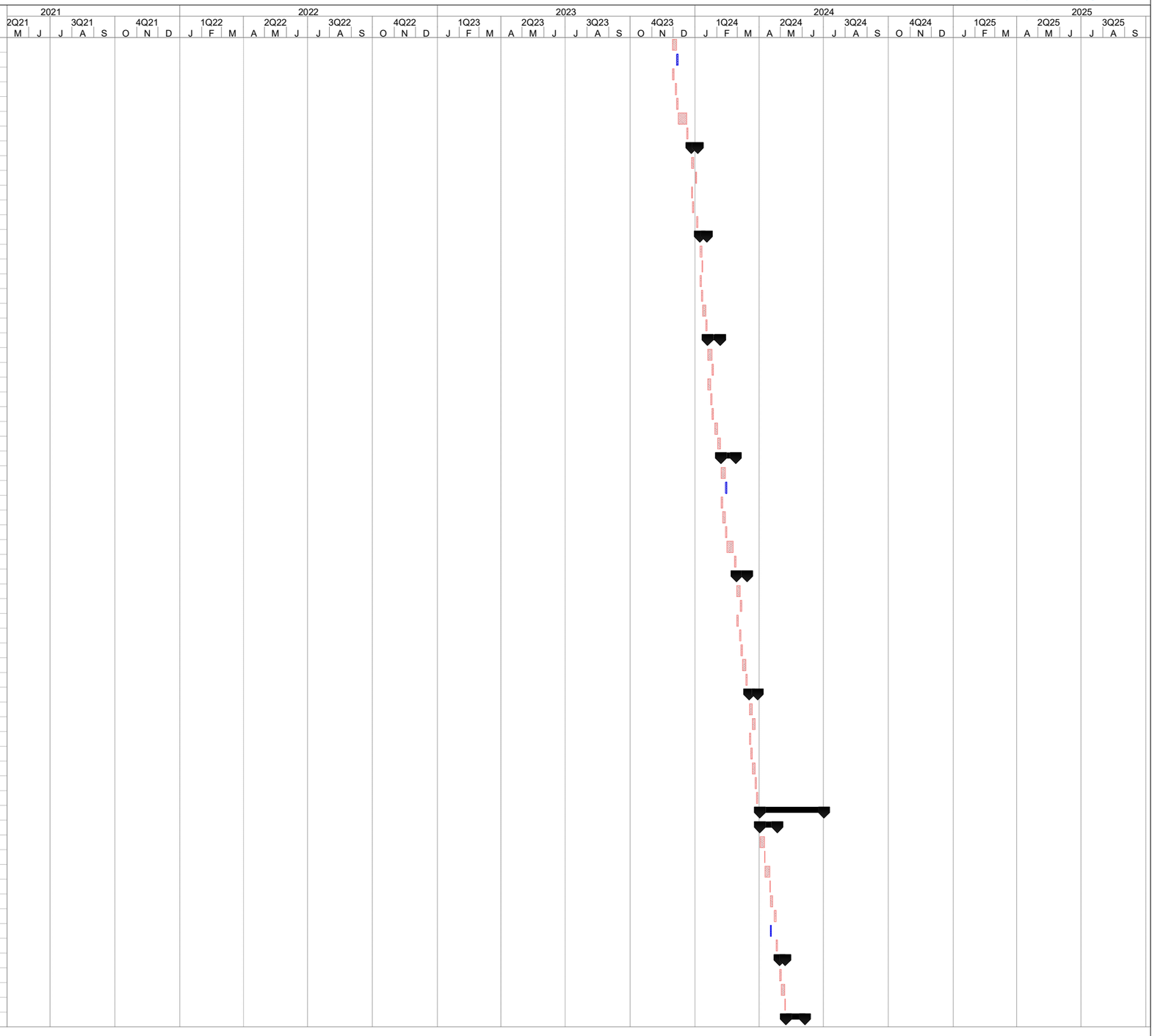
Project Gantt Chart Legend: Task | Milestone | Key Milestone | Summary | Critical Path | Progress

ID	Task Name	Start	End	Duration	Predecessors
202	DC Power Plant Installation	Mon 7/24/23	Mon 7/24/23	1 day	201
203	UHF TX & RX (w/TTA) Antennas installation	Wed 7/19/23	Thu 7/20/23	2 days	201SS
204	VHF TX & RX Antennas installation	Fri 7/21/23	Mon 7/24/23	2 days	203
205	Microwave installations (3x6' dishes)	Tue 7/25/23	Thu 7/27/23	3 days	204
206	Equipment Commissioning and Site Testing	Fri 7/28/23	Mon 7/31/23	2 days	202,205
207	**Site Installation (Betteravia)**	**Wed 8/2/23**	**Tue 8/8/23**	**5 days**	
208	Microwave Equipment Rack Installation	Wed 8/2/23	Thu 8/3/23	2 days	206FS+1 day
209	DC Power Plant Installation	Fri 8/4/23	Fri 8/4/23	1 day	208
210	Microwave installations (3x6' dishes)	Wed 8/2/23	Fri 8/4/23	3 days	208SS
211	Equipment Commissioning and Site Testing	Mon 8/7/23	Tue 8/8/23	2 days	209,210
212	**Site Installation (San Antonio)**	**Thu 8/10/23**	**Wed 8/23/23**	**10 days**	
213	ATLAS/MW Equipment Racks Installation	Thu 8/10/23	Tue 8/15/23	4 days	211FS+1 day
214	DC Power Plant Installation	Wed 8/16/23	Thu 8/17/23	2 days	213
215	UHF TX & RX (w/TTA) Antennas installation	Thu 8/10/23	Fri 8/11/23	2 days	213SS
216	VHF TX & RX Antennas installation	Mon 8/14/23	Tue 8/15/23	2 days	215
217	800 MHz (w/TTA) Antennas installation	Wed 8/16/23	Thu 8/17/23	2 days	216
218	Microwave installations (2x6' dishes)	Fri 8/18/23	Mon 8/21/23	2 days	217
219	Equipment Commissioning and Site Testing	Tue 8/22/23	Wed 8/23/23	2 days	214,218
220	**Site Installation (Harris Grade)**	**Fri 8/25/23**	**Wed 9/6/23**	**8 days**	
221	ATLAS/MW Equipment Racks Installation	Fri 8/25/23	Tue 8/29/23	3 days	219FS+1 day
222	DC Power Plant Installation	Wed 8/30/23	Wed 8/30/23	1 day	221
223	UHF TX & RX (w/TTA) Antennas installation	Fri 8/25/23	Mon 8/28/23	2 days	221SS
224	VHF TX & RX Antennas installation	Tue 8/29/23	Wed 8/30/23	2 days	223
225	Microwave installations (2x6' dishes)	Thu 8/31/23	Fri 9/1/23	2 days	224
226	Equipment Commissioning and Site Testing	Tue 9/5/23	Wed 9/6/23	2 days	222,225
227	**Site Installation (Lompoc Civic Center)**	**Fri 9/8/23**	**Tue 9/19/23**	**8 days**	
228	ATLAS/MW Equipment Racks Installation	Fri 9/8/23	Tue 9/12/23	3 days	226FS+1 day
229	DC Power Plant Installation	Wed 9/13/23	Wed 9/13/23	1 day	228
230	UHF TX & RX Antennas installation	Fri 9/8/23	Mon 9/11/23	2 days	228SS
231	VHF TX & RX Antennas installation	Tue 9/12/23	Wed 9/13/23	2 days	230
232	Microwave installations (2x6' dishes)	Thu 9/14/23	Fri 9/15/23	2 days	231
233	Equipment Commissioning and Site Testing	Mon 9/18/23	Tue 9/19/23	2 days	229,232
234	**Site Installation (Sudden)**	**Thu 9/21/23**	**Mon 10/2/23**	**8 days**	
235	ATLAS/MW Equipment Racks Installation	Thu 9/21/23	Mon 9/25/23	3 days	233FS+1 day
236	DC Power Plant Installation	Tue 9/26/23	Tue 9/26/23	1 day	235
237	UHF TX & RX (w/TTA) Antennas installation	Thu 9/21/23	Fri 9/22/23	2 days	235SS
238	Microwave installations (3x6' dishes, 1x4' dish)	Mon 9/25/23	Thu 9/28/23	4 days	237
239	Equipment Commissioning and Site Testing	Fri 9/29/23	Mon 10/2/23	2 days	236,238
240	**Site Installation (Oak Mountain-GATR)**	**Wed 10/4/23**	**Thu 10/12/23**	**6 days**	
241	ATLAS/MW Equipment Racks Installation	Wed 10/4/23	Fri 10/6/23	3 days	239FS+1 day
242	DC Power Plant Installation	Tue 10/10/23	Tue 10/10/23	1 day	241
243	UHF TX/RX Antenna installation	Wed 10/4/23	Wed 10/4/23	1 day	241SS
244	VHF TX & RX Antennas installation	Thu 10/5/23	Fri 10/6/23	2 days	243
245	Microwave installation (1x4' dish)	Tue 10/10/23	Tue 10/10/23	1 day	244
246	Equipment Commissioning and Site Testing	Wed 10/11/23	Thu 10/12/23	2 days	242,245
247	**Site Installation (Mount Solomon)**	**Mon 10/16/23**	**Wed 10/25/23**	**8 days**	
248	ATLAS/MW Equipment Racks Installation	Mon 10/16/23	Wed 10/18/23	3 days	246FS+1 day
249	DC Power Plant Installation	Thu 10/19/23	Thu 10/19/23	1 day	248
250	UHF TX & RX (w/TTA) Antennas installation	Mon 10/16/23	Tue 10/17/23	2 days	248SS
251	VHF TX & RX Antennas installation	Wed 10/18/23	Thu 10/19/23	2 days	250
252	Microwave installations (2x6' dishes)	Fri 10/20/23	Mon 10/23/23	2 days	251
253	Equipment Commissioning and Site Testing	Tue 10/24/23	Wed 10/25/23	2 days	249,252
254	**Site Installation (Fire Station 24)**	**Fri 10/27/23**	**Thu 11/9/23**	**10 days**	
255	ATLAS/MW Equipment Racks Installation	Fri 10/27/23	Tue 10/31/23	3 days	253FS+1 day
256	DC Power Plant Installation	Wed 11/1/23	Wed 11/1/23	1 day	255
257	UHF TX & RX (w/TTA) Antennas installation	Fri 10/27/23	Mon 10/30/23	2 days	255SS
258	VHF TX & RX Antennas installation	Tue 10/31/23	Wed 11/1/23	2 days	257
259	Microwave installations (4x6' dishes)	Thu 11/2/23	Tue 11/7/23	4 days	258
260	Equipment Commissioning and Site Testing	Wed 11/8/23	Thu 11/9/23	2 days	256,259
261	**Site Installation (Figueroa Mountain)**	**Mon 11/13/23**	**Tue 11/28/23**	**10 days**	
262	ATLAS/MW Equipment Racks Installation	Mon 11/13/23	Wed 11/15/23	3 days	260FS+1 day
263	DC Power Plant Installation	Thu 11/16/23	Thu 11/16/23	1 day	262
264	UHF TX & RX (w/TTA) Antennas installation	Mon 11/13/23	Tue 11/14/23	2 days	262SS
265	VHF TX & RX Antennas installation	Wed 11/15/23	Thu 11/16/23	2 days	264
266	Microwave installations (4x6' dishes)	Fri 11/17/23	Wed 11/22/23	4 days	265
267	Equipment Commissioning and Site Testing	Mon 11/27/23	Tue 11/28/23	2 days	263,266
268	**Site Installation (Santa Ynez)**	**Thu 11/30/23**	**Thu 12/21/23**	**16 days**	



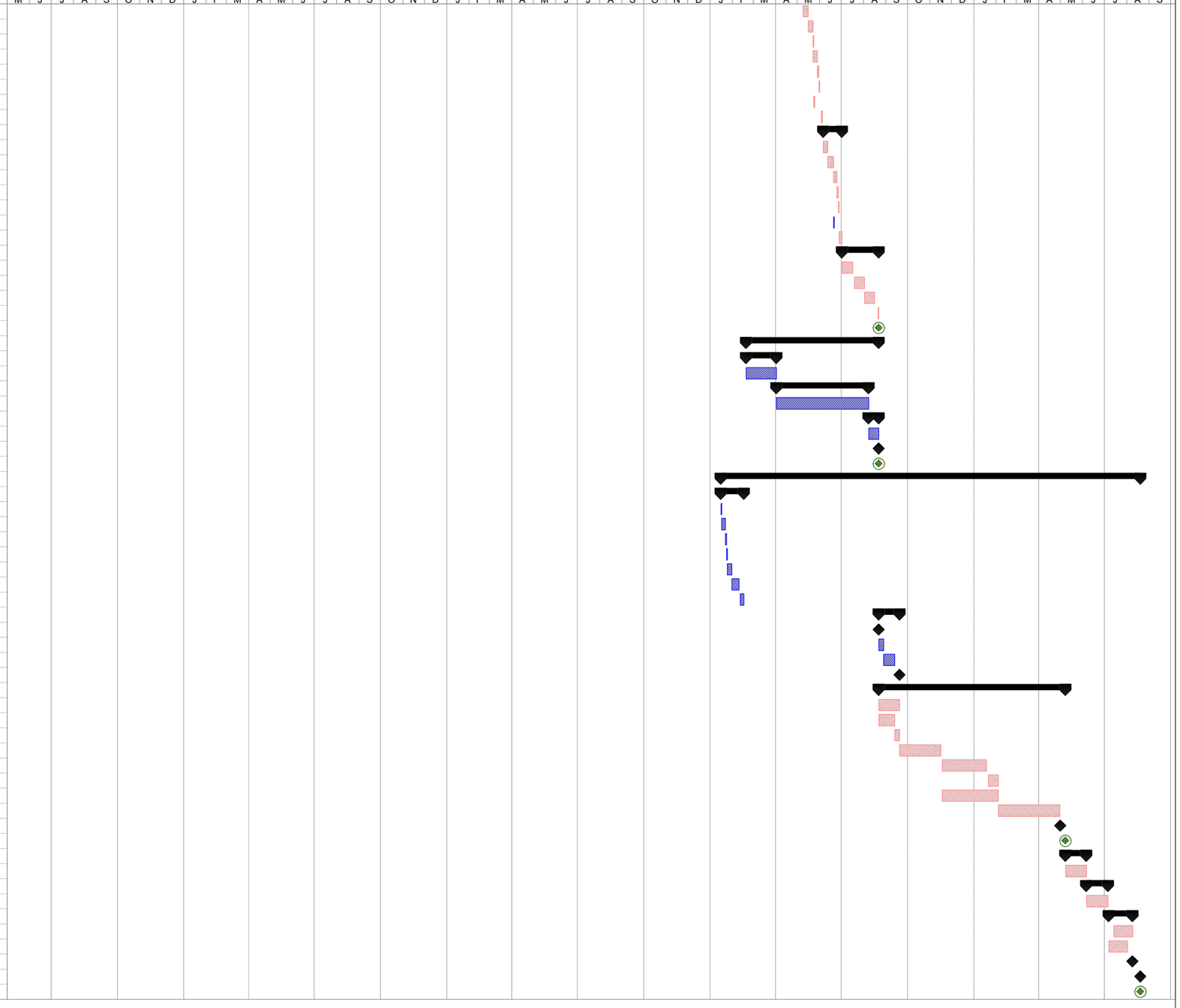
Project Gantt Chart Legend: Task | Milestone | Key Milestone | Summary | Critical Path | Progress

ID	Task Name	Start	End	Duration	Predecessors
269	ATLAS/MW Equipment Racks Installation	Thu 11/30/23	Tue 12/5/23	4 days	267FS+1 day
270	DC Power Plant Installation	Wed 12/6/23	Thu 12/7/23	2 days	269
271	UHF TX & RX (w/TTA) Antennas installation	Thu 11/30/23	Fri 12/1/23	2 days	269SS
272	VHF TX & RX Antennas installation	Mon 12/4/23	Tue 12/5/23	2 days	271
273	800 MHz (w/TTA) Antennas installation	Wed 12/6/23	Thu 12/7/23	2 days	272
274	Microwave installations (8x6' dishes)	Fri 12/8/23	Tue 12/19/23	8 days	273
275	Equipment Commissioning and Site Testing	Wed 12/20/23	Thu 12/21/23	2 days	270,274
276	**Site Installation (Gaviota)**	**Wed 12/27/23**	**Thu 1/4/24**	**6 days**	
277	ATLAS Equipment Racks Installation	Wed 12/27/23	Fri 12/29/23	3 days	275FS+1 day
278	DC Power Plant Installation	Tue 1/2/24	Tue 1/2/24	1 day	277
279	UHF TX/RX Antenna installation	Wed 12/27/23	Wed 12/27/23	1 day	277SS
280	VHF TX & RX Antennas installation	Thu 12/28/23	Fri 12/29/23	2 days	279
281	Equipment Commissioning and Site Testing	Wed 1/3/24	Thu 1/4/24	2 days	278,280
282	**Site Installation (Heritage Oil Platform)**	**Mon 1/8/24**	**Wed 1/17/24**	**8 days**	
283	ATLAS/MW Equipment Racks Installation	Mon 1/8/24	Wed 1/10/24	3 days	281FS+1 day
284	DC Power Plant Installation	Thu 1/11/24	Thu 1/11/24	1 day	283
285	UHF TX & RX (w/TTA) Antennas installation	Mon 1/8/24	Tue 1/9/24	2 days	283SS
286	VHF TX & RX Antennas installation	Wed 1/10/24	Thu 1/11/24	2 days	285
287	Microwave installations (2x6' dishes)	Fri 1/12/24	Mon 1/15/24	2 days	286
288	Equipment Commissioning and Site Testing	Tue 1/16/24	Wed 1/17/24	2 days	284,287
289	**Site Installation (Valley Peak)**	**Fri 1/19/24**	**Mon 2/5/24**	**12 days**	
290	ATLAS/MW Equipment Racks Installation	Fri 1/19/24	Wed 1/24/24	4 days	288FS+1 day
291	DC Power Plant Installation	Thu 1/25/24	Fri 1/26/24	2 days	290
292	UHF TX & RX (w/TTA) Antennas installation	Fri 1/19/24	Mon 1/22/24	2 days	290SS
293	VHF TX & RX Antennas installation	Tue 1/23/24	Wed 1/24/24	2 days	292
294	800 MHz (w/TTA) Antennas installation	Thu 1/25/24	Fri 1/26/24	2 days	293
295	Microwave installations (4x6' dishes)	Mon 1/29/24	Thu 2/1/24	4 days	294
296	Equipment Commissioning and Site Testing	Fri 2/2/24	Mon 2/5/24	2 days	291,295
297	**Site Installation (La Cumbre Peak)**	**Wed 2/7/24**	**Tue 2/27/24**	**14 days**	
298	ATLAS/MW Equipment Racks Installation	Wed 2/7/24	Mon 2/12/24	4 days	296FS+1 day
299	DC Power Plant Installation	Tue 2/13/24	Wed 2/14/24	2 days	298
300	UHF TX & RX (w/TTA) Antennas installation	Wed 2/7/24	Thu 2/8/24	2 days	298SS
301	VHF TX & RX Antennas installation	Fri 2/9/24	Mon 2/12/24	2 days	300
302	800 MHz (w/TTA) Antennas installation	Tue 2/13/24	Wed 2/14/24	2 days	301
303	Microwave installations (4x6' dishes, 2x4' dishes)	Thu 2/15/24	Fri 2/23/24	6 days	302
304	Equipment Commissioning and Site Testing	Mon 2/26/24	Tue 2/27/24	2 days	299,303
305	**Site Installation (Admin)**	**Thu 2/29/24**	**Thu 3/14/24**	**11 days**	
306	MW Equipment Rack Installation	Thu 2/29/24	Mon 3/4/24	3 days	304FS+1 day
307	DC Power Plant Installation	Tue 3/5/24	Wed 3/6/24	2 days	306
308	UHF TX & RX Antennas installation	Thu 2/29/24	Fri 3/1/24	2 days	306SS
309	VHF TX & RX Antennas installation	Mon 3/4/24	Tue 3/5/24	2 days	308
310	800 MHz (w/TTA) Antennas installation	Wed 3/6/24	Thu 3/7/24	2 days	309
311	Microwave installations (2x6' dishes, 1x4' dish)	Fri 3/8/24	Tue 3/12/24	3 days	310
312	Equipment Commissioning and Site Testing	Wed 3/13/24	Thu 3/14/24	2 days	307,311
313	**Site Installation (Rincon)**	**Mon 3/18/24**	**Fri 3/29/24**	**10 days**	
314	ATLAS/MW Equipment Racks Installation	Mon 3/18/24	Thu 3/21/24	4 days	312FS+1 day
315	DC Power Plant Installation	Fri 3/22/24	Mon 3/25/24	2 days	314
316	UHF TX & RX (w/TTA) Antennas installation	Mon 3/18/24	Tue 3/19/24	2 days	314SS
317	VHF TX & RX Antennas installation	Wed 3/20/24	Thu 3/21/24	2 days	316
318	800 MHz (w/TTA) Antennas installation	Fri 3/22/24	Mon 3/25/24	2 days	317
319	Microwave installations (1x6' dishes)	Tue 3/26/24	Wed 3/27/24	2 days	318
320	Equipment Commissioning and Site Testing	Thu 3/28/24	Fri 3/29/24	2 days	315,319
321	**Dispatch Sites**	**Tue 4/2/24**	**Mon 7/1/24**	**64 days**	
322	**Sheriff Dispatch Center Installation**	**Tue 4/2/24**	**Fri 4/26/24**	**19 days**	
323	ATLAS/KENWOOD/MW Equipment Racks Installation	Tue 4/2/24	Mon 4/8/24	4.5 days	320FS+1 day
324	Alarm Management System Installation	Mon 4/8/24	Mon 4/8/24	0.5 days	323
325	Dispatch Consoles Installation	Tue 4/9/24	Mon 4/15/24	5 days	324
326	Dispatch Training Console Installation	Tue 4/16/24	Tue 4/16/24	1 day	325
327	Control Station Radio Antenna installations	Wed 4/17/24	Fri 4/19/24	3 days	326
328	Microwave installation (2x4' dishes, 1x6' dish)	Mon 4/22/24	Wed 4/24/24	3 days	327
329	Eventide Logging Recorder Installation	Wed 4/17/24	Wed 4/17/24	1 day	326
330	Equipment Commissioning and Testing	Thu 4/25/24	Fri 4/26/24	2 days	328,329
331	**Comm Center Installation**	**Tue 4/30/24**	**Tue 5/7/24**	**6 days**	
332	ATLAS/AVIAT Equipment Racks Installation	Tue 4/30/24	Wed 5/1/24	2 days	330FS+1 day
333	Microwave installations (1x6' dish, 2x4' dishes)	Thu 5/2/24	Mon 5/6/24	3 days	332
334	Equipment Commissioning and Testing	Tue 5/7/24	Tue 5/7/24	1 day	333
335	**EOC/ Fire Dispatch Center Installation**	**Thu 5/9/24**	**Tue 6/4/24**	**18 days**	



Project Gantt Chart Legend: Task · Milestone · Key Milestone · Summary · Critical Path · Progress

ID	Task Name	Start	End	Duration	Predecessors
336	ATLAS/KENWOOD/MW Equipment Racks Installation	Thu 5/9/24	Wed 5/15/24	5 days	334FS+1 day
337	Dispatch Consoles Installation	Thu 5/16/24	Wed 5/22/24	5 days	336
338	Deployable Console Delivery	Thu 5/23/24	Thu 5/23/24	1 day	337
339	Control Station Radio Antenna installation	Thu 5/23/24	Tue 5/28/24	3 days	337
340	800 MHz (w/TTA) Antennas installation	Wed 5/29/24	Thu 5/30/24	2 days	339
341	Microwave installation (1x6' dish)	Fri 5/31/24	Fri 5/31/24	1 day	340
342	Eventide Logging Recorder Installation	Fri 5/24/24	Fri 5/24/24	1 day	338
343	Equipment Commissioning and Testing	Mon 6/3/24	Tue 6/4/24	2 days	341,342
344	**Santa Maria Backup Dispatch Center Installation**	**Thu 6/6/24**	**Mon 7/1/24**	**18 days**	
345	ATLAS/KENWOOD/MW Equipment Racks Installation	Thu 6/6/24	Tue 6/11/24	4 days	343FS+1 day
346	Dispatch Consoles Installation	Wed 6/12/24	Wed 6/19/24	6 days	345
347	Control Station Radio Antenna installation	Thu 6/20/24	Mon 6/24/24	3 days	346
348	800 MHz (w/TTA) Antennas installation	Tue 6/25/24	Wed 6/26/24	2 days	347
349	Microwave installation (1x6' dish)	Thu 6/27/24	Thu 6/27/24	1 day	348
350	Eventide Logging Recorder Installation	Thu 6/20/24	Thu 6/20/24	1 day	346
351	Equipment Commissioning and Testing	Fri 6/28/24	Mon 7/1/24	2 days	349,350
352	**Site Acceptances**	**Tue 7/2/24**	**Wed 8/21/24**	**36 days**	
353	End-to-end system verification	Tue 7/2/24	Tue 7/16/24	2 wks	351
354	Santa Barbara County Site inspection & testing	Fri 7/19/24	Thu 8/1/24	2 wks	353FS+2 days
355	Resolution of punch-list items	Fri 8/2/24	Thu 8/15/24	2 wks	354
356	**Customer Acceptance of Site Installations**	**Wed 8/21/24**	**Wed 8/21/24**	**1 day**	**355FS+3 days**
357	**Phase 3A Complete**	**Wed 8/21/24**	**Wed 8/21/24**	**0 days**	**356**
358	**Phase 3B: Subscribers**	**Tue 2/20/24**	**Wed 8/21/24**	**130 days**	
359	**Control Station Radios**	**Tue 2/20/24**	**Tue 4/2/24**	**30 days**	
360	KENWOOD Viking Control Station Installations	Tue 2/20/24	Tue 4/2/24	6 wks	362SF
361	**Mobile Radios**	**Tue 4/2/24**	**Thu 8/8/24**	**90 days**	
362	KENWOOD Viking Mobile Radio Installations	Tue 4/2/24	Thu 8/8/24	4.5 mons	364SF
363	**Portable Radios**	**Thu 8/8/24**	**Wed 8/21/24**	**10 days**	
364	KENWOOD Viking Portable Radio Deployment	Thu 8/8/24	Wed 8/21/24	2 wks	356FF
365	KENWOOD Viking Subscribers delivered	Wed 8/21/24	Wed 8/21/24	0 days	364
366	**Phase 3B Complete**	**Wed 8/21/24**	**Wed 8/21/24**	**0 days**	**365**
367	**Phase 4: Cutover & Acceptance**	**Tue 1/16/24**	**Tue 8/19/25**	**403 days**	
368	**Training Delivery**	**Tue 1/16/24**	**Fri 2/16/24**	**24 days**	
369	KENWOOD Viking Radio Train-the-Trainer	Tue 1/16/24	Wed 1/17/24	1 day	370SF
370	ARMADA Programmer Training	Wed 1/17/24	Mon 1/22/24	3 days	360SF-4 wks
371	StarGate Dispatch Operator Training	Mon 1/22/24	Tue 1/23/24	2 days	370
372	Eventide Logging Recorder Training	Wed 1/24/24	Wed 1/24/24	1 day	371
373	ATLAS Administrator Training	Thu 1/25/24	Tue 1/30/24	4 days	372
374	ATLAS System Maintenance Training	Wed 1/31/24	Fri 2/9/24	8 days	373
375	AVIAT Microwave Maintenance Training	Mon 2/12/24	Fri 2/16/24	1 wk	374
376	**Final Acceptance Testing**	**Thu 8/22/24**	**Thu 9/19/24**	**20 days**	
377	**Santa Barbara County receives FCC Approval**	**Thu 8/22/24**	**Thu 8/22/24**	**0 days**	**378SS**
378	Santa Barbara County Final Acceptance Testing	Thu 8/22/24	Wed 8/28/24	1 wk	357
379	Resolution of punch-list items	Thu 8/29/24	Thu 9/12/24	2 wks	378
380	**ATLAS P25 Radio System Final Acceptance**	**Thu 9/19/24**	**Thu 9/19/24**	**0 days**	**379FS+1 wk**
381	**Coverage Testing and Optimization**	**Thu 8/22/24**	**Wed 5/7/25**	**177 days**	
382	Preliminary UHF coverage testing	Thu 8/22/24	Thu 9/19/24	4 wks	357
383	Preliminary VHF coverage testing	Thu 8/22/24	Thu 9/12/24	3 wks	357
384	Preliminary 800 MHz coverage testing	Fri 9/13/24	Thu 9/19/24	1 wk	383
385	Preliminary coverage analysis / optimization	Fri 9/20/24	Fri 11/15/24	8 wks	382,384
386	County witnessed UHF Coverage Testing	Mon 11/18/24	Fri 1/17/25	8 wks	385
387	County witnessed 800 MHz Coverage Testing	Tue 1/21/25	Mon 2/3/25	2 wks	386
388	County witnessed VHF Coverage Testing	Mon 11/18/24	Mon 2/3/25	10 wks	385
389	Coverage Test Report	Tue 2/4/25	Tue 4/29/25	12 wks	387,388
390	Coverage Report Submission to the County	Wed 4/30/25	Wed 4/30/25	0 days	389FS+1 day
391	**Coverage Acceptance**	**Wed 5/7/25**	**Wed 5/7/25**	**0 days**	**390FS+1 wk**
392	**System Cutover**	**Thu 5/8/25**	**Thu 6/5/25**	**20 days**	
393	**Phased User Migration**	**Thu 5/8/25**	**Thu 6/5/25**	**4 wks**	**391**
394	**Performance Testing**	**Thu 6/5/25**	**Sat 7/5/25**	**20 days**	
395	30-Day Performance Testing	Thu 6/5/25	Sat 7/5/25	30 edays	393
396	**System Acceptance**	**Mon 7/7/25**	**Fri 8/8/25**	**25 days**	
397	Decommissioning of legacy equipment	Mon 7/14/25	Fri 8/8/25	4 wks	395FS+1 wk
398	As-Built Documentation Package	Mon 7/7/25	Fri 8/1/25	4 wks	375,395
399	All deliverables received by the County	Fri 8/8/25	Fri 8/8/25	0 days	398,397
400	**Final System Acceptance**	**Tue 8/19/25**	**Tue 8/19/25**	**0 days**	**399FS+7 days,397**
401	**Phase 4 Complete**	**Tue 8/19/25**	**Tue 8/19/25**	**0 days**	**400**



Project Gantt Chart Legend: Task · Milestone · Key Milestone · Summary · Critical Path · Progress