

October 9, 2026

CSL Charter School Addition and Renovation

ADDENDUM 2

The previously issued Section 013200, Construction Progress Documentation, contained in “2026-10-05_CSL Charter School_Bid Issue_Specifications.pdf,” is hereby rescinded and superseded in its entirety by the revised Section 013200 attached to this Addendum.

Section 013200 has been revised to designate the General Contractor as the Scheduler of Record and transfer responsibility for developing, integrating, maintaining, updating, and reporting the Master Project Schedule from the Construction Manager to the General Contractor. The General Contractor shall coordinate schedule information from all Prime Contractors, conduct schedule workshops, issue schedule updates, and prepare the required schedule reports and narratives.

Additional revisions adjust certain scheduling procedures and deadlines, including the monthly update process, Time Impact Analysis submission period, maximum activity duration, scheduler qualification submission period, and Project milestone requirements. The revised Section also modifies provisions related to weather delays, schedule acceptance, float ownership, submittal tracking, look-ahead schedule formats, construction surveys, and progress photographs.

Bidders shall review the revised Section 01 32 00 in its entirety and incorporate all applicable scheduling, coordination, reporting, and administrative requirements into their bids.

END OF DOCUMENT

SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. General: The General Contractor (GC) shall provide administrative, management and related services to coordinate scheduled activities and responsibilities of the Contractor(s) with each other and with those of the Construction Manager as Agent, the Owner and the Architect. The Construction Manager as Agent shall assist in coordination of the Contractors' activities in accordance with the latest Approved Master Project Schedule and the Contract Documents.
- B. Contractors shall provide the documentation of the progress of construction during performance of the Work and includes, but is not limited to:
 - 1. Preliminary Construction Schedule.
 - 2. Baseline Schedule.
 - 3. Contractor's Construction Schedule.
 - 4. Submittals Schedule.
 - 5. Progress Schedule / Periodic Updates
 - 6. Daily Construction Reports and Progress Reports.
 - 7. Schedule of Values and Trade Payments Breakdowns.
 - 8. Construction Survey Data.
 - 9. Material location reports.
 - 10. Field condition reports.
 - 11. AJH Inspection Reports.
 - 12. Special reports
 - 13. Construction Photographs.

1.2 DEFINITIONS

- A. 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.

1. Milestone: a zero duration event during the project that defines the start or completion of a major activity phase, deliverable or handover.
 2. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 3. Predecessor activity: is an activity that must be completed before a given activity can be started.
 4. Successor Activity: An activity that follows another activity in the network.
 5. Schedule Network: the Grouping of connected activities that define the overall sequence and logic for the project.
- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The breakdown of the Contract Amount and assignment of specific costs to each activity in the Baseline Schedule. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by the Owner, Architect and Construction Manager as Agent.
- C. Resource Loading: The allocation of manhours to each associated construction activity in the schedule for the purpose of determining crew size and labor allocation per activity and over the course of the project. Resources shall be loaded into the Baseline schedule and reviewed and approved at the beginning of the project by the Owner, Architect and Construction Manager as Agent.
- D. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships and schedule logic forming a network of activities in the Master Schedule Network. Calculations determine when activities can be performed and the critical path of Project.
- E. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration.
- F. Event: The starting or ending point of an activity.
- G. Float: The measure of leeway or slack in starting and completing an activity
1. Free float is the amount of time any single activity can be delayed without adversely affecting the early start of the following activity.
 2. Total float is the measure of leeway in starting or completing an activity or any activity on the same activity path without adversely affecting the planned Project completion date for the schedule network.
- H. Milestone: A key or critical point in time for reference or measurement. A milestone activity has no duration and identifies a significant date in the schedule network. Milestones can be start or finish type.

- I. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships which depicts the order and interdependencies of activities and the sequence in which work is to be accomplished.
- J. Construction Manager as Agent: referenced herein as Construction Manager, CMA or CM. Responsibilities for scheduling are defined as noted.
- K. Prime Contractor: referenced herein as contractor or prime. Specific prime contractor responsibilities will be defined as such to assign. "Contractor" designates responsibilities for each prime unless otherwise noted.

1.3 SUBMITTALS

- A. Contractors shall submit the following information to the CM, which shall be submitted for Architect's review and comment or information.
- B. Submittal Schedule: Submit an electronic copy of submittal schedule, within 15 days of NTP, using software, format and media storage as agreed upon, and labeled to comply with requirements for submittals. Include type of schedule ("Initial" or "Updated") and revision date and revision number.
- C. Submittals Log: An electronic version of an updated submittals log allowing the Architect live access to open and closed submittals and reports at all times, which will also be provided at weekly progress meetings or other agreed upon intervals. These logs are to be updated and coordinated with updated construction schedules throughout the project.
- D. Start Up Construction Schedule: Within 10 calendar days after the NTP is received submit the Start Up Construction Schedule defining the planned operations detailed for the first 120 to 180 calendar days for approval. The Start Up Schedule may be summary in nature for the remaining performance period. It must be early start and late finish constrained and logically tied as specified. The Start Up Schedule will be in Gantt format and contain basic logic and relationships at a high level. The Start Up Schedule forms the basis for the Initial Contractors Schedule specified herein and must include all of the required plan and program preparations, submissions and approvals identified in the contract (for example, Quality Control Plan, Safety Plan, and Environmental Protection Plan) as well as permitting activities. The Start Up Construction Schedule must be approved by the Architect, Owner and / or Construction Manager.
- E. Contractors Project Schedule Submission: Submit the Initial Project Schedule for integration into the Project Master within 20 calendar days after notice to proceed is issued. The schedule must demonstrate a reasonable and realistic sequence of activities which represent all work through the entire contract performance period. No payment will be made for work items not fully detailed in the Project Schedule.
- F. Periodic Schedule Updates: Update the project schedule on a regular basis, monthly at minimum. Provide status updates with a consistent monthly data date (typically the last day of each month) within 10 calendar days of the data date for each update or as defined in the

specifications. Update information will include AS (Actual Start) AF (Actual Finish), RD (Remaining Duration) and Percent Complete and be updated on a monthly update form. Periodic Updates shall be reviewed by the Architect, Owner and / or CMA.

- G. Contractor's Construction Schedule: Submit an electronic copy of construction schedule, using Oracle Primavera P6 software in .xer format and labeled to comply with requirements for submittals. Include type of schedule ("Initial" or "Updated") and revision date and revision number. P6 will be the sole software platform for the project unless otherwise noted.
- H. Other Reports:
 - 1. Daily Construction Reports: Submit electronic copies at weekly intervals.
 - 2. Material Location Reports: Submit electronic copies at weekly intervals.
 - 3. Field Condition Reports: Submit electronic copies at time of discovery of differing conditions.
 - 4. Special Reports: Submit electronic copies at time of unusual event.
 - 5. Schedule Narrative Reports: Provide a Narrative Report with each schedule submission (including Updates). The Narrative Report is expected to communicate to the thorough analysis of the schedule output and the plans to adjust for any problems, either current or potential, which are revealed through that analysis. Include in each narrative, work completed, work planned to start in the next month, Critical Path Review, Issues that have arisen, Logic revisions during the period, deleted activities and added activities.
- I. Photographic Media: Submit for Owner's Documentation and Architect's information.
 - 1. Digital Images: Submit a complete set of digital image electronic files using software, format and media storage as agreed upon as a Project Record Document. Submit images that have same aspect ratio as the sensor, un-cropped.
 - a. Identification: Identify electronic media with the following information:
 - 1) Name of Project.
 - 2) Name and address of photographer.
 - 3) Name of Architect.
 - 4) Name of Contractor.
 - 5) Date photograph was taken.
 - 6) Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.

1.4 QUALITY ASSURANCE

- A. LEAN Procedures: See Section 01 31 00 – Project Management and Coordination.
 - B. Pre-Scheduling Conference: Conduct conference at Project site to comply with requirements
- CONSTRUCTION PROGRESS DOCUMENTATION

in Division 1 Section 01 31 00 "Project Management and Coordination." Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Outline the specific procedures and timeline / cycle for the monthly update process and reporting.
3. Verify availability of qualified personnel needed to develop and update schedule.
4. Discuss constraints, including work stages, interim milestones and partial Owner occupancy.
5. Review delivery dates for Owner-furnished products.
6. Review schedule for work of Owner's separate contracts.
7. Review submittal requirements and procedures.
8. Review time required for review of submittals and resubmittals.
9. Review requirements for tests and inspections by independent testing and inspecting agencies, including mock-up testing.
10. Review time required for completion and startup procedures.
11. Review and finalize list of construction activities to be included in schedule including activities for Procurement, Shop Drawing Submittals and Approvals, Material Fabrication, Mockups, Phases of Construction, Inspections, Startup and Testing, Punchlist, Turnover and Owner required activities.
12. Review procedures for updating schedule. Items to discuss include frequency of update (minimum monthly), Gathering update information / activity status, review of the draft updates, schedule revisions, recovery schedules (if required), reporting and final issuance of the update.

1.5 COORDINATION

- A. Schedules and Reports of Construction Activities and Separate Contractors: Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors. During Periodic Updates coordinate with each contractor to record the status of construction and integrate into the Master Project Schedule. Each contractor shall actively participate and attend all schedule update review meetings and have input in the Master Project Schedule.
- B. Coordination of Contractors' Construction Schedules: Coordinate Contractors' Construction Schedules with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence. Review predecessors – successors for each activity and coordinate with all contractors to ensure dependent activities are documented in the schedule correctly.
- C. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities including temporary lighting.

PART 2 - PRODUCTS

2.1 SUBMITTAL SCHEDULE

- A. Preparation of Submittal Schedule: Prepare a submittal schedule arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates that contains a complete listing of submittals required by Contract. Submit the schedule to the Architect a minimum of 30 days prior to submitting any submittals grouped and regulated so as not to burden the reviewing facilities, while maintaining job progress. Organize the submittal schedule by specification section number. Each submittal is to be assigned the relevant section number and a sequential number for identification and tracking purposes. Each prime shall provide bi-weekly submittal schedule updates, including all pertinent information, until submittals are complete. Failure to submit timely and accurate submittal schedule will delay invoice processing.
1. The Submittal Schedule shall be submitted for the Architect's information. Include the following information:
 - a. Title of Submittal/Description.
 - b. Submittal Number (sequential).
 - c. Scheduled date for the first submittal.
 - d. Drawing Number (if applicable).
 - e. Applicable specification Section title and number.
 - f. Name of subcontractor/vendor.
 - g. Submittal category (action or informational).
 2. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule

2.2 SUBMITTALS LOG

- A. Submittals Log: Prepare, submit, maintain and update a single live electronic version of a submittals log for the entire project, using approved software, format and media storage as agreed upon. The submittals log shall be accessible to the Architect at all times and shall contain relevant information related to submittals and the submittal process progress which will be reviewed at the weekly progress meetings or other agreed upon intervals. The logs shall include at a minimum a complete list of required submissions per the project specifications, current status, submission or resubmission date, date required, revision, submittal number and submittal description. The submittals log shall provide the Architect and CMA with the ability to filter for open and reviewed items, have ongoing access to live updates, as well as confirm receipt and response dates for every submittal. The submittal log shall be based on the CSI numbering system and the Project specifications and shall be available to Project team members.
1. The submittal log shall be updated **weekly** until all submittals are received and submitted to the Architect and CMA for review.

2.3 SCHEDULE OF VALUES

- A. Contractual Requirements: Refer to General Conditions and Division 01 specifications, for contractual requirements governing schedule of values.
- B. Relation to Sections and Divisions of the Work: The schedule of values shall be related to Sections and Divisions of the Work, aggregating the total Contract Sum and shall include overhead and profit as separate line items.
- C. Schedule of Anticipated Monthly Requisition Amounts: The Contractor shall also submit a schedule of anticipated monthly requisition amounts which shall be related to the progress schedule.

2.4 CONSTRUCTION SCHEDULE, GENERAL

- A. Based on the bid schedule, sequencing, phasing and durations provided, each prime Contractor shall prepare a construction schedule in the format and program defined herein and which will be integrated into the Master Project Schedule prepared by the General Contractor such that the Master Project Schedule shall be acceptable to each Contractor and binding with respect to the performance of the work of each Contractor for its own part. The process to develop the Master Project Schedule will be facilitated by the General Contractor with participation by each Contractor. The Master Project Schedule will be the basis for measuring progress of work and performance and, upon acceptance by the CMA, Owner and A/E, and will be the schedule of record.

The General Contractor (GC) shall be the Scheduler of Record for the Project Master Schedule. Each Contractor shall have input creating and developing his / her own schedule activities for their work. Each Prime Contractor will submit a listing of his/her activities in the appropriate

format to the GC for input in the Master Project Schedule. Activities should have Description, Duration, Manpower to complete that Activity, Predecessors and Successors, and sequence of construction. In Addition, each Prime Contractor will list out all required submittals, shop drawings, mockups, inspections, architect / engineers review and fabrication time for all materials required on the project. The contractors schedule submission shall allow time for things such as review time, inspections, site visits, fabrication, delivery, cure / drying to not affect the progress of work. Each Prime Contractor shall provide an acceptable construction schedule within 20 calendar days of NTP which is compliant with the bid schedule and includes all tasks required to complete the contractor's work. All costs incurred by the Contractors in preparing and updating the Schedules are included in the Work of the Contract.

- B. Computer Scheduling Software: Prepare schedules using current version of a as defined below.
 - 1. Use Oracle Primavera P6, version 16 or later. Include electronic schedule in .Xer format with all schedule submissions. (use of an earlier version or different scheduling program requires the approval of the CMA)
 - 2. There shall be no additional costs for updating to the most current version of the required software even if this occurs during the project.
- C. Contractor's Construction Schedule Preparation
 - 1. Develop the Contractor's Construction Schedule no later than twenty (20) calendar days after Contract Award, NTP which timeframe is established to allow for the Project Master Schedule to be prepared within thirty (30) calendar days.
 - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of CMA, Architect's and / or Owner's review of the schedule.
 - b. Contractor(s) will submit a cost and resource loaded schedule. Included with the contractors' initial construction schedule submission will be allocation of cost and resources (manhours) loaded in the contractors activities. Costs shall not be frontloaded and equal the total value of the contractors contract sum. The cost loaded schedule will be the basis for monthly progress payments and tracking of work in place. Resource loading will include total manhours per activity and loaded as a resource into the Master Project Schedule for each work activity. The cost and resource loaded schedule will be approved by the Architect, Owner, and / or CMA.
 - 2. The GC will develop the Master Schedule WBS (Work Breakdown Structure), with input from the Prime Contractors and CMA; the Contractors will integrate their activities into the WBS and send to GC for incorporation into Master Project Schedule. Each prime contractor will be responsible to provide a .xer P6 file to the GC including activity logic ties.
 - 3. The General Contractor will facilitate schedule workshops to develop the Project Master Schedule following the integrate of each prime contractors schedule into the Master Project Schedule. Each Prime Contractor shall attend all workshops required

to review the integration of the Contractor's Construction Schedules into the Master Project Construction schedule. These meetings will be required until the final Master Project Schedule is developed and accepted by all parties. Additional schedule workshops that are required will not constitute recovery of additional monies by the Contractor(s).

- a. The GC shall integrate the contractor's Construction Schedule into the Master Project Schedule. Each prime contractor, in conjunction with the GC, will coordinate all schedule activities, logic and other relevant schedule requirements including those of the various other Contractors into the Master Project Schedule. The Master Schedule development and coordination will be deemed complete until all entities agree, and all schedule requirements have been satisfied. The GC will serve as the record-keeper of the Master Project CPM Schedule with input and accountability by all *separate* Contractors. The Master Project Schedule will be used to measure progress throughout the duration of the project. All contractors will partake in the Periodic updates of the Master Project Schedule.
 4. Each Prime Contractor shall be responsible for the development of schedules subject to all the same requirements and appropriate for integration by the General Contractor into the Master Project Schedule. All Prime Contractors are required to submit Schedule Activity Listings in an acceptable format to the GC. The GC & CMA shall have the right to reject any format that doesn't meet the requirements defined herein. All Prime Contractors agree in advance that the integration of schedules is an iterative process and that durations are subject to adjustment, within reason, to align with the properly scheduled work of other prime contractors and subcontractors.
 5. No claims for delay or additional costs associated with the work of preparing, updating and modifying schedules in order to compile an acceptable Master Project Schedule will be entertained by the Owner.
- D. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques that meets the qualifications noted below. Submit qualifications for approval to CMA within 10 days of the NTP.
 2. Meetings: Scheduling consultant shall attend all meetings related to Lean Process/Pull Planning, Development of the Project Master Schedule, Project progress meetings, Schedule update workshop meetings, alleged delays, and time impact (these include meeting in-person onsite, when required).
 3. Qualifications: Project scheduler or consultant shall have a minimum of 8 years scheduling experience with similar projects using Primavera P6. Scheduler qualifications for each prime contractor shall be submitted within 10 days of the Notice to Proceed. The CMA has the right to approve or disapprove of any proposed scheduling consultant.

- E. Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify Critical Path and subsequent near-Critical Paths.
1. 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:
 - a. Award and procurement of trades/subcontractors
 - b. Preparation and processing of submittals.
 - c. Purchase of materials.
 - d. Delivery.
 - e. Fabrication. Mobilization and demobilization.
 - f. Utility interruptions.
 - g. Installation.
 - h. Work by Owner that may affect or be affected by Contractor's activities.
 - i. Testing and Inspections
 - j. Punch list and final completion.
 - k. Final Inspections and Turnover (including required by the AHJ)
 - l. Activities occurring following final completion.
 2. Contract Modifications: For each proposed contract modification and concurrent its submission, prepare a Time-Impact Analysis (TIA) using a network fragment to the effect of the proposed change on the overall project schedule.
 - a. As determined by CPM analysis, only delays in activities which affect critical path dates and the overall Substantial Completion Date required by the Contract will be considered for a time extension.

All TIAs shall be contemporaneous in nature and submitted within 15 days of the delaying event. It is the contractor's duty to demonstrate the alleged delay is solely impacting the Critical Path and not concurrent with any other delays. Delays due to weather and / or Force Majeure will be deemed non-compensable, and the remedy will be time only (no compensation).
 - b. Extensions of time granted to one Prime Contractor shall not affect any other Prime Contractor or any subcontractor except those identified and approved as part of the extension.
 - c. If the Contractor requests a time extension of any milestone date or Contract completion date, the Contractor shall provide documentation as required by the CMA to enable the CMA to determine whether a time extension is appropriate under the terms the Contract. The Contractor shall submit the Time Impact Analysis which clearly identifies the delay or impact and its effect on the Critical Path. The impact must be solely on the Critical Path in order to recover time and/or compensation for the delay. The contract completion date will be adjusted only for causes specified in the Contract documents.

3. Initial Issue of Schedule: Prepare initial network diagram from an indicating straight "early start-total float." Identify critical activities. Prepare reports showing the following:
 - a. Contractor or subcontractor and the Work or activity.
 - b. Description of activity.
 - c. Main events of activity.
 - d. Immediate preceding and succeeding activities.
 - e. Early and late start dates.
 - f. Early and late finish dates.
 - g. Activity duration in workdays.
 - h. Total float or slack time.
 4. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
 - a. Identification of activities that have changed.
 - b. Changes in relationships added and / or deleted.
 - c. Changes in relationship lags and / or types.
 - d. Changes in early and late start dates.
 - e. Changes in early and late finish dates.
 - f. Changes in activity durations in workdays.
 - g. Changes in the critical path.
 - h. Changes in total float or slack time.
 - i. Changes in the Contract Time.
 5. Use "one workday" as the unit of time for individual activities. Nonworking days and holidays shall be incorporated into the schedule in order to coordinate with the Contract Time. Holidays shall be approved by the Owner and CMA, then incorporated into the work calendars of the schedule.
 6. The Contractor shall not schedule, allow or direct materials or products to be installed prematurely when it is obvious that such materials may be damaged by his own subsequent work or that of another Contractor. When recognized construction procedures or design requirements prescribe that materials be installed before execution of other work which may damage or deface such completed work, the Contractor shall then take such steps as are necessary to protect such completed work.
- F. Work Breakdown Structure: Format schedule using Work Breakdown Structure (WBS) to delineate procurement packages, phases, work areas, etc. The base WBS for the project will be developed by the prime contractor(s) in conjunction with the General Contractor and input from the Construction Manager. Develop the WBS to sufficiently organize and group activities so workflow can be easily understood. The Construction Manager shall have the right to reject or modify the Contractors proposed WBS. The Project WBS shall be submitted for review and approval by the General Contractor within 10 calendar days of the NTP.
1. Contractor(s) shall prepare schedule activities for their respective work including

logic, relationships, durations, manpower, cost, and sufficient detail as required by the Construction Manager.

- G. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- H. Activities: Treat each story or separate area as a separate Work Breakdown Structure (WBS) for each main element of the Work. Comply with the following:
 - 1. Activities shall be sufficiently detailed to indicate each element of work, by specific trade and area the work is taking place.
 - 2. Activity Duration: Define activities so no activity is longer than 15 days, unless specifically allowed by CMA. Written approval will be required for activities greater than 15 days.
 - 3. 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.
 - 4. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section 01 33 00 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - 5. Startup and Testing Time: Include not less than fifteen (15) days for startup and testing. Start up activities must be sufficiently detailed.
 - 6. Milestone: the CMA will provide a list of standard milestones to be incorporated into the contractor's schedule. Milestones shall contain logic and be tied with relationships (no constraints) to relevant construction activities and subject to review by the Owner and CMA. Milestones will identify significant start and finish dates within the schedule for the purpose of measuring progress and completion of major elements or areas of work.
 - 7. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion. Allow time for local authority (AHJ) inspections to obtain interim approvals, C of O and/or Substantial Completion Certificate.
 - 8. Punch List and Final Completion: Include not more than thirty (30) days for completion of punch list items on any phase and punch-list items and close-out requirements for final completion at final phase.
- I. 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.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section 01 11 00 "Summary of Work". Delivery dates indicated stipulate the earliest possible delivery date.
5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section 01 11 00 "Summary of Work". Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction
 - b. Limitations of continued occupancies and egress / ingress pathways by existing occupants.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Enabling work or temporary construction measures to support future Phases
 - g. Provisions for future construction.
 - h. Seasonal variations.
 - i. Environmental control.
7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - 1) Subcontract awards.
 - 2) Submittals.
 - 3) Purchases.
 - 4) Mockups.
 - 5) Fabrication.
 - 6) Sample testing.
 - 7) Deliveries.
 - 8) Installation.
 - 9) Tests and inspections.
 - 10) Adjusting.
 - 11) Curing.

- 12) Startup and placement into final use and operation.
 - 13) Final Inspection and turnover.
8. Construction Areas or Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
 - 1) At a minimum the schedule should include the following:
 - a) WBS Element
 - b) Floor
 - c) Building / Wing
 - d) Sub Floor / Area
 - e) Construction Category (i.e.: Sitework, Structure, Envelope, Roofing, MEPS Systems / Rooms, Vertical Transportation, Interior Fit out, Risers, Punchlist & Turnover)
 - f) Other relevant project specific items
9. Milestones: Include milestones indicated in the Contract Documents Bid schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion and the following interim milestones:
 - a. Project Award
 - b. NTP (Commencement)
 - c. Foundation Start/Pad Ready
 - d. Foundation Complete To Grade
 - e. Structure Start
 - f. Structure Top-Out
 - g. Last SOG & SOMD Pour
 - h. Facade Start
 - i. Façade Complete
 - j. Roof Complete
 - k. Temp Dry-In (ROOF & CW/WINDOWS COMPLETE)
 - l. Permanent Power Available (INCOMING SERVICE TO GEAR)
 - m. Conditioned Air Available
 - n. Start Fit out
 - o. Start Drywall
 - p. Start Ceiling Grid
 - q. Start Flooring
 - r. Start Punchlist (CONSTRUCTION COMPLETE / CLEAN)
 - s. Complete Construction For Floor / Area Turnover
 - t. Temporary Occupancy Requirements
 - u. Substantial Completion / C OF O
 - v. Final Completion

The above milestones may be included per Building, Phase or other sub groups within the schedule if the project details require it.

10. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests. Schedule of value / S-Curve of Plan vs Actual costs as is relates to the schedule in order to forecast the construction costs per month or required time interval.
11. Resource Loading Requirements:
 - a. Activities shall be loaded with resource assignments (manhours) within the Master Project CPM Schedule. Resource loading should reflect total manhour for each activity within the schedule. Resources shall be in units of hours and designated as a single material resource in the scheduling software (P6). Time Period Admin preferences must remain default “8.0hr / day, 40 hr / week, 172 hr / month, 2000 hr / year”. Calendar setting will be 8.0 hr / day.
12. 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.
 - a. Time Impact Analysis shall be performed in the following manner.
 - 1) Identify the Impacting event
 - 2) Model the event with the appropriate detail of activities (creating a fragnet)
 - 3) Estimate the duration for the new activities associated with the impact
 - 4) Add sequence and relationships to the added activities.
 - 5) Insert the new fragnet into a copy of the Master Project Schedule.
 - 6) Calculate the schedule and measure the effect of the Impact on the Project Completion Date and directly affected milestone.
 - 7) Review the Time Impact Analysis and determine the impacts as a result of the change, and review a potential recovery plan.
- J. Schedule Updating Process: Periodic updates will be performed on at least a monthly basis (if not more frequently). Each Contractor shall participate in the monthly update process. The established procedures, as defined in this specification section, will be utilized for progress monitoring and updating the Project Master Schedule, reporting and payment requests.
 1. Schedule Updating Process: At no less than monthly intervals, as deemed necessary by the CMA, contractors will update the schedule to reflect actual construction progress and activities. Schedule updates will be issued on the 28th of each month (or mutually agreed upon time frame each month). The GC will send out ‘Schedule Update Forms’ on a monthly basis, 2 weeks prior to the date established for the issuance of the Project Master Schedule Update. All Contractors will provide markups to the update forms with his / her schedule status information noting but not limited to all progress for their

activities including Actual Starts, Actual Finishes, Remaining durations, and Projected Starts / Finishes. The contractor shall provide the update forms four (4) days following receipt of the form. The GC will update the Project Master Schedule and issue a draft schedule update utilizing the information provided by the contractor(s) in the update forms. A schedule progress meeting workshop will be held approximately one week after to review the schedule, contractor updates, request sequence and/or logic changes and other comments. Within 2 days of the workshop meeting, each Contractor shall issue additional schedule updates and/or comments to be integrated into the updated Project Master Schedule. The GC shall integrate changes and reissue the schedule to the Contractor(s) within 3 days and become part of the project record.

2. Contractor Update Forms

- a. The General Contractor will distribute Schedule Update Forms each month. Contractors will provide updates to the GC by the 24th of each month.
- b. The General Contractor shall provide a detailed report and written narrative with schedule update form that indicates all changes, including, but not limited to, changes in logic, durations, actual starts and finishes, added / deleted activities, and activity durations. Refer to timing as noted in this specification.
 - 1) As the Work progresses, indicate final completion percentage for each activity.
 - 2) All proposed logic changes by the contractors shall be proposed in conjunction with the update form submission. The contractor is responsible to identify the reasons for such changes and potential impact to other contractors and/or subcontractors. The proposed change will be reviewed during the monthly schedule workshop.

3. Distribution and Acceptance: GC shall issue updated integrated Master Project Schedule to Contractors, CMA, Architect and Owner within three (3) days following receipt of Contractors comments following the schedule workshop.

- a. Contractors shall review and accept updated Master Project Schedule within three (3) days of receipt or, within the same period, notify Construction Manager as Agent and General Contractor of nonacceptance and reason therefore. (failure to respond will be deemed as acceptance of the schedule update by the Contractor).
- b. Any notification shall be fully supported with specific details, references and other relevant data.
- c. Contractors shall distribute accepted revised Master Project Schedule and any coordinated sub-schedules to their subcontractors within one (1) day of acceptance.

4. The GC will issue the Master Project Schedule updates on a monthly basis with narrative and reports as follows.

- a. Full Schedule report – sorted by WBS and Start/Finish

- b. 4 week look-ahead construction schedule
- c. Milestone Report Listing all Milestones and Level of Effort Activities
- d. Critical Path Report – sorted by Total float path then Start/Finish
- e. Predecessor – Successor Report but Activity ID
- f. Narrative identifying critical issues impacting the schedule

K. Contractor Schedule Reports:

- 1. CPM Reports: In conjunction with the contractor's update forms and the monthly CPM schedule update process, the General Contractor shall submit reports via the web-based project management software. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in workdays (as based upon the schedule calendar utilized in the Scheduling Software).
 - a. Activity Report: List of activities sorted by activity number and then early start date, or actual start date if known.
 - b. Predecessor-Successor Report: List of all activity predecessors and successors for each activity, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - c. Total Float Report: List of activities sorted in ascending order of total float, then by Start Date for each activity followed by Finish Date for each activity.
 - d. A written schedule narrative to include the following at a minimum:
 - 1) Executive Summary
 - 2) Summary of work completed since the previous update.
 - 3) Summary of Major Milestones completed and progress toward the next milestones
 - 4) Status of major deliveries
 - 5) Items affecting progress with listed deviations from the previous month
 - 6) Upcoming work planned
 - 7) Schedule revisions
 - 8) Basis and assumptions
 - 9) Impacts due to severe or unusually extreme weather conditions.

2. The contractors schedule report shall be issued with the submission of the contractors update form. Failure to provide the required update forms and reports is required before Applications for Payment are processed.
3. Upcoming Work Summary: Contractor to prepare summary report indicating activities scheduled to commence prior to submittal of next schedule update. Summarize the following issues:
 - a. Unresolved issues.
 - b. Unanswered Requests for Information.
 - c. Rejected or unreturned submittals.
 - d. Notations on returned submittals.
 - e. Pending modifications affecting the Work and Contract Time.
- L. Recovery Schedule: When periodic update indicates the Work is ten (10) or more work days behind any milestone as identified in section 2.4.I.9, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished. Recovery plan should be based on actual data from subcontractors, suppliers and vendors with associated manpower listed. The Contractor shall take steps as necessary to improve the progress and shall submit for review, revised schedules to demonstrate that the rate of progress will be regained; without additional cost to the Owner.

2.5 CONTRACTORS LOOKAHEAD SCHEDULE

- A. 3 Week Look-Ahead Schedule: Contractors shall submit an electronic 3 Week Look-Head Schedule each Friday for incorporation into a master project 3 Week Look Ahead Schedule. Contractors will utilize the look ahead schedule template provided by the CMa. Weekly submissions will be in a live MS excel file format (or other accepted format which yields an acceptable means of communicating the look-ahead information to the project team).
 1. General Contractor Prime shall incorporate all prime contractors Look-Ahead Schedules into a singular file on a weekly interval and distribute the schedule to the entire project team in a live MS excel file format each Monday unless an alternate date is identified by the CMa. 3 Week Look-ahead must include area of work, floor level and estimated manpower for the activity. Format should be at minimum MS Excel schedule template provided by the CMa and identify relationships to other activities. The Look-Ahead schedule should be consistent with the Project Master Schedule. Any deviations including but not limited to logic, overall sequence, and/or duration must be identified. Deviations will be discussed at project meetings.

2.6 STARTUP CONSTRUCTION SCHEDULE

- A. Startup Construction Schedule is intended to be preparatory to preliminary Pull Planning activity defined in Lean Procedures. The Startup Construction Schedule should generally reflect milestones contained in Bid Schedule and Master Project Schedule as defined in the Contract Documents. Included with the Startup Construction Schedule framework should be a fully developed Work Breakdown Structure (WBS) for the entire project. The WBS will be further detailed as the Master Construction Schedule is developed. This initial schedule should be considered preliminary and prepared only to allow Contractor to participate knowledgeably in a Pull Planning process that will result in further direction in response to constraints determined jointly by the Contractor(s), A/E, Owner and the Construction Manager.
 - 1. Contractor(s) shall prepare a Startup Construction Schedule including Milestones and detailed WBS and submit to the CMA within ten (10) days of the NTP. The Startup Construction Schedule shall include all activities anticipated in the first four to six months of the project and include but not limited to procurement, submittals, mobilization and enabling, coordination and construction. The schedule shall be developed in Primavera P6.
- B. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule. Bar-chart or Gantt Schedule shall consist of Activity ID, Activity Description, Original Duration, Remaining Duration, Early Start, Early Finish and define the entire Contractual Construction Timeline.
- C. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first one hundred twenty (120) days of construction. Indicate all Milestones into the Startup Schedule for further development in Pull Planning Sessions. Include fully detailed Work Breakdown Structure with skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- D. The Startup schedule, compliant with the contract requirements, shall be submitted prior to the first payment application request.

2.7 PROGRESS REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions.

7. Accidents.
 8. Meetings and significant decisions.
 9. Unusual events (refer to special reports).
 10. Stoppages, delays, shortages, and losses.
 11. Meter readings and similar recordings.
 12. Emergency procedures.
 13. Orders and requests of authorities having jurisdiction.
 14. Change Orders received and implemented.
 15. Construction Change Directives received and implemented.
 16. Services connected and disconnected.
 17. Equipment or system tests and startups.
 18. Partial Completions and occupancies.
 19. Substantial Completions authorized.
- B. Construction Survey Data: Take settlement readings of the Work at a predetermined number of points selected by the Architect. Take readings weekly until the Work is substantially completed or until such time as the Architect directs. Record survey data and submit to the Architect on a weekly basis. Furnish certification from a Registered Land Surveyor who shall verify periodically that portions of the Work are located in accordance with the Drawings and at the required elevations. Upon completion of foundation walls, submit to the Architect a certified survey showing that dimensions, elevations, angles and the location of the building is in accordance with the Contract Documents. When enclosing walls are completed, submit a survey certifying their location and plumbness.
- C. Material Location Reports: At appropriate intervals, or as requested, prepare a comprehensive list of materials delivered to and stored at the Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list, a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
1. Material stored prior to previous report and remaining in storage.
 2. Material stored prior to previous report and since removed from storage and installed.
 3. Material stored following previous report and remaining in storage.

- D. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.8 SPECIAL REPORTS

- A. General: Submit special reports directly to CMa within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise CM in advance when these events are known or predictable.

2.9 CONSTRUCTION PHOTOGRAPHS

- A. Digital Images: Provide images in uncompressed PDF, TIFF or JPEG format, produced by a digital camera with minimum sensor size of 8.0 megapixels.
- B. The contractor shall provide a minimum of 25 digital photo images per day when its working on site. Photos shall be submitted as separate files with the daily report. Photos shall be time stamped and labeled to identify location and/or area.
- C. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
- D. Maintain key plan with each set of construction digital images that identifies each photographic location.
- E. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in filename for each image.
 - 2. Field Office Images: Maintain one set of images in the field office at Project site, available at all times for reference. Identify images same as for those submitted to CMa and Architect.
- F. Quantity and Timing of Construction Photographs
 - 1. Preconstruction Photographs: Before starting construction, take digital photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
 - 2. Periodic Construction Photographs: Take color, digital photographs, weekly, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

- G. Final Completion Construction Photographs: Take color digital photographs after date of Substantial Completion for submission as Project Record Documents

END OF SECTION