

01 32 00 | Construction Progress Documentation

This design guideline is written to the designer of record (DOR). This guideline is written to document UA standards of work, assist the designers in ensuring UA standards are incorporated into the contract documents and provide a resource to facilitate the design process. It is the designer of record's responsibility to coordinate the criteria set forth in these design guidelines and in conjunction with the manufacturer requirements and use the most stringent standard.

A. General

Related Documents

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

B. Summary

This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Submittals Schedule
2. Contractor's Construction Schedule
3. Daily construction reports
4. Field condition reports
5. Construction Photographs

Related Sections include the following:

1. Division 01 Section "Payment Procedures" for submitting the Schedule of Values
2. Division 01 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes
3. Division 01 Section "Submittals" for submitting schedules and reports
4. Division 01 Section "Quality Assurance, Control, and Documentation" for submitting a schedule of tests and inspections
5. Division 01 Section "Project Closeout" for submitting "As-Built Drawings" and "Specification Mark-ups" at Project closeout
6. General Conditions, Article 9

C. Definitions

- **Activity:** A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
- **Critical Activity:** An activity on the critical path that must start and finish on the planned early start and early finish times.
- **Predecessor Activity:** An activity that is linked to, and precedes, another activity in the network.
- **Successor Activity:** An activity that is linked to, and follows, another activity in the network.
- **Schedule:** A list of all distinct construction activities logically linked together to show the contractor's planned sequence of work.
- **Preliminary Schedule:** Schedule showing the contractor's planned sequence of work for the first 90 days of the project. This schedule is to include mobilization activities and procurement activities.



- **Initial Schedule:** The first schedule showing the contractor's planned sequence of all project activities. This schedule will serve as the baseline to measure progress of the work.
- **Schedule Update:** An update of the initial schedule showing current progress of the project.
- **CPM:** Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. These relationships, and the activity durations, are used to calculate when activities can be performed, the duration of the project, and the critical path of the project.
- **Critical Path:** The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- **Float:** The measure of leeway in starting and completing an activity.

D. Submittals

1. **Qualification Data:** For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include:
 - a. Lists of completed projects with project names and addresses
 - b. Names and addresses of architects and Owner/Commissioning Authorities
 - c. Other information specified.
2. **Contractor's Construction Schedule:** Initial (baseline) schedule, of size required to display entire schedule for entire construction period.
3. Submit to Architect and Awarding Authority 3 printed copies and 1 working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include:
 - a. Type of schedule (preliminary, initial (baseline) or updated)
 - b. Date on label.
4. **Submittals Schedule:** Submit three copies of schedule. Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category (action or informational).
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's final release or approval.
5. **Daily Construction Reports:** To be completed daily by contractor's project staff. Submit to Architect and Awarding Authority.
6. **Field Condition Reports:** Submit 2 copies of report to architect and 1 copy of report to UA PM at time of discovery of differing conditions.
7. **Construction Photographs:** To be reviewed at each project meeting and to be submitted in a binder and on an electronic disk with close-out documents.

E. Quality Assurance

1. **Scheduling Consultant Qualifications:** An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request. Reference section 01320 - 3.1 - A.
2. **Pre-scheduling Conference:** Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to the Contractor's Construction Schedule, including, but not limited to, the following:
 3. Review software limitations and content and format for reports.
 4. Verify availability of qualified personnel needed to develop and update schedule.
 5. Discuss constraints, including phasing, work stages, area separations, interim milestones, and partial Owner occupancy.
 6. Review delivery dates for Owner-furnished products.



7. Review Allowances and time required for procurement and installation.
8. Review schedule for work of Owner's separate contracts.
9. Review time required for review of submittals and resubmittals.
10. Review requirements for tests and inspections by independent testing and inspecting agencies.
11. Review time required for completion and startup procedures.
12. Review and finalize list of construction activities to be included in schedule.
13. Review submittal requirements and procedures.
14. Review procedures for updating schedule.

F. Coordination

1. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
2. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
3. Secure time commitments for performing critical elements of the Work from all parties involved, including but not limited to the owner and subcontractors to the contractor.
4. Submission of a construction schedule that includes subcontractor activities will imply to the owner that the contractor has acceptance of the schedule from the subcontractor(s) affected.
5. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

G. Contractor's Construction Schedule, General

1. **Procedures:** Use AGC's "Construction Planning & Scheduling," 2nd edition as a reference for additional definitions not included herein.
2. **Time Frame:** Extend schedule from date established for the Notice-to-Proceed to date of Substantial Completion to date of Final Completion.
 - a. Contract completion date can be changed, at the Awarding Authority's discretion, by submission of a schedule that shows an early completion date, as allowed by the General Conditions to the Contract.
3. **Activities:** Activities should be broken down and organized by floor, by elevation, and by work area.
 - a. Comply with the following:
 - a. *Activity Duration:* Define activities so no activity is longer than fifteen (15) days, unless specifically allowed by Architect and Owner. An exception will be granted for procurement activities.
 - b. *Procurement Activities:* Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - i. Examples include, but are not limited to, structural components, limestone or pre-cast components, architectural trim, plumbing, heating/cooling/ventilation equipment, window systems, conveying equipment, specialty items, etc.
 - c. *Submittal Review Time:* Include review and resubmittal times indicated in Division 01 Section "Submittals" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - d. *Startup and Testing Time:* Include not less than seven days for startup and testing.
 - e. *Substantial Completion:* Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.



4. **Constraints:** Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - a. Phasing: Arrange list of activities on schedule by phase.
 - b. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 - c. Products Ordered in Advance: Include a separate activity for each product.
 - d. Owner-Furnished Products: Include a separate activity for each product.
 - e. Work Restrictions: Show the effect of the following items on the schedule:
 - i. Coordination with existing construction.
 - ii. Limitations of continued occupancies.
 - iii. Uninterruptible services.
 - iv. Partial occupancy before Substantial Completion.
 - v. Use of premises restrictions.
 - vi. Provisions for future construction.
 - vii. Seasonal variations.
 - viii. Environmental control.
5. **Milestones:** Include milestones and activities indicated in the Contract Documents in the schedule, including, but not limited to, the Notice to Proceed, review inspections by review agencies, Pre-Install Conferences, Building Dry-in, Temp-Perm Power, Conditioned Air, Certificate of Occupancy, Substantial Completion, and Final Completion.
6. **Resource/Staffing:** Should the contractor's progress fall materially behind the accepted initial schedule (30 days or more), the awarding authority can require the contractor to incorporate resource loading into the recovery schedule to indicate required staffing levels for each activity. This resource loading will show aggregate manpower requirements on a daily or weekly basis.
7. **Cost Correlation:** Provide cost correlation values, indicating planned and actual costs. Show dollar volume of the Work performed within the dates used for preparation of payment requests.
 - a. Refer to Division 01 Section "Payment Procedures" for cost reporting and payment procedures.
8. **Contract Modifications:** For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis to demonstrate the effect of the proposed change on the overall project schedule.
9. **Computer Software:** Prepare schedules using a program that has been developed specifically to manage construction schedules. See Article 9 of the General Conditions of the contract for further information.

H. Contractors Construction Schedule (CPM Schedule)

1. **CPM Schedule:** Prepare Contractor's Construction Schedule using a computerized, cost and resource loaded, time-scaled CPM network analysis program.
 - a. Submit schedule to the Architect and Awarding Authority in the time frame listed below.
 - i. For projects with a contract value of less than \$5,000,000 – Initial schedule within 10 days of Issuance of Letter of intent or Notice to Proceed.
 - ii. For projects with a contract value of \$5,000,000 to \$20,000,000 – Preliminary schedule within 10 days of Issuance of Letter of intent or Notice to Proceed, and Initial schedule within 30 days of Issuance of Letter of intent or Notice to Proceed.
 - iii. For projects with a contract value greater than \$20,000,000 – Preliminary schedule within 15 days of Issuance of Letter of intent or Notice to Proceed, and Initial schedule within 45 days of Issuance of Letter of intent or Notice to Proceed.
 - b. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meetings and payment request dates.
 - c. Use "one workday" as the unit of time. Include a list of non-working days and holidays incorporated into the schedule.



- d. Failure to include any work item required for the performance of this schedule shall not excuse the Contractor from completing all work within the applicable completion dates, regardless of Architect or Owner approval of the schedule.
2. **CPM Schedule Preparation:** Prepare a list of all activities required to complete the work. Determine the relationship of each activity to the other activities, and link the activities together to indicate the logical sequence of work.
 - a. **Activities:** Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities.
 - i. Preparation and processing of submittals.
 - ii. Mobilization and demobilization.
 - iii. Purchase of materials.
 - iv. Delivery.
 - v. Fabrication.
 - vi. Utility Interruptions.
 - vii. Power outages or any utility shut downs must be given advance notice of 30 days and must be included in the CPM schedule.
 - viii. Installation.
 - ix. Architect and Owner Inspections.
 - x. Work by Owner that may affect or be affected by Contractor's activities.
 - xi. Testing and commissioning.
 - b. **Critical Path Activities:** Clearly identify critical path activities, including those for interim completion dates. Schedule start and completion dates shall be consistent with Contract milestone dates.
 - c. **Processing:** Process data to produce output on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences and reproduce as often as necessary to produce the CPM schedule so that the work is shown to be complete within the limitations of the Contract Time.
3. **Initial Issue of Schedule:** Sort the initial submission of the network diagram "early start" date. Identify clearly all critical activities. Show the following information on the schedule:
 - a. Description of the activity.
 - b. Contractor or subcontractor and the Work or activity.
 - c. Predecessors and Successors.
 - d. Early and late start dates.
 - e. Early and late finish dates.
 - f. Activity duration in workdays.
 - g. Total float for each activity.
 - h. Average size of workforce.
4. **Schedule Updating:** Concurrent with making revisions to schedule, prepare tabulated reports and narrative(s) showing the following:
 - a. Identification of activities that have changed.
 - b. Changes in early and late start dates.
 - c. Changes in early and late finish dates.
 - d. Changes in activity durations in workdays.
 - e. Changes in the critical path.
 - f. Changes in total float or slack time.
 - g. Changes in cost-loading or resource-loading.
 - h. Changes in the Contract Time.



I. Reports

1. **Daily Construction Reports:** Prepare a daily construction report recording the following information concerning events at Project site:
 - a. List of subcontractors at Project site.
 - b. List of separate contractors at Project site.
 - c. Approximate count of personnel at Project site.
 - i. Personnel count is to be broken down by subcontractor.
 - d. All equipment at project site.
 - e. High and low temperatures and general weather conditions.
 - f. Accidents involving injury or damage to equipment or work in place.
 - g. Meetings and significant decisions.
 - h. Unusual events.
 - i. Inspections of the work.
 - j. Stoppages, delays, shortages, and losses.
 - k. Meter readings and similar recordings.
 - l. Emergency procedures enacted.
 - m. Orders and requests of authorities having jurisdiction.
 - n. Change Orders received and implemented.
 - o. Construction Change Directives received.
 - p. Services connected and disconnected.
 - q. Equipment or system tests and startups.

The University of Alabama intends to require the General Contractor's Daily Reporting to be done using a Call-in service administered by a third party provider. The daily reporting will be required by all Superintendents listed in the project's minimum general contractor staffing requirements.

2. **Field Condition Reports:** Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information. Include a detailed description of the differing conditions and photographs illustrating the existing conditions, together with recommendations for changing the Contract Documents.
3. **Construction Photographs:** Photographs to document pre-existing conditions and to regularly document construction progress.

J. Contractor's Construction Schedule

1. **Scheduling Consultant:** Engage a 3rd party scheduling consultant to provide planning, evaluation, and reporting using CPM scheduling.
 - a. In-House Option: Awarding Authority may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
 - b. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
2. **Float:** Float is a shared resource, available to both parties as needed. The Contractor shall not sequester shared float through such strategies as (a) extending activity duration estimates to consume available float, (b) using preferential logic, or (c) using extensive crew / resource sequencing, constraints, unnecessary milestones, leads or lags on logic ties, and hammock type activities. Since Float within the Construction Schedule is jointly owned, no time extensions will be granted nor delay damages paid until a delay occurs which extends the work beyond the contract completion date. Since float within the Construction Schedule is jointly owned, it is acknowledged that Trustees-caused delays on the project may be offset by Trustees-caused time savings (i.e., critical path submittals returned in less time than allowed by the contract, approval of substitution requests and credit changes which result in a savings of time to the Contractor,



- etc.). In such an event, the Contractor shall not be entitled to receive a time extension or delay damages until all Trustee-caused time savings are exceeded and the contract completion date is also exceeded.
3. **Weather Delays:** The schedule must account for average weather delays for the local area. Weather delays will be calculated as days lost for events in excess of the NOAA 30 year average for Tuscaloosa, AL (1971 – 2000). Weather delays will not be granted for rain events less than 0.1 inches. Weather delays will not be granted for activities that are not shown to be on the critical path of the schedule at the time of the event.
 4. **Contractor's Construction Schedule Updating:** At two-week intervals, update schedule to reflect actual construction progress and activities. Issue printed and electronic versions of schedule one week before each regularly scheduled progress meeting.
 - a. Include a report and narrative with each updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - b. As the Work progresses, indicate Actual Completion percentage for each activity.
 - c. At the end of the project, submit the As-Built schedule with actual start and finish dates to the owner as a close-out requirement.
 5. **Distribution:** Distribute copies of approved schedule to Architect, Awarding Authority, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - a. Post copies in Project meeting rooms and temporary field offices.
 - b. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Awarding Authority to receive both paper and working electronic copy of each update.
 - c. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.
 6. **Construction Schedule Software:** The following CPM software shall be utilized:
 - a. For projects with a contract value of less than \$5,000,000 – Microsoft Project, Primavera P6, or other comparable software product.
 - b. For projects with a contract value greater than \$5,000,000 – Primavera P6 or other comparable software product.

K. Construction Photographs

1. **Photographic Process:** Digital Imaging.
2. **Date Stamp:** Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.
3. **Preconstruction Digital Photographs and Digital Video Recording:** Before starting construction, take color photographs and digital video recording of Project site and affected City right-of-ways and surrounding properties and interior existing photos of affected areas from different vantage points. Show existing conditions adjacent to property.
4. **Periodic Construction Photographs:** Periodic digital color photographs and digital files to be submitted in duplicate on disc and in print form at each pay request with the following views:
 - a. Exterior views of all distinct elevations on a weekly basis. Photographs of each elevation are to be taken from the same location throughout the project.
 - b. Interior views of all levels of major spaces on a monthly basis. Of particular interest is the process of structure, mechanical (ductwork, equipment, plumbing, and sprinkler systems), electrical, partitions and interior finishes.
 - c. Roof: Views of all roof areas on a weekly basis during periods when work is occurring on or adjacent to the roof.
 - d. Field Office Prints: Retain one set of prints of periodic photographs in field office at Project site, available at all times for reference. Identify photographs the same as for those submitted to Architect.

- End -

