

B. SCOPE OF WORK (METHODOLOGY)

CTA Communications, a Hayes, Seay, Mattern and Mattern, Inc. Company hereafter referred to as "CTA," proposes a two-phase approach based on the requirements of the RFP. Phase 2 is described in three sub-phases, Long Term System Design, Specifications, and Procurement. Following is a description of the tasks that make up each phase:

PHASE 1 SYSTEM DEFINITION

Finalize Work Plan. CTA will prepare a work plan in PERT and Gantt format, which will identify tasks, responsibilities, and scheduled dates. This work plan will be updated periodically as the project progresses, but in no event more frequently than once per month, and updated Gantt charts will be provided at that time to the County.

Review Existing System Data. Our engineers will review and augment existing system data in the records of Orange County. In addition, we will review existing system and operational data from the users and maintenance personnel. In conjunction with this review we will request the latest information on the present systems and operations. Requested information may include, but not be limited to, the following:

- Lists of equipment
- Existing site and facility drawings
- Operational procedures
- Traffic loading
- Future requirements
- Growth projections
- And others

We will review the latest statistical data on calls for service and responses. We will also study applicable staffing levels, special operational requirements, unique dispatch procedures, and inter-operability needs.

While complete data may not be available in all areas listed, CTA engineers will require enough operational and system requirement information to develop parameters such as:

- Channel and loading issues and requirements
- Types and capabilities of radio units in use and needed
- Quantities of present and future radios
- Quantities and functions of consoles
- CAD capabilities and requirements and
- Other system design elements

Initialization Meeting. CTA will conduct an “Initialization Meeting” in Hillsborough involving all participating agencies and users. The goal of this task is to outline the project objectives and methodology and solicit advice and assistance of all attendees.

This meeting will introduce key County and City representatives, including Police, Sheriff, Fire, EMS, IT, and 911 officials, as well as the CTA personnel assigned. The County will introduce the assigned Project Manager and identify responsible individuals from each department. The goal is to establish close working relationships among all parties.

We anticipate a meeting of approximately two-hours duration, and involving approximately 25 attendees. The meeting will precede the survey and interview tasks, which will immediately follow this session.

Survey and Interviews. We will conduct on-site facility and operational surveys. CTA engineers need sufficient interview results to firmly establish realistic County requirements.

We will examine present procedures and routines by conducting personal interviews, written surveys, and direct observations. We will interview key management personnel and representative front-line personnel to determine and document realistic requirements.

We will conduct a maximum of 30 personal interviews, some with individuals and some with groups. We will directly observe dispatch center operations, and record our observations for the purpose of analyzing existing procedures.

CTA engineers will visit the existing radio sites in order to obtain first hand information on the types of equipment at sites, its general condition and the overall conditions at the sites. We will review and spot-check drawings and data provided in an effort to confirm completeness and accuracy.

We will depend heavily on future projections provided by the County to determine future radio growth requirements. We require statistical records and projections of such things as population, school registrations, housing starts, building permits, new roads and utility construction.

Traffic Analysis. CTA will review historical traffic statistics provided by the County. We will analyze these statistics and identify trends that will assist in projecting the growth of communications requirements.

IT Analysis. CTA will meet with and review the existing County IT and GIS operations and programs. The intent will be to establish the effectiveness or the current plans and operations compared to the needs of the community.

Analysis of Site Facilities. Our study will investigate general requirements for floor space, towers, power, HVAC, and other parameters needed to define site facilities. Plans and budgetary estimates must include these costs.

Parameters will include building size, configuration, and general design criteria of the major items of supporting equipment. We will recommend general characteristics and sizes of primary and backup power, HVAC, fire protection, and grounding systems for the radio sites and the dispatch centers.

Designs and recommendations will incorporate maximum use of existing sites and facilities when cost effective. Our recommendations for existing communication centers and radio sites will identify modifications to expand the floor space if necessary. This may involve additional cable raceways, a new power panel, new HVAC ducts, fire protection system, and expanded UPS and standby power systems.

Short Term Improvements Analysis. Following the interview and analysis process, CTA will use the information obtained to determine the immediate deficiencies in the County's communications systems. We will apply our engineering expertise to make recommendations for immediate, short-term improvements for the County's operation. These recommendations may cover a wide range of issues. The recommendations may be such items as:

- Refurbishing transmitters, receivers, and antennas
- Improved placement of antennas

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- Improvements in site support facilities
- Improvements in dispatch control
- Computer processor, CAD, & RMS upgrades
- 911/Dispatch consolidation
- Staffing adjustments
- Procedural changes
- Improvements in interconnecting microwave and circuits
- Possible additional sites or receivers

Develop Opinion of Probable Cost Analysis. This work will provide the estimated system improvement costs. We will develop separate estimates for all major system upgrades.

Our cost analysis will include any site construction or renovation, major items of radio and antenna equipment, consoles and peripherals at the dispatch centers, computers and processors, and non-fixed mobile and portable radio units.

The analysis will include equipment and construction cost estimates for any new site facilities required. This will include site development, construction, buildings, towers, power systems, and related elements. We will also include our opinion of the probable cost of renovations, expansion, and modification of existing sites.

We will include, if recommended, interconnecting telecommunications circuits such as new microwave or fiber links, leased telephone lines, T1s, and other media. We will include leased sites and facilities if these are part of our recommendation.

Our cost analysis will provide County managers with data to establish budgets for the recommended system and subsequent project phases.

Submit Draft Initial Report. Upon completion of the above tasks we will prepare and submit eight bound copies of the draft initial report of the Recommendations.

This report will contain:

- Baseline of the current communications environment
- Preliminary system recommendations

- Site facilities improvements required
- Recommended approach
- Project schedule

We will include, under separate cover, a single copy of the draft of our cost analysis. We recommend restricting this information at this point in the project, to the extent consistent with applicable procurement regulations, if any, since the system may be modified under the County's review process.

County Comments. County officials will review the draft initial report document, and provide consolidated comments to CTA. We envision the comments will be provided to CTA within ten working days after receipt of the report document.

Report and Presentation. Upon completion of the draft review and approval of the contents, we will publish an Initial Report, including a focussed executive summary directed to County officials. We will provide seven bound copies and one unbound copy. The executive summary is intended to supplement and augment the presentation.

We will develop a Formal Presentation for a joint session of County and City officials. This same program may be presented to a Communications Committee but would be structured as a more informal working type session than was presented to the elected officials. We anticipate that the formal and informal presentations will be accomplished in the same working day.

Publication and submittal of the Initial Report and completion of the presentation will constitute completion of Phase 1.

PHASE 2A LONG TERM SYSTEM DESIGN

Coverage Analysis. CTA will develop a Computerized Propagation Analysis. The study will provide coverage estimates, which in turn will be used to estimate the required number and location of radio sites. The information developed through this effort should be adequate to determine the total number of sites and develop cost projections for budget purposes. We generally recommend an ultimate objective of 95% coverage reliability to and from hand-held portable radios, operated inside and outside buildings, throughout the County's jurisdiction. We also generally recommend that any system design take into

consideration the coverage recommendations of TSB-88, which is the Telecommunications Industry Association (TIA) report on Wireless Communications Systems Performance (Radio Coverage). We will work with the County to determine coverage requirements that specifically address the operational needs and the budgetary constraints of the County.

We anticipate analyzing up to five candidate sites, with the plan of providing radio coverage throughout Orange County. The study will define antenna elevation above average terrain and estimated tower heights.

We will develop consolidated radio coverage contours annotated on appropriate regional outline maps. Contour lines will depict the minimum level of radio coverage, both talk-out and talk-in directions, for the sites recommended.

Our coverage analysis facility uses a computerized Okumura model, applied to terrain data obtained from the USGS 3-second terrain database. The model has been developed by Softwrite, in partnership with CTA. CTA incorporates this model into a wide area simulcast/voting receiver model developed by CTA, to determine the projected coverage produced by the synergy of multiple communications sites working statistically together to provide the requisite coverage. Results are crosschecked against 7-1/2 minute USGS maps of the area, to minimize the effect of terrain anomalies.

As part of this process, we use a methodical and logical process to determine the propagation coverage required, the number of channels needed, and the radio traffic assignments. Also during the process of defining requirements, we will estimate the quantities and types of radios, define consoles and system functions, and establish operational parameters needed. County managers and department heads will be provided the opportunity to review and approve the concepts before we lay out the final system design. We will agree on critical factors such as coverage area and reliability, system capacity, noise performance, and special features required.

Define Site Facilities. Our design will establish general requirements for floor space, towers, power, HVAC, and other parameters needed to define site facilities. Plans and budgetary estimates must include these costs.

We anticipate that the coverage area will require four or more radio sites. At least one of these may be an entirely new facility. Our design will also include recommendations for communications center and radio dispatch center facilities.

Our opinion of probable cost will include budgetary construction and modification costs for the sites recommended.

Design parameters will include typical building size, configuration, and general design criteria of the major items of supporting equipment. Site equipment buildings will be based on the use of pre-constructed shelters, unless described otherwise herein. We will recommend general characteristics and sizes of primary and backup power, HVAC, fire protection, and grounding systems for the radio sites and the dispatch centers.

Designs and recommendations will incorporate maximum use of existing sites and facilities when cost effective. Our recommendations for existing radio sites will identify modifications to expand the floor space if necessary. This may involve additional cable raceways, a new power panel, new HVAC ducts, fire protection system, and expanded UPS and standby power systems.

Define System Attributes. We will organize and analyze the compiled data. This data will enable us to develop the specific Orange County requirements, which respond to specific County communications deficiencies, as well as projected needs and general design criteria, which in our professional opinion would be needed by the County. The requirements will be codified into a list of "System Attributes."

County managers and department heads will be provided the opportunity to review and approve the list of "System Attributes" before we lay out the final system design. We will agree on critical factors such as coverage area and reliability, system capacity, noise performance, and special features required.

Alternatives Analysis. CTA will identify a number of potential upgrade approaches that could meet the County's needs. From that list, we will select the most viable approaches, and perform sufficient analysis and design to enable us to rank these alternatives in order of applicability to Orange County. As part of this process, we utilize our "Impact Analysis Process."

Impact Analysis Process. This is an interactive process with the County. We first produce a problems/needs list, outlining the problems with the present systems and the needs that are not presently being met. The list is based on our interviews with County radio users, our surveys of the radio sites and communications centers, review of IT and GIS programs, and the radio surveys completed by County personnel. The "problems/needs" list is then circulated to a

cross section of County personnel and managers to establish the impact of these problems and needs on your operations. The various agencies each assign a level of severity to each problem or need, based on a scale between zero and five. In the meantime, CTA will have established the list of "system attributes" described above. Taking the alternative solutions identified above, we assess each solution's ability to provide the identified system attributes. Finally, the County's assessment of the problems comes into play, as it provides weighting factors for the impact of each problem. We merge our assessment of the alternative solutions with the weighting of the problems, which results in a numerical ranking of the alternatives.

Preliminary System Design. Once the "System Attributes" are defined and the recommended sites are established, we will develop a preliminary system design, which defines the major elements in schematic block diagram format. The design will include antenna systems, radio stations and site configurations, traffic handling capacity, computer and processors needed, and the type and general quantity of interconnection circuits. We anticipate a detailed design and cost estimate for a single radio upgrade configuration. Analyses of additional upgrade configurations for comparison are outside the currently envisioned scope of this project. The design will include recommended telecommunications circuits (digital microwave, fiber optics, or leased T1 lines) for interconnecting the transmit sites, and the communications center(s).

Develop Opinion of Probable Cost Analysis. CTA will provide the estimated budgetary turnkey system costs. We will develop separate estimates for all major system elements.

Our cost analysis will include site construction and renovation, major items of radio and antenna equipment, consoles and peripherals at the dispatch centers, computers and processors, and non-fixed mobile and portable radio units. We will include installation and testing, spare units, test equipment, and a 1-year maintenance contract.

The analysis will include equipment and construction cost estimates for new site facilities required. This will include site development, construction, buildings, towers, power systems, and related elements. We will also include our opinion of the probable cost of renovations, expansion, and modification of existing sites.

We will include interconnecting telecommunications circuits such as new microwave or fiber links, leased telephone lines, T1s, and other media. We will include leased sites and facilities if these are part of our recommendation.

CTA maintains a cost analysis model, which includes a composite of actual costs experienced from recent procurements of similar systems, adjusted by information from vendors and our engineering experience. We add inflation and other factors where appropriate. Central to our process is our "list cost" database, which benchmarks the costs of the various system elements. From the "list cost" analysis, we provide estimates of reductions under the particular procurement scenario envisioned for Orange County. The resultant provides a range of high and low cost figures, which, in our opinion, bracket the costs of the system as defined in our analysis.

Our cost analysis will provide County managers with data to establish budgets for the recommended system and subsequent project phases.

Submit Draft Design. Upon completion of the above tasks we will prepare and submit eight bound copies of the draft design of the system.

This design document will contain:

- Preliminary system design
- Site facilities required
- Recommended project approach
- Project schedule

We will include, under separate cover, a single copy of the draft of our cost analysis.

County Comments. County officials will review the draft design document, and provide consolidated comments to CTA. We envision the comments will be provided to CTA within ten working days after receipt of the report document.

Report and Presentation. Upon completion of the draft design review and approval of the contents, we will publish a Design Report, including a focused executive summary directed to County officials. We will provide seven bound copies and one unbound copy. The executive summary is intended to supplement and augment the presentation.

We will develop a Formal Presentation for a joint session of County and City officials. This same program may be presented to a Communications Committee but would be structured as a more informal working type session than was presented to the elected officials.

PHASE 2B SPECIFICATIONS

Final Design. This proposal assumes that the system configuration is a multiple site, countywide communications system, including a microwave or fiber optic telecommunications backbone capable of supporting a simulcast system. The design established in Phase 2A will be finalized in preparation for developing a procurement specification.

As additional scope at the County's option, and as part of the final design, we will review the current FCC and FAA licenses, and provide modifications to those licenses if necessary. At the County's option, we can also assist in the preparation of local permitting documentation, including preparation of the necessary drawings and blueprints.

Develop System Specifications. We will develop competitive bid specifications based on the operational and functional requirements of the systems and the design described earlier.

As an integral component of these specifications, we will develop supporting telecommunications (microwave or fiber) specifications that will address telecommunications requirements for the radio system, in the context of the overall Orange County telecommunications plan.

Since the complexity of wide area, multi-site communications systems causes each system design to be unique, CTA has developed a *functional/operational* approach to system specifications. Our specifications allow the vendor sufficient latitude to design a system around their own configurations. At the same time, however, we require that the vendor take full system responsibility in four critical areas: coverage, hardware, interference, and the telecommunications backbone.

Develop Site Facilities Requirements. We will develop functional requirements for the physical facilities for sites. This will include a general description of buildings, towers, primary and backup power systems, heating, ventilating and air conditioning (HVAC) systems, and renovations required. We envision that these statements of requirements will be part of the turnkey radio system contract, and

therefore will be consolidated with the radio system specifications into a single RFP.

Issue Draft Specifications. CTA will issue eight copies of these specifications to Orange County for review and comment. Eight copies of the specifications will be retained in our office. The County will provide a consolidated list of changes or comments, which will be incorporated in the final version.

Vendor Review Process. Each pre-qualified vendor will be invited on separate days to review the draft specifications for one day in our office. Our engineers will discuss concerns the vendor might have. By using this review format prior to issuing the specifications, we are able to obtain vendor feedback in an atmosphere conducive to an honest, frank, and open exchange. The vendor review, since it occurs in our office and is prior to issuing the RFP document, has generally not been subject to public record disclosure requirements, which encourages the vendors to frankly discuss their concerns without compromising their competitive position.

Finalize Specifications. CTA will revise the specifications, incorporating County requirements and comments, and approved revisions resulting from the vendor review.

Submit Procurement Package. CTA will prepare and submit seven copies of the Procurement Package. The County will provide the terms and conditions plus associated procurement and administrative documents. We request that these be provided to us in digital form so that they can be incorporated efficiently into the procurement package. (This proposal does not include transcription of documentation for inclusion into the procurement package.) At the County's request, we can provide a typical procurement/contract package for County review.

PHASE 2C EVALUATION and PROCUREMENT

The procurement phase entails the period beginning with the issuance of the system specifications, and concludes with the signing of the contract between Orange County and the system supplier. It is essential during this phase to maintain careful records, as well as to maintain impartiality. The process has been defined prior to issuing the procurement documentation, and must be carefully and strictly followed in order to minimize vendor protest.

Develop Evaluation Criteria. CTA will assist the County in developing the evaluation criteria for a competitive bidding process. We will submit a recommended list of evaluation factors, including weighted percentages along with a scoring system, for determining the level of technical compliance with the specifications. We suggest that the evaluation criteria be included in the procurement documents, since this establishes vendor concurrence with the evaluation process for the record.

Pre-Bid Conference. CTA will assist Orange County with a Pre-bid Conference. We will respond to technical questions during this half-day conference. The County will chair the meeting, escort vendors to sites for inspections, and respond to non-technical questions. We will prepare and provide appropriate specification addenda and formal responses to issues raised in the Pre-Bid Conference to the County within 7 working days. We envision a single Pre-Bid Conference.

Technical Evaluation. CTA will conduct a detailed technical evaluation of proposals. We envision there will be a maximum of three proposals to be evaluated in detail. If more than three proposals are received, a screening process, agreed to beforehand, will be used to eliminate the least viable proposals, so that a maximum of three remain. Alternate proposals received from the same vendor each count as one proposal for evaluation purposes.

The technical evaluation will be a determination of compliance to the specification. We envision a multiple step process as follows:

1. CTA engineers will review each proposal selected for detailed technical evaluation. Technical exceptions will be identified, and items that require clarification will be noted. A list of clarification questions will be established for each vendor. These will be consolidated with clarification questions developed by County reviewers.
2. The list of clarification questions will be provided to each vendor in hard copy form as well as in digital form. The vendor will be expected to respond in detail to each question within a specific time frame.
3. CTA will review vendor responses, and will prepare a pre-final list of exceptions.
4. Vendors will be invited, one at a time, to present their proposal to the County. At that time each vendor will be asked to answer any open

questions and to clarify any open items. Vendor responses to these clarification questions will be documented, and provided in letter form to each vendor within three working days after the last vendor presentation. Each vendor will be required to confirm the accuracy of the document in writing. We envision that all vendor presentations can be accomplished consecutively with 1/2 day provided for each presentation. As part of the same trip, CTA will meet with the County selection committee, to arrive at a consensus on the technical evaluation factors.

Price Evaluation. After the vendor presentations are complete, the County will open the price proposals. CTA will review the price proposals for technical accuracy, which may entail a single letter of clarification questions to each vendor. We do not envision any review meetings resulting from the price evaluation.

Evaluation Report. CTA will prepare an evaluation report, which will provide a record of the process and results achieved. This report will be provided to the County, along with CTA's recommendation for the most responsible and cost effective bidder. The County will be responsible for preparing any required internal documentation, which may; be necessary for seeking formal approval from those in responsible charge (i.e. elected officials, procurement officers, etc.). CTA's technical and price evaluation will include a written analysis of each proposal as measured against the RFP criteria. The evaluation report will also provide an overall ranking of vendor proposals.

This aspect of the project is critical, and requires careful attention to detail and documentation in order to minimize the probability of protest (or, in the alternative, the success of any protest) by any unsuccessful vendor(s). Accordingly, the process must be accomplished in a carefully programmed environment and should not be expedited. We recommend that the County develop and put into place a carefully thought out process prior to embarking on the evaluation task.

Executive Presentation. CTA will assist the County in presenting the recommendations to those in responsible charge (elected officials, procurement officers, etc.). We envision this will be accomplished in a one-day meeting, with preparation during the day, and the presentation during the evening.

Negotiate Contract Award. CTA will support the County in negotiations with the successful vendor. This support will entail review of contract documents,

consultation by telephone, and written comments to the County. We envision the form of the contract to be hierarchical, with the RFP, vendor proposal, evaluation questions and answers, and negotiated items each forming part of the hierarchy. We also envision our effort in negotiations to be on the order of one man-week in our office, and that major documentation requirements will not be necessary for this process. Should the County request our presence or need additional negotiation assistance, we can provide such assistance as an addition to this scope. Such additional support might include additional contract review, preparation of a statement of work, taking part in face-to-face negotiation sessions with the vendor, or other similar tasks.

OPTIONAL IMPLEMENTATION and ACCEPTANCE

Implementation

The implementation phase entails the period beginning immediately after the signing of the contract between Orange County and the system supplier, and ending when the system is ready for acceptance.

Design Review Meeting. Within several weeks after the contract is signed (historically, three to six weeks), we will chair a technical design review meeting at a location of the County's choosing. At this meeting, the selected vendor will be asked to provide a complete presentation of the system design. We urge user agencies to be represented at this meeting, since this is the last opportunity to clarify system operation, or to make changes at minimal cost.

Pre Construction Conference. CTA will conduct a pre-construction conference to review the physical facilities involved in the project. This conference may be a separate meeting, or it may coincide with the design review meeting.

Assist in Site Acquisition. Site acquisition is often one of the major challenges in the implementation of a multiple site system. We will provide assistance in site acquisition via teleconference and written documentation. At the County's option, and as an addition to this scope, CTA can provide on-site assistance for site acquisition, including meeting with citizens committees, meeting with planning boards, survey of sites, participation in the identification and inspection of candidate sites, and the like. We recommend that the County expedite site acquisition, beginning this process no later than the completion of the system design, and if possible even during negotiations with the successful vendor.

FCC and FAA License Preparation. In the event that the vendor's design incorporates changes in sites or system parameters, a modification of the frequency licenses might be necessary. Normally this is done as part of the radio system vendor's services. CTA has not included technical assistance as a part of this proposal or scope.

Monitor and Administer Site Construction. Site and facilities construction interface will require reviewing the plans and schedules and submitting reports and recommendations to the County and the construction contractor. The construction process must be monitored and activities must be coordinated to provide for compatibility between the radio system and the required physical facilities.

Monitor and Administer the Radio and Telecommunications Systems Installation. The project will require a certain amount of on-site monitoring and coordination of the radio and telecommunications systems installation. This will include scheduled and unscheduled visits for purposes of inspection and coordination.

Our involvement during implementation will be on an advisory basis. We envision four review meetings and four inspection visits as part of this scope. At the County's option, and as an addition to this scope, we can expand our involvement to attend weekly, bi-weekly, or monthly construction review meetings. For an additional fee, we can also provide a Resident Project Representative as an addition to this Scope of Services.

Develop Test Plans. The system specification will specify the acceptance plan requirements and the preparation of the test plan. CTA will review and approve the contractors test procedures responding to the acceptance test specification. This is an important step in order to enforce compliance with the system specifications in accordance with the contract. We envision testing will occur at Staging and also after completion of implementation, and that the test procedures will be provided accordingly.

Staging Tests. CTA will attend the staging tests, at the locations established by agreement between the vendor and the County. In general staging is done both at the radio vendor's facility and at the telecommunications supplier's facility. We will provide a written analysis of punch list items identified during this test. We recommend that the County provide representation at the staging tests.

We encourage some of the acceptance testing to be done in a staging area, such that system problems are identified while the vendor can easily address them.

Acceptance

The acceptance phase entails the period beginning with the inspection of the installation at each site, and ending with the acceptance of the project after cutover. In this phase, we have included two review meetings in Orange County, each consisting of one day, and attended by a senior engineer.

Facility and Infrastructure Inspections. Each site must be inspected to determine that the equipment and facilities are installed in a professional and competent manner. Items requiring attention will then be documented in an inspection punch list. The vendor will be required to resolve each punch list item prior to beginning the system tests. We envision a single inspection visit for this item.

Acceptance Tests. CTA will monitor and generally oversee testing, which will address four specific test areas: Coverage, Fixed Infrastructure, Interference, and Telecommunications Subsystem. The vendor will be responsible for the actual testing. We will require that the test setup is adequate and appropriate, and that testing is done according to the acceptance test plan. For the purpose of this proposal, we assume that Orange County will supply a driver for the coverage test, who will also be a test witness. Our personnel will witness the infrastructure system tests, and will spot check specific equipment tests to determine that devices tested in the factory or shop have been properly documented. We envision two visits to Orange County for this task. One visit would be by a staff engineer, and the other, for a longer period of time would be by a member of our staff who specializes in testing and installation.

Test Report. The Vendor will be required by the specifications to provide the draft test results within one week after completion of the acceptance tests. CTA will analyze the results, and provide a written report recommending acceptance or rejection of the tests or any portion of the tests.

During acceptance test time, the vendors generally are pressed with many alignment and minor system completion tasks. In turn, the owner typically feels a strong pressure by users to accept the system and get it operational. We consider it critically important to conduct the acceptance tests in a cool, methodical way, rejecting pressures by either the vendor or user to expedite any aspect of the

acceptance process. This requires a strong project manager on the owner's side, who can deal not only with the vendor but also with County personnel.

Thirty-Day Operational Tests. The system specification will include a mandatory 30-day operational test to evaluate the system reliability. During this time, no adjustments or repairs will be allowed without permission from the County, and all failures and problems will be documented and analyzed. CTA will be available to monitor the thirty-day tests, and observe cutover upon direction by the County as an addition to this scope of services.

Review Record (As-Built) Drawings. The vendor provided as-built drawings must be reviewed to prove to our satisfaction the format and content is sufficient to enable qualified technicians to maintain the system in a straightforward and competent manner. For the purpose of this scope of work, we envision a general review for suitability. We will be available to provide a detailed review of as-built drawings upon direction by the County as an addition to this scope of services.

Monitor/Coordinate Training. CTA will review the vendor's training plans. We will be available to monitor training on-site at the request of the County as an addition to this scope of services.

Status Reports. CTA will provide monthly status reports. These will report on those aspects of the project with which we were involved in the previous month, including a description of activities accomplished, problems encountered, problems solved, scheduled work, and "red flag" items.

Project Schedule

We have included a PERT chart and Gantt schedule for the proposed project. The PERT chart illustrates the start and stop dates and duration for each task. We have intentionally used the task lists in this section in order to prepare the proposed schedule.

The schedule is based on the dates shown. Should the schedule be changed to cause work to occur during the final two weeks of December, the overall schedule for that phase will be increased by seven working days.

We have included on the schedule all tasks that are necessary for the orderly implementation of any wide-area communications project. Tasks that are specific responsibilities of CTA as described in the methodology contained herein, are designated as such. Tasks that must be Orange County's responsibility are likewise designated as such.