

# **JEA Contract Performance Manual**

Revised 4/15/04

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The sections within this manual give detailed information regarding several contract performance-related items that are referenced in JEA contracts. All companies who are parties to a JEA contract should follow the applicable procedures and rules outlined in this manual, as changed or amended from time to time, as specified within each contract for JEA work.

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## **1. As-Built Drawings**

Prior to starting the Work, the Company shall update its drawings and specifications to reflect any Addenda.

Upon completion of the Work and prior to final payment, the Company shall furnish to the JEA Engineer an electronic file and a reproducible Mylar set of the drawings revised in accordance with all Addenda, Change Orders, and all requirements with respect to the drawings specified herein. The JEA Engineer will furnish to the Company a set of Mylars, or an electronic file of the original drawings, without charge, for this purpose.

### **Essentials of Revising the Mylars/Electronic Files:**

The Company shall perform all revisions and recording of information on the Mylars in ink to scale.

If electronic file is furnished, the files shall be revised by a competent drafter. The Electronic files shall be printed on Mylars and shall conform to the requirements of the JEA Drawing Manual.

Each document shall be labeled "As-built" in 1-inch-high printed letters and shall be on 24" X 36" Mylar and when electronic file was furnished, Mylars shall be accompanied by the revised electronic files on 3-inch computer disks.

Each page of the as-built drawings shall include the following: the name, date and original signature of the general contractor responsible for the Work, and the name, date, original signature and seal of the registered land surveyor or registered professional engineer who provided the horizontal and vertical dimensions and elevations on the as-built drawing. The signatures shall certify that the as-built drawings do, in fact, reflect the true as-built conditions as located under the direct supervision of the registered surveyor and/or professional engineer.

When making changes to the Mylars, the reviser shall, when noting utility lines to be changed, erase before new lines are drawn. When revising notations, the reviser shall strike through any old notations and add new notations. Lines, notations or required information not affected by Addenda or Change Orders shall not be disturbed. The reviser shall use the legend used on the original Contract drawings to make all necessary corrections.

### **Potable Water, Wastewater and Reclaimed Water Facilities:**

All potable water, wastewater and reclaimed water facilities shall be located in two directions. One location shall be referenced perpendicular to the right-of-way line. The other location shall be parallel to the item being located and shall be referenced to the right-of-way line. Centerline intersections of pavement, curb, sidewalk or utility structures are not acceptable unless these are in turn referenced to right-of-way lines. Centerline of right-of-way may be used for reference in lieu of the right-of-way line. Stationing may be used as an alternative providing the point of beginning is referenced to an existing right-of-way line that is shown on the drawings. Elevations, where required, shall be referenced to NGVD 1929 benchmark or USC&GS Data. As-built survey information shall be referenced to at least two state plane coordinates NAD 83. The location and elevation of the benchmark shall be shown on the as-built drawings.

As-built drawings shall show physical dimensioning of the separation of water mains at crossings with sanitary sewers, storm drains and sanitary force mains. This can be shown by elevations of

each pipe, or a measurement taken between the pipes. As-builts shall also show measurement of vertical and horizontal separation in areas where water mains are parallel and within 11 feet of sanitary sewers, storm drains, or sanitary force mains. The vertical separation shall also be shown for the full length of the parallel run.

Special detail drawings will be required where installations were not as shown on the Contract drawings due to the field conditions, or where required for clarity.

As-built drawings shall contain a vicinity map and street names shall be shown for all streets and right-of-ways.

### ***Potable Water***

The location of all valves, fittings, fire hydrants, casings and points of connection to the existing system shall be referenced in two perpendicular directions. Horizontal dimensions shall be to the nearest tenth of a foot and vertical dimensions shall be to the nearest hundredth of a foot. Horizontal locations will be required perpendicular to the right-of-way at 100-foot intervals. Elevations on the main and finished grade will also be required at all pipe deadends, intersections, size changes, points of connection to existing system, at fittings, at intersections of pipe, at 500-foot intervals, and where the depth of cover is less than 36 inches or greater than 60 inches.

### ***Gravity Sewer***

The location of all piping, wyes, tees, manholes, cleanouts and points of connection to the existing system shall be referenced in two perpendicular directions. Horizontal dimensions shall be to the nearest tenth of a foot and vertical dimensions shall be to the nearest hundredth of a foot. Runs of gravity sewers shall be identified (e.g., 300' of 8" PVC SDR35 at S=.004.) Elevations shall be given for the north rim of the top of all manhole covers and all manhole inverts. Elevations on the service piping and finished grade will be required at the property line. Location of the end of sewer services shall be given to the plug and be located from the side property line. Manhole types shall be identified (e.g., Type A, B, etc.)

### ***Force Mains***

The location of valves, fittings, casings and points of connection to the existing system shall be referenced in two perpendicular directions. Horizontal dimensions shall be to the nearest tenth of a foot and vertical dimensions shall be to the nearest hundredth of a foot. Horizontal locations will be required perpendicular to the right-of-way at 100-foot intervals. Elevations on the main and finished grade will be required at points of connection to the existing system at fittings, 500-foot intervals, at high points, and where the depth of cover is less than 36 inches or greater than 60 inches.

### ***Pumping Stations***

Wetwell size and location shall be indicated and located to property lines and/or right-of-way lines. All lines within the pump station site shall be located to property lines and/or right-of-way lines. Elevations shall be indicated at inverts, wetwell top and bottom, and at ground adjacent to wetwell. All types and sizes of lines and fittings shall be indicated. All schedules that show pump, motor and electrical data shall be corrected to show the as-built condition and submitted with the pump station drawings.

Within the pump station boundaries the following shall be located horizontally: pump-out, water spigot and RPZ device, wetwell, control panel, bends, fittings, manholes, generator and fuel tank, transformer, irrigation system, fence, and auxiliary electrical enclosures, as applicable.

The Company shall provide a boundary survey of the pump station site showing above and below ground improvements. This survey and sketch shall be prepared by a registered land surveyor in accordance with the Florida Statutes and any other applicable laws, rules and regulations. The sketch shall be submitted with as-built drawings prior to final payment.

All buried electrical conduit shall be labeled and located to property lines and/or right-of-way lines including electrical service from utility transformer to station meter and to control panel.

***Reclaimed Water***

The location of valves, fittings, casings and points of connection to the existing system shall be referenced in two perpendicular directions. Horizontal dimensions shall be to the nearest tenth of a foot and vertical dimensions shall be to the nearest hundredth of a foot. Horizontal locations will be required perpendicular to the right-of-way at 100-foot intervals. Elevations on the main and finished grade will be required where the depth of cover is less than 36 inches or greater than 60 inches, at fittings, and at 500-foot intervals. Elevations on the main and finished grade will be required at all pipe deadends, intersections, and size changes.

***Storm Drain***

The location of all piping, wyes, tees, manholes, inlets, cleanouts and points of connection to the existing system shall be referenced in two perpendicular directions. Horizontal dimensions shall be to the nearest tenth of a foot and vertical dimensions shall be to the nearest hundredth of a foot. Runs of storm sewers shall be identified (e.g., 300' of 15" RCP at S=.004.) Elevations shall be given for the north rim of the top of all manhole covers and inlets and catch basins and all manhole, inlet and catch basin inverts. Storm drain, manhole, inlet and catch basin types shall be identified.

***Buildings***

As-built drawings for buildings shall be marked to indicate any and all changes made. As-built drawings shall also include the installed size, elevation and location of all interior equipment, structures and concealed materials, including plumbing, electrical conduits, ducts, air and piping. The piping shall be identified as to its use.

**Certification of the As-builts:**

The drawings shall be certified using the forms provided.

Delivery of As-builts to JEA Engineer:

Prior to final payment of the Contract, the Company shall deliver the revised electronic file and the Mylar as-builts and two embossed prints made from the as-built drawings to the JEA Engineer and accompany the submittal with a transmittal letter, in duplicate showing:

Date of submittal

Work title and number

Company's name and address

Title and number of each as-built

Signature of an officer of the Company, stating that the as-built drawings are a correct and accurate depiction of the Work performed.

## **2. Care of JEA Customers**

**The Company agrees to provide excellent customer service throughout the execution of the Work during both scheduled Work hours and Overtime in the manner, as a minimum, as set forth below:**

### **Customer Service Plan:**

The Company shall submit a Customer Service Plan prior to mobilization and designate an individual to assume the duties of the Company's Customer Service Representative (CSR) as described herein.

The Company shall provide an after-hours emergency phone number to JEA.

The Company shall provide contact numbers for those individuals assigned to concerns arising during nonbusiness hours and in the event of emergencies. The designated person(s) designated shall provide a cellular phone number as the main contact number, and one alternate number. The designated person(s) shall respond to JEA with proposed resolution within two hours of receiving a call from a JEA representative or customer. If the Company fails to respond within the designated time and it is thereby necessary for JEA provide assistance, the Company shall be responsible for all costs incurred by JEA as a result of resolving the concern.

Upon JEA approval, the Company shall deliver fliers and/or door hangers provided by Project Outreach to all customers in an affected work area at least three days prior to each construction activity including, but not limited to, locates, TV/cleaning, soil borings, mobilization, etc.

The Company shall notify affected customers prior to planned outages, line flushing, valve simulations and driveway construction. The notification will be produced by the Company and approved by JEA Project Outreach.

### **Customer Concerns:**

The CSR shall contact the JEA customer who has a concern by the end of the business day of when the concern was received from JEA Project Outreach. The Company shall contact Project Outreach within two business days to confirm that they have contacted the customer and assessed the concern.

The CSR shall provide JEA Project Outreach with concern evaluations, resolutions, and actions taken all within five business days of when the concern was received.

The CSR shall notify Project Outreach immediately after a concern has been resolved with specific resolution actions or an update of the resolution. Project Outreach will contact the customer following notification of resolution to confirm the resolution before Project Outreach closes the concern and prior to notifying the Company, the CSR, JEA Representatives and inspectors of resolution of the concern.

Within one business day of receiving a concern from a JEA customer, the Company shall notify JEA Project Outreach in writing of each customer concern reported directly to the Company's personnel by any JEA customer. Such notification shall include, as a minimum: the Company's name, date and time the concern was communicated to the Company, the name, address and phone numbers for the customer, the nature of their concern and any action that was taken or

any action currently underway to resolve the concern. The CSR shall follow the customer concern procedures stated above.

If the Company fails to meet the problem resolution deadlines stated in this document in a manner that meets acceptable quality standards, JEA may make repairs or take other necessary actions to resolve the issue, which shall be at the Company's sole expense.

#### **Duties of the Customer Service Representative (CSR)**

The Company shall provide a Customer Service Representative for Term of the Contract. The CSR's primary responsibilities shall include, but are not limited to the following:

#### **Communication:**

Serve as the primary point of contact for customer concerns and information request  
Report customer concerns to the JEA Project Manager and Project Outreach or other internal JEA resources and assist in resolution of issues  
Meet with customers on-site as needed to assess their concerns.

#### **Planning:**

Conduct biweekly progress meetings with JEA Project Manager  
Conduct progress meetings with Project Outreach regularly and as needed to review any outstanding complaints and provide a timeframe and action plan for resolving them.  
Review customer satisfaction targets and goals, measurements, documentation and project definition and assist with making improvements  
Conduct periodic customer service reviews during the course of the Work to assess and identify any items considered to be at risk or vulnerable in relationship to meeting JEA goals and objectives  
Notify Project Outreach, in a timely manner, of change in scope or schedule

#### **Process Improvement:**

Work with JEA to identify process improvement opportunities that increase customer service and satisfaction  
Make recommendations to JEA to enhance and assist with JEA goals and objectives for customer service  
Conduct a customer service review at the completion of the construction phase of a project, but prior to the restoration, or "punch list" phase, to assess customers' satisfaction with the handling of concerns and customers' overall response to the project.

#### **Disruption of Utility Services:**

If the Company disrupts any utility services (water, sewer or electric, etc.) during performance of the Work, the Company shall return them to operation as soon as possible. No disruption to any utility service disruption shall exceed the end of the Company's normal work shift. No disruption to the customer's utility services shall exceed any 12-hour period. Should any of the customer's utility services be disrupted, for a period longer than 12 hours, the Company shall provide alternative arrangements for the customer, as determined by JEA, with no additional cost to JEA for these arrangements unless otherwise specified in the documents. The CSR shall immediately notify JEA Project Outreach (telephone 665-7500) of any service disruptions.

#### **Restoration:**

The Company shall restore, for no additional compensation, the landscaping of any properties affected by the Company's actions, directly or indirectly, (in the right-of-way not related to ongoing Work, or isolated Work in the right-of-way that would leave unrestored areas for undue

periods of time subject to criticism) to its original state, within five calendar days from the time the area was disrupted. All other restoration required within the right-of-way shall be scheduled in the customary method for such construction and in accordance with any permit conditions.

The Company shall, at its own expense (unless otherwise specified in the documents), repair any irrigation systems damaged by the Company's Work within one day from the time the irrigation system was damaged. If this is not possible, the Company shall inform the customer of the damage and provide an estimated time for repair. In addition, the Company shall make adequate provisions for the customer to water and maintain his or her lawn.

The Company shall repair, at its own expense, any asphalt and concrete damaged by Company (in the right-of-way not related to ongoing Work, or isolated Work within the right-of-way that would leave unrestored areas for undue periods of time subject to residents/customer criticism) within five calendar days from the time the damage occurred. All other restoration required within the right-of-way shall be scheduled in the customary method for such construction and in accordance with any permit conditions.

**Customer Concern Ratios:**

Project Outreach's goal for customer concerns is to completely resolve all complaints within 10 business days of receiving a complaint. A formal customer concern shall be defined as a documented concern to JEA Project Outreach. The concern may be of a real or perceived problem that the customer has against the Company.

The JEA Project Manager or designee will notify the Company on a monthly basis of how many concerns were received by JEA's Project Outreach and the number of concerns yet to be resolved. JEA will immediately notify the Company when a concern has been opened and has not been a response to it within five business days. The Company shall contact Project Outreach and provide a written correction plan within five calendar days of receipt of the notice. If at any time the Company allows unresolved concerns to exceed the five business days without prior notification to Project Outreach and the customer concern ratio reaches 3.0 percent, the Company shall be required to appear in front of the Company Performance Review Board to explain the circumstances leading to the unresolved concern. The Company Performance Review Board will notify the Chief Purchasing Officer of the board's decision and any recommended actions, which may include, but are not limited to, additional remedial action, termination of the Contract and/or suspension from JEA's Responsible Bidder's List in all categories for a period not to exceed one year.

If the Company fails to adhere to the customer service requirements stated herein, the Company's performance shall result in a required hearing before the Company Performance Review Board. The Company Performance Review Board will consist of three JEA directors. The hearing will evaluate the Company's remedial action plan and determine whether such plan will be effective. The Company Performance Review Board will present its recommendation to the Chief Purchasing Officer and recommended actions that may include additional remedial actions, termination of the Contract and/or suspension from JEA's Responsible Bidder's List in all categories for a period not to exceed one year.

### **3. Critical Path Method (CPM) Schedules**

The Company shall use the Critical Path Method (CPM) to schedule and manage the Work. A qualified member of the Company's personnel shall do scheduling using CPM. If the Company does not have staff capable of preparing and managing CPM schedules, the Company shall obtain such qualified personnel on a subcontract basis for the purpose of supporting this Contract.

All CPM scheduling will be performed using CPM precedence diagramming scheduling software such as, Primavera P3, Primavera SureTrak (a low-cost CPM software for small businesses), Primavera P3e/c for construction, Artemis Artviews or a CPM scheduling software compatible with Primavera P3e import capabilities, integrated as part of a Company-wide ERP. The Company shall submit all schedules and associated reports to the Contract Administrator in both paper and electronic formats in order to allow both complete analysis of the schedules and accurate record keeping.

#### ***CPM Terminology:***

"Activity" means any single, continuous, identifiable step in the total Work. Activities are unlikely to be interrupted and are generally not discontinuous. Poorly defined activities do not separate costs sufficiently to appropriately distribute them on a time line for cash flow. For example, "scaffold installation/removal" is an identifiable step, but if the Work requires multiple scaffold erections, they will be scheduled separately from "scaffold removal", which generates costs at different schedule times, resulting in cash flow at different times. Some activities warrant discontinuous approach when the expenses incurred are for level of effort support, such as during photo reproduction support during construction, when the costs for such an activity may be distributed across the duration of the project because the specific time frame when they will be expended cannot be logically predicted from a schedule.

"CPM Network" means an electronic copy of a project and includes, but is not limited to, activities (as defined above), Milestones, calendar definitions, precedence relationships including any relationship lag periods that have been defined, date constraints (e.g. start on or before, start on or after, finish on, finish on or before, finish on or after, as late as possible, zero free float, zero total float, etc.), target/baseline schedules, project and activity code definitions, resource definitions, resource assignments, and project values (e.g. the data date/time now value, settings for project-activity processing options, etc.).

"Event" means the instant of time at which an activity is just starting or finishing.

"Free Float" means the amount of time that an activity, any activity can be delayed without adversely affecting the "early start" of the following activity as calculated from the logic sequence controlled by precedence relationships.

"Total Float" means the amount of time that an activity can be delayed without adversely affecting the Contract Final Completion date as calculated from the logic sequence controlled by precedence relationships.

#### **Submittal Process for Approved Schedule:**

##### ***Pre-Work Schedule***

At least two days prior to the scheduled date of the Pre-Work Meeting, the Company shall submit a proposed CPM schedule consisting of either: a) an electronic copy of the CPM network for the

proposed Work, or b) copies of a Precedence Diagramming Method (PDM) network diagram, describing the Work activities and procurements to be accomplished and their dependency relationships, and schedule reports. This schedule shall indicate project completion within the Contract Time. JEA shall meet with a representative of the Company to review any discrepancies or items requiring clarification of the proposed Work schedule.

The revised network diagram and schedule reports shall be reviewed and approved, or rejected by JEA prior to the scheduled date of the Pre-Work Meeting. Failure to finalize the Work schedule within 15 calendar days of initial submittal will result in Contract cancellation. The network diagram and schedule reports, when approved by JEA, shall constitute the Approved Schedule, until a Revised Approved Schedule is required to be submitted and approved by the JEA Representative.

### **Acceptance**

When the Approved Schedule network diagram and associated schedule reports have been approved by JEA, the Company shall submit to JEA two Approved Schedule reports as follows:

1. A strictly tabular schedule report that shows the following:
  - a. Format fields including: activity ID, activity description/name, activity calendar, original duration in calendar days, early start date, early finish date, total float, imposed date type, and imposed date (also known as "constrained date"), a list of predecessors and a list of successors.
  - b. Sort criteria
  - c. Grouping or sectioning by an activity or WBS code, as appropriate for the scope of the Work; sorting beneath grouping-sectioning by activity ID
  - d. Selection: all activities

If any of the above fields are too wide for a single tabular report, then the Company shall split some of the fields into a second report that also repeats activity ID and activity name, with the same sectioning, sorting and selection.

The Company shall also submit a list of project definitions including: calendar definitions indicating holidays, other non-work periods, normal planned work pattern (e.g. 8 hours per day, 5 days perweek; 10 hours per day, 4 days per week), any activity code definitions.

2. A second report (a Gantt chart) that includes the following:
  - a. Tabular fields: activity ID, activity name, remaining duration (same as original duration for activities that are not completed or in-progress), early start date, early finish date, total float.
  - b. Graphic bars showing:
    - i. Early date set: early start to early finish (also known as actual start to actual finish if the activity is completed) This bar must highlight activities, preferably in red, with total float values equal to 0 or less.
    - ii. Late date set: late start to late finish (a separate, less prominent bar beneath early date set).
    - iii. Baseline/target schedule date set: a separate, less prominent bar beneath the late date set bar that highlights the original target dates. This bar is static, while the schedule bars for early and late dates will become dynamic during schedule execution.
    - iv. Milestone flags and constrained date flags: these are icons that show up as points in time (events). (Normally, they can share the same bar row as early date set).

- c. Sort criteria
  - i. Grouping: sectioning appropriate to the scope of the project
  - ii. Sorting: subgrouping under each section by early start date (primary sort), by early finish date (secondary sort), total float (third-level sort), and by activity ID (final sort).
- d. Selection: all activities

### ***Additional Network Diagrams***

If the Company is required to submit additional network diagrams, the additional network diagrams shall include a new precedence diagram and schedule reports conforming to the requirements of the paragraph entitled "CPM Standards," herein, designed to show how the Company intends to accomplish the Work by the date stated for Final Completion. The Company shall prepare the additional network diagrams using the same form and method required for the original Approved Schedule.

### ***Schedule Revisions***

The Company shall modify any portions of the Approved Schedule that become infeasible because of "activities or procurement behind schedule" or for any other valid reason. An activity that cannot be completed by its late finish date shall be deemed to be behind schedule.

### ***Change Orders***

Upon issuance of a Change Order, the Company shall indicate the approved change in the next submittal of the revised Work schedule by coding criteria and within the activity description. For example, the scheduler will place a name such as "CO-01" at the beginning of an activity name so that the JEA Representative may easily identify Change Order activities embedded in the early start sort, or elsewhere, and so that the JEA Representative may request a copy of the schedule that specifically identifies Change Order activities by group.

### **Construction Schedules:**

Construction schedules shall include computer-generated graphic networks and computerized, construction schedule reports, as described below.

### **Networks:**

The CPM scheduling network shall be in the form of a precedence diagram, shall be of the customary activity-on-node type, and may be divided into a number of separate pages with suitable notation relating the interface points among the pages. Individual pages shall not exceed 100mm x 1414mm (39"x56").

The Company shall indicate all Work and procurement in a time-scaled format and a calendar scale on all sheets along the entire sheet length. The Company shall plot each activity node so that the beginning and completion dates, and total float time of said activity, can be determined graphically by comparison with the calendar scale. The Company shall show all activities using symbols that clearly distinguish between critical path activities, noncritical activities, and total float for each noncritical activity.

### **Duration Estimates:**

The basic time unit for the duration estimate shall be in calendar days, except for plant outage work, which if requested by JEA, shall be measured at JEA's determination by work shifts or clock hours. For the purpose of scheduling, no schedule activity, outside of a plant outage, shall be estimated in duration units other than whole calendar days. Milestones and events have durations of 0 days. The Company shall show each estimate on the Approved Schedule,

indicating the best estimate considering the scope of the Work and resources planned for the activity.

Except for certain nonlabor activities such as procurement or delivering of materials, activity durations shall not exceed 14 days, nor be shown as less than one working day unless otherwise accepted by JEA. The requirement for activity durations not in excess of 14 days shall apply to all schedule submittals, excepting the proposed Work schedule required to be submitted prior to the Notice to Proceed.

### **Schedules and Schedule Reports:**

"Approved Schedule" is the static, baseline schedule.

"Current Schedule" is a dynamic schedule with progress making it early, late or on time.

"Revised Approved Schedule" is a snapshot of the Current Schedule that becomes the new target/baseline and becomes the static schedule while the Current Schedule remains fluid.

#### **Schedule Update Reports**

The Company shall submit Schedule Update Reports monthly, or periodically as indicated in the Contract Documents, in order to show Work that is ahead of or behind the targeted schedule. The updated schedule may indicate that an activity is ahead of or behind the targeted schedule and may show the Company's revised plan to meet the original dates by working Overtime, weekends, or in drastic cases, revising the Work sequence/logic to recover time. Such report, however, does not infer that changes to the schedule are authorized by JEA.

The Schedule Update Report shall include the following:

1. Determine a new data date (time now) value, against which the progress of all activities in the CPM network will be reported. Many activities will not be affected by the update because they remain planned, or were completed during a previous update cycle.
2. Based on the selected data date, review each activity for the following criteria:
  - a. If an activity has started and the actual start date has not been previously reported, record an actual start date.
  - b. If an activity has finished and the actual finish date has not been previously reported, record an actual finish date.
  - c. If the activity has started, but not finished, report either an expected finish date or report a remaining duration change based on the calendar assigned to the activity and the forecast of remaining work periods.
3. When this data has been recorded, perform a schedule analysis command (sometimes called a time analysis command) within the scheduling software to recalculate and reforecast the scheduled dates based on the previous information input under estimated durations, relationships and date constraints.
4. The Company shall review the schedule analysis results and determine if they are acceptable. If the results are not acceptable, the Company shall notify the JEA Representative so that he may determine the corrective action to be taken to revise the schedule.
5. The Company shall publish and distribute the Schedule Update Reports to show the impact of the progress reporting against the original Approved Schedule.

The Company, after publishing Schedule Update Reports, may choose to attempt to recover lost time through improved productivity, additional work hours or logic changes. If none of these options are viable, the Company should request a Revised Approved Schedule.

The Revised Approved Schedule grants permission to change the completion dates and resets the basis for measuring whether Work is ahead of schedule, on schedule or behind schedule.

The Company shall prepare CPM schedule reports from the original Approved Schedule and from all subsequent Revised Approved Schedules, and shall include the following minimum data for each activity:

1. Activity numbers
2. Estimated activity duration (calendar days).
3. Activity description (including procurement items).
4. Early start date.
5. Early finish date.
6. Late start date.
7. Late finish date.
8. Status
9. Total float for each activity.

Each schedule report shall be prefaced with the following summary data:

1. Project name.
2. Company name.
3. Type of tabulation (initial or revised; if revised, show revision number or date).
4. Project duration (original).
5. Original contractual, Current Approved (if different from original contractual) and Current Forecast completion date
6. The date of commencement of the Work as stated in the Notice to Proceed. If requesting a Revised Approved Schedule, cite the new Final Completion date and current Work status.

**Schedule Monitoring:**

When specified within the Contract Documents or upon the request of the JEA Representative, the Company shall submit with its Application for Payment, a computer printout of a the Approved Schedule or the most recent Revised Approved Schedule, if applicable, and associated schedule reports for those activities that remain to be completed in the form, sequence, and in the number of copies, if written copies are requested, specified within the Contract Documents or by the Contract Administrator.

## **6. Shop Drawings**

As used herein, the term "manufactured" applies to standard units usually mass produced, and "fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements. Shop drawings shall establish the actual details of all manufactured or fabricated items; indicate proper relation to adjoining Work; amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure; and incorporate minor changes of design or construction to suit actual conditions.

Shop drawings shall be complete in every detail, properly identified with the Contract name, Contract and subsection number for identification of each item, and state the qualifications, departures or deviations from the Contract, if any. Shop drawings for each section of the Work shall be numbered consecutively and the numbering system shall be retained throughout all revisions. Each drawing shall have a clear space above the title block in the lower right-hand corner for the approval stamps of the Company and the JEA Engineer.

If the materials are not listed in JEA's Approved Materials Manual, then prior to purchase of material or fabrication, the Company shall forward to the JEA Engineer for review, five sets of each shop drawing plus the number of prints it desires returned.

In checking the Shop Drawings, the Company shall verify all dimensions and field conditions and shall check and coordinate the Shop Drawings of any section or trade with the requirements of all other sections or trades whose Work is related thereto, as required for proper and complete installation of the Work. All rough-in and connections for utilities shall conform to approved equipment Shop Drawings.

The JEA Engineer will review the Shop Drawings and will return them to the Company stamped to indicate the action taken. For planning purposes, the Company shall allow a minimum of two weeks for review of each Shop Drawing. The stamp will indicate that the shop drawing is "Approved", "Approved as Noted", "Returned for Correction" or "Disapproved". Only those Shop Drawings stamped "Returned for Correction" or "Disapproved" shall be resubmitted for subsequent review. Resubmittals shall be in the same form and number of copies as original submittals, with notation indicating a revised submittal. The Shop Drawings stamped "Approved" or "Approved as Noted" will be returned to the Company, who will be responsible for obtaining prints thereof and distributing them to the field and Subcontractors.

At the same time the JEA Engineer returns a reviewed submittal to the Company it will forward two copies of each item stamped "Approved" or "Approved as Noted" together with any conditions of approval, to JEA for field and office use. The JEA Engineer may revoke approval of Shop Drawings, should field conditions so dictate.

## **7. Inspections and Testing**

JEA, or its designated representatives, will perform inspections at the Company facilities during normal business hours and in a manner that minimizes disruption to the normal day-to-day work activities of the Company.

Company shall provide safe and proper facilities for inspection access and observation of the Work and also for any inspection or testing by others.

If the Company has covered or concealed any Work from inspection in any way that the JEA Representative has not specifically requested prior to the JEA Representative's inspection, or if the JEA Representative considers it necessary or advisable that covered Work be inspected or tested by others, the Company, at the JEA Representative's request, shall uncover, expose or otherwise make available the portion of the Work in question for observation, inspection or testing as the JEA Representative may require. The Company shall furnish all necessary labor, material and equipment to make such Work available.

If such Work is defective, the Company shall bear all expenses of uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including, but not limited to, compensation for additional professional services required by JEA, and no change in Contract Time will be considered as a result of the foregoing.

If such Work is not defective, JEA will reimburse the Company for actual time, material, and equipment costs for uncovering and reconstruction of the portion of the Work in question. JEA may also, at its sole discretion, grant the Company an extension of the Contract Time directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

All materials and equipment used in the construction of the Contract shall be subject to adequate inspection and testing in accordance with accepted standards. The Company shall select the laboratory or inspection agency for making all tests required by the specifications, and shall pay for this laboratory service direct, as a part of this Contract.

JEA shall pay for in-place density tests of trench and structure backfill, taken at intervals as specified or as required by the JEA Engineer, generally of soils, subgrade, fill, pavement base and sub-base materials. The Company shall provide 48 hours notice of its readiness for density tests specified. Reports of these tests shall be submitted within 72 hours to the JEA Engineer for written approval.

The Company shall pay for all other required testing of materials and equipment. Two copies of each test showing certification of each test shall be furnished to the JEA Engineer immediately after such test has been made and with the exception of concrete, prior to delivery of the materials or equipment tested to the Work Location. JEA will not Accept the materials or equipment until tests have been approved.

Materials of construction, particularly those upon which the strength and durability of the structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for uses intended. Test requirements for all materials are set out in the detailed specifications for that particular material. All materials and equipment prior to being incorporated in the Work, and required by the JEA Engineer to be tested, shall be tested for conformance with contractual requirements. Standard items of a uniform nature may be accepted on the manufacturer's certification. Where specific performance and/or quality is referred to, it is the Company's responsibility to have the necessary tests performed by qualified

persons to show that the contractual requirements are being met except those tests named in the Contract Documents to be performed by JEA. Certified test results shall be submitted promptly in quadruplicate to the JEA Engineer for review. All tests shall be performed in accordance with referenced standards. Where no reference is made, tests shall be performed in accordance with the methods prescribed by the American Society for Testing and Materials or such other organization as would be applicable.

Unless otherwise provided in the Contract Documents, the Company shall pay for the following tests (as required):

Testing of concrete;

Testing of welds; and

Testing of torque of bolts.

The Company shall pay for any retests resulting from its failure to provide Work that passes required tests.

**JEA Inspectors:**

The JEA Engineer may appoint JEA Inspectors to inspect any and all materials and Work. Such inspection may extend to any or all parts of the Work and to the preparation and manufacture of the materials to be used. The JEA Inspectors shall not be authorized to alter, revoke, enlarge or relax the provisions of the Contract, nor will they be authorized to approve or accept any portion of the completed Work, nor to issue instructions contrary to the Contract. The JEA Inspector shall inform the JEA Engineer of the progress of the Work and the manner in which it is being done, and notify the Company of any infringement upon the Contract Documents. The JEA Inspector will have the authority to reject defective materials or to suspend any Work that is being improperly done subject to the final decision of the JEA Engineer.