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A. General Project Information

1. Project Summary

This project, of significant importance, entails the design-build renovation and/or construction of improved administrative facilities, maintenance and warehouse facilities, vehicle storage, and laboratory spaces. It is aiming to improve security, circulation, usability and durability. An emphasis on reducing maintenance requirements, improving facility efficiency, and increasing the comfort and performance of the occupied spaces. It also includes associated site work and modifications to landscaping to accommodate ADA compliance and enhance employee and visitor comfort. The site, currently developed and used by the owner to conduct its operations, may or may not require interim housing for the project's duration.

The proposed project brings with it a host of positive changes. It includes renovations to the existing Administration Building, modifications to the existing maintenance/shop facility, replacement of the aquaculture facility, and a significant increase in site parking availability and security. The existing electrical distribution will also be modified to accommodate a substantial increase in the amount of EV Charging available on-site, a move that aligns with our commitment to sustainability.

The design-build entity (DBE) shall be responsible for on-site and off-site improvements as required for the development, including the extension of wet and dry utilities from the public right-of-way to the project and any required improvements to the public right-of-way.

This document provides the design criteria and general performance requirements that all teams shall incorporate into the design-build proposal. The DBE shall be responsible for the complete design, approval through all regulatory agencies, and project construction as part of the design-build process. The DBE team shall be responsible for their own coordination with the regulatory agencies.

2. Building Requirements and Scope

- a. Architectural Requirements for Administration Building Renovations
 - i. Construction Materials—Match existing construction materials for wall framing. Alternative materials may be suggested if they offer a performance or cost benefit.
 - ii. Structural System – For new construction as a renovation component, the Design-Build Entity (DBE) may select the appropriate structural system for the project.
 - iii. Exterior Walls – Match any new exterior walls to adjacent finishes. The DBE shall propose additional material enhancements to the

- exterior of the building. Minimum R-19 insulation shall be provided on exterior walls. Repairs to existing walls shall meet or exceed the recommendations in the Existing Conditions Surveys.
- iv. Interior Walls – When necessary for privacy, security, or fire safety, walls between spaces must be full height to the deck or sheathing above and sealed to isolate each space.
 - v. Windows—All exterior windows shall be thermally broken windows with insulated glazing and Low-E surfaces. The design basis is aluminum-framed windows; however, other window systems may be proposed. Refer to Jax Kneppers' recommendations and meet or exceed the guidance.
 - vi. Doors – All exterior doors and frames shall be hollow metal or aluminum storefront systems. All interior door frames shall be hollow metal or aluminum. The DBE may propose interior door materials.
 - vii. Roofing—Refer to the recommendations in Existing Conditions Surveys by Tremco and Jax Kneppers. Design materials will meet or exceed the recommended performance. Equal products may be utilized in the design. The DBE is to propose a low-slope roofing material suitable for the project at mechanical wells. Any roofing proposed shall not have a warranty of less than 25 years. Minimum R-30 insulation shall be provided on the roof.
 - viii. Design—The DBE shall work with CCMVCD to propose building designs that balance aesthetic considerations with the project budget.

3. Administration Building

- a. Improve facility efficiency and insulation.
 - i. Repair or replace windows
 - ii. Improve the R-Value of the building envelope
 - iii. Improve envelope air/moisture barrier
- b. Review and redesign available space to improve facility circulation and usability.
- c. Increase the number of offices by at least 10.
 - i. Minimum of 5 additional administrative personnel offices.
 - ii. Minimum of 5 additional Program Director offices
- d. Include the seismic and structural recommendations in recommendations by Jax Kneppers.
- e. Improve the security of the main entry: reconfigured entry, barriers, Card/FOB access, upgraded/secured reception desk, and ballistic glazing.

- f. Review options for expanding the building footprint by approximately 1000 square feet.
- g. Add an exit to the Technician's Room.
- h. Replace flooring throughout the building – emphasis on durability and ease of maintenance. Evaluate all building utilities and ensure they are functional and do not require replacement. Emphasis on plumbing. Address the subfloor according to the structural and seismic report recommendations – leveling and resurfacing.
- i. Upgrade the board room to improve usability, privacy, and AV capabilities (See Section F).
- j. Add exterior space for employees to relax or host small classes or tours – space should facilitate ~20 people in a manner conducive to learning.
- k. Add a dedicated break room.
- l. Add a small conference room for 8-10 people (STC 50)
- m. Remove the Library.
- n. Renovate the existing Lab space on the second floor and redesign it to improve access to offices and increase the number of offices. Replace all finishes, casework, and utilities. Do not remove the BioSafety Cabinets from their current locations.
 - i. Connect the existing biosafety cabinet to the existing exhaust vent.
- o. Replace the existing HVAC Systems (9 Rooftop Units) (See Mechanical Criteria)
- p. Upgrade Switchgear (See Electrical Criteria) and increase site service according to Recommendations in the Electrical Site Survey (Appendix 6).
- q. Patch and repair cracks in the exterior envelope according to the recommendations (or equal) in Appendix 2.
 - i. Repaint all interior and exterior surfaces.
- r. Replace all roofing according to recommendations (or equal) in Appendix 2.
- s. Update building restrooms and locker rooms.

4. Shop

- a. Remove/Replace vehicle lifts.
 - i. Evaluate floor/replace footings for new lifts.
- b. Modernize solar array (See Electrical Criteria and Recommendations).
- c. Add a fire-resistant construction facility for battery storage.
- d. Evaluate the feasibility of demolishing this facility and rebuilding a new one.
- e. Evaluate the existing roof and replace it with a new one supporting additional solar panels.

5. Equipment Building

- a. Evaluate the feasibility of removing and replacing this facility.
- b. Connect this facility to the backup generator.

6. Greenhouse/Aquaculture

- a. Renovate the facility to resize and modernize it to improve utilization and economics, which are currently “all or nothing.” There is also the potential to remove and replace the building entirely.

7. Wet Lab

- a. Evaluate the feasibility and necessity of renovating or removing and replacing this building.

8. District Vehicle and Equipment Storage

- a. Increase site parking capacity to at least 125. This may be accomplished with additional parking spaces, multi-vehicle lifts, or other parking solutions.
- b. Improve security in the parking area by adding a motorized gate with key/fob entry.
- c. Additional storage for eight (8) “Argo” amphibious vehicles.
- d. Expand EV charging capability to serve a fleet that will be entirely electric by 2035 (50 EVs) (See Electrical Recommendations).

9. Sitewide and General Scope

- a. Ensure site ADA compliance.
- b. Improve site security along the entire perimeter, including access controls.
- c. Repair, seal, and re-stripe asphalt after construction.
- d. Gates at all public access points.
- e. Replace the site backup generator (See Recommendations by Aurum, Appendix 6).
- f. Add a 6,000-gallon underground storage tank with a pump for Gasoline.
- g. Add a 6,000-gallon underground storage tank with a pump for pesticides.

B. Civil Design Narrative

The site is impacted by significant stormwater during heavy rain events. Evaluate and recommend improvements to the site storm drain to reduce the impact of runoff on the facility. Coordinate storm sewer design with an appealing, easy-to-navigate site. Ensure that the entire site is ADA-compliant and up to code. Include the paving profiles and recommendations in the geotechnical report.

1. DBE shall be responsible for hiring a Civil and Surveyor to Design the project.
2. The Contractor is responsible for submitting all plans to the local agency and paying any fees.
3. The Contractor is responsible for all the site improvements, which include the following items:
 - a. Parking Lot Improvements around all buildings to accommodate the desired increase in parking on site.
 - b. New Utility connections to new buildings (Electric, Sewer, Storm Water, and Domestic Water).
 - c. Additional fire hydrants if necessary.
 - d. A storm sewer system will be designed and installed to handle a 100-year storm lasting 48 hours.
 - e. Staffing and Visitor Parking will be AC pavement, and the area in front of the Maintenance Building and shop buildings will be Concrete Pavement.
 - f. The project site is to have an accessible path of travel between buildings and adjacent streets.
 - g. The Contractor will give the client as-built plans when the project is completed.

C. Mechanical Systems Narrative

This project aims to improve the facility's efficiency and comfort, preparing it for continuous use for the foreseeable future. Decisions should be made assuming a minimum of twenty-five years until the next significant renovation, and the overall building service life should be a minimum of fifty years. Select highly efficient equipment that does not require specialty parts or service above and beyond what is available from a typical HVAC service company. The minimum scope of work that should be included in the Mechanical scope is:

- Replace all Heating and Cooling systems. Reframe the rooftop curbs to support new units as necessary.
- Evaluate the existing exhaust fans and replace them if they are at the end of their service life.
- Evaluate the existing ductwork: clean and repair any leaks or replace the ducts.
- Connect the biosafety cabinet to the existing exhaust ductwork in the ceiling.

1. Mechanical System Summary

The DBE shall provide a complete mechanical design for the project with the essential requirements:

- a. Administration Building: Provide a complete HVAC system, including air conditioning. The basis of the design is a rooftop package unit system. The DBE may propose an alternate system. Supply, return, and exhaust systems shall be ducted throughout. Plenum return will not be accepted. A rooftop packaged unit shall be provided for each significant area/exposure of the Administration Building – (9) units, minimum.
- b. Utility spaces such as IDF, MDF, Electrical, Server, etc., shall be provided with a dedicated split fan coil system. The fan coil shall be a highwall-style fan coil. The exact fan coil location shall be coordinated with the County and other trades.
- c. Additional Ventilation Requirements – The DBE shall provide for all additional ventilation requirements for specialized spaces within the project, including, but not limited to:
 - i. Restrooms – Provide a ceiling-mounted exhaust fan.
 - ii. Chem Room– This room shall be provided with a system for which the design-build team must provide ductwork and shall interconnect with a wall-mounted switch. Make-up air shall also be provided via a roof-mounted aluminum gravity intake ventilator.

2. Applicable Codes – Mechanical design shall comply with all applicable codes and standards, including:
 - a. 2022 California Mechanical Code
 - b. ASHRAE Standard 55 – Thermal Comfort
 - c. ASHRAE Standard 62.1 – Ventilation
 - d. NFPA 90A – Air Conditioning and Ventilating Systems
 - e. SMACNA
 - f. Guidelines for Seismic Restraints of Mechanical Systems
 - g. Standards for Duct Construction

3. Seismic Design – Anchoring and seismic design of all mechanical systems shall be performed by a structural engineer licensed by the State of California.

D. Plumbing and Fire Protection Systems Narrative

1. Plumbing System Summary

The DBE shall provide a complete plumbing design for the project with these basic requirements:

- a. Sanitary Sewer System - Provide waste and vent piping systems for all plumbing fixtures, drains, sinks, and condensate drainage.
 - i. In addition to sinks indicated for restroom spaces, sinks shall be provided for shop spaces. Sinks shall be stainless steel shop types with deep basins and provide both hot and cold water.
 - ii. Provide floor drains in each restroom with more than two fixtures.
 - iii. Provide wall/floor cleanouts as needed for maintenance accessibility.
- b. Storm Drainage System – Primary roof drainage shall be through gutters at the roof and connected to the site storm drainage system for on-site retention/filtering as required. All exposed downspouts shall be tube (not sheet metal) for durability purposes.
- c. Domestic Water Systems
 - i. Provide cold and hot water piping to all lavatories, sinks, and water heating equipment.
 - ii. Provide cold water piping only to drinking fountains, hose bibs, water closets, eye wash stations, and DI equipment for the Vehicle Wash Bay within the Maintenance Building.
 - iii. Provide a fully recirculated hot water supply system from an electric heat pump water heater to serve all fixtures requiring hot water, including emergency showers, in each building.
 - iv. Provide instantaneous electric water heaters to serve all sinks within remote areas not served by the heat pump domestic hot water system.
 - v. Provide an electronic trap priming valve assembly to provide trap priming to each floor drain, floor sink, and tub drain.
 - vi. Provide a separate dedication isolation valve to serve each restroom and any independent fixture.

- vii. Provide exterior hose bibs on all four sides of the building with a maximum distance of 100' between them.
- viii. Provide a whole-building water softener system sized to minimize the frequency of maintenance on the system.
- d. Emergency Shower and Eye/Face Wash
 - i. Provide freestanding Emergency Shower and Eye/Face Wash or approved equal at the Chem Room within the storage building if the existing facility or eye wash is removed.
 - ii. Provide a recessed eye wash station in the maintenance building shop.
- e. Drinking Fountain and Bottle Filler
 - i. Provide a bi-level ADA drinking fountain and bottle filler in the Public Area of the renovated Contra Costa Mosquito and Vector Control District administration building.

2. Fire Protection System Summary

The DBE shall provide a complete automatic fire sprinkler design for the project, complying with NFPA 13 and the following basic requirements:

- a. Provide a system designed for the different occupancy types' hazard levels present within the building.
- b. Provide exterior double detector check valve assembly and exterior post indicator valve assembly.
- c. Provide hydraulically calculated wet pipe fire sprinkler system for the entire building, including the submittal of design drawings and calculations to the County for approval.
- d. Provide floor control valve assembly with inspector's test and drain assembly.
- e. Provide exterior alarm bell.
- f. Provide fire department connections as required per the City of Concord.

3. Applicable Codes – Plumbing design shall comply with all applicable codes and standards, including:
 - a. 2022 California Plumbing Code
 - b. NFPA 13 – Standard for Installation of Sprinkler Systems

E. Electrical Systems Narrative

The site electrical upgrades must adequately supply the existing and new facilities to accommodate all current and planned loads. They must also support the expansion of the PV Array and Electric Vehicle charging needs. For additional guidance on the electrical system requirements, refer to the Site Electrical System Survey from Aurum Consulting Engineers.

1. Electrical System Summary

- a. **Electrical Utility Service and Switchboards** – The DBE shall design and provide a new main electrical service for the site through the local utility company having jurisdiction. DBE shall provide electrical design to size the required service and transformer as required.
 - i. Service shall be 3-phase power and an exterior pad-mount transformer of the required size shall be provided. The pad-mount transformer shall be separated from vehicular traffic with fencing and bollards.
 - ii. DBE shall size the new electrical service as required to backfeed all existing buildings on site. The design-build team shall provide all conduits, wiring, and connections required to backfeed all existing structures.
 - iii. Service shall have a dedicated section ready to receive connections from photovoltaic equipment.
- b. **Secondary Distribution**
 - i. Electrical distribution and primary electrical panels and equipment shall be located in the electrical room shown in the project plans. Electrical power shall be distributed at 120/208V, 3-phase, 4-wire as follows:
 - 1) Motor loads 1/2 HP and larger: 208V, 3-phase
 - 2) Lighting – 120V, single-phase
 - 3) Receptacles and motor loads less than 1/2 HP: 120V, single-phase
 - 4) Special Equipment: As required (see equipment summary)
 - ii. All other equipment, including disconnect switches, transformers, switchboards, panelboards, and grounding, shall be provided per the DBE's design.
- c. **Photovoltaic and Battery Storage System** – DBE shall provide a photovoltaic and battery storage system per CBC, CEC, and Title 24 requirements.

- d. Power System Study—The owner will provide a power system study of the entire electrical system. The recommendations of this study shall be included in the design criteria and carried into the final design.
- e. Grounding
 - i. Each building shall be provided with a UFER ground per CEC requirements.
 - ii. Ground rods shall be provided for the main electrical service. A minimum of four ground rods shall be provided in a ring around the main service with associated conduit, wiring, and connections per CEC requirements.
 - iii. Ground tests shall be completed by the contractor, and the ground test results provided to the Owner.
- f. Emergency Power System—Provide unit battery backup for life safety emergency loads, including egress lighting, exit signs, and the fire alarm system. An emergency generator or central inverter is not anticipated for this project.
- g. Disaggregate Loads – Provide individual panelboards to disaggregate electrical loads as required per California Energy Code and California Electrical Code.
- h. Receptacles
 - i. Quad receptacles shall be provided at all desk locations.
 - ii. Receptacles shall be provided on at least two opposite walls in each office.
 - iii. Recessed floor boxes with receptacles and data outlets shall be provided at each desk in the Tech room.
 - iv. Recessed floor boxes are not required in the Boardroom.
 - v. Receptacles with dedicated circuits shall be provided above each counter in the break room, kitchen, and other food prep areas.
 - vi. Outside of offices, receptacles shall be provided, at minimum, one per wall or as directed by the Owner.
 - vii. For any new construction - provide exterior recessed GFCI receptacles on each wall of new buildings or construction. Locations are to be determined by the Owner. Recessed boxes shall have a flush weatherproof while-in-use lockable cover.
- i. Raceways – All wire and cable shall be installed in conduit.
 - i. Rigid Steel Conduit—Use on the exterior of the building and where it is exposed to damage on the interior of the building (within 10’ of the finished floor).
 - ii. Electrical Metallic Tubing (EMT) – Use for general-purpose feeders and branch circuits.

- iii. Flexible Steel Conduit – Use in dry locations only to connect lighting fixtures above ceilings, and connection to equipment where vibration isolation is required.
 - iv. Rigid Nonmetallic Conduit (Schedule 40 PVC with solvent-cemented type fittings): This type is used in underground duct banks below or embedded in the slab.
 - v. Square D QOD Bolt on breakers or equal shall be used.
- j. Lighting—The Lighting System shall include indoor and outdoor fixtures as described below. All fixtures shall be LED and high-efficiency. All interior fixtures shall be dimmable. The Architect and Owner shall select the finish of all fixtures.
- i. Lighting Controls—All lighting shall be automatically controlled using occupancy sensors in interior spaces (passive infrared or combination infrared/ultrasonic type). Manual override switches shall be provided. Outdoor and site lighting fixtures shall be provided with a programmable time clock, with motion sensors at exterior site lighting poles for dimming.
 - ii. All lighting and controlled receptacles shall meet Title 24 requirements.
 - iii. Interior Office Lighting—In all interior office spaces with suspended ceilings, provide recessed 2' x 2' direct/interior luminaires (Basis of Design—Hubbell LCAT24 series—color temperature 4000K, 100 lumens/watt minimum). Maintain 40-foot-candle average illumination at desk height (30" AFF).
 - iv. Interior Lobby, Boardroom, and Tech Room - Provide recessed 6" wide continuous row linear luminaires (Basis of Design – Focal Point FAV6L series – color temperature 4000K, 100 lumens/watt minimum). Maintain 40-foot-candle average illumination at desk height (30" AFF).
 - v. Interior Restroom Lighting – Provide fully recessed can fixtures, 6" size, LED (Basis of Design – Gotham EVO series – color temperature 4000K). At restrooms with stalls, each stall shall have a light fixture directly above the stall for illumination.
 - vi. Interior Shop and Storage Spacing—Provide high-bay LED light fixtures suspended from the structure above (Basis of Design—Lithonia IBH). Provide a minimum 30-foot-candle average illumination in all storage spaces and a 40-foot-candle average in shop spaces, including painting, carpentry, welding, and automotive spaces. Color temperature 4000K.
 - vii. Exterior Garage and Car Wash—Provide linear high bay, vandal-resistant, waterproof fixture, color temperature 4000K.
 - viii. Exterior Building Mounted Lights – DBE shall provide wall-mounted vandal-resistant light fixtures (Basis of Design – Lithonia WSR series) with color temperature 4000K

- ix. Parking lot lighting:
 - 1) Lighting for rear parking areas—Lighting shall be post-mounted on a concrete base extending a minimum of 36” above finish grade. Fixtures shall be LED and provided with motion-sensing and a dimming function. Provide a minimum light level of one-foot candle.
 - 2) Lighting for the front parking area shall be from building-mounted exterior fixtures whenever possible. Color temperature 4000K.
- x. Monument Sign Lighting – Ensure the existing monument sign is adequately lit.
- xi. Provide battery backup for the following systems:
 - 1) MDF, IDF
 - 2) Telephone System
 - 3) Access Control System
 - 4) Security Camera System

2. Fire Alarm System Summary

Provide a fully addressable fire alarm system that shall be fully supervised and includes automatically actuated alarms. The system shall also include:

- a. Connections to fire sprinkler water flow and tamper switches.
- b. Manual pull stations adjacent to (secure) main office entry and exit doors.
- c. Fire Alarm Control Panel (FACP) and annunciator panel located within the existing Fire Alarm and Communications Room.
- d. All fire alarm wiring shall be in EMT conduit with red striping at 15’ o.c. All fire alarm boxes shall be red.

F. Technology Systems Narrative

DBE will recommend upgrades to modernize the existing Technology and Communications within the facility. The conference rooms and boardroom will receive particular attention during the design. At a minimum, include the following requirements in the facility design;

1. Grounding

- a. Ground bus bar in the IDF Room will be part of a building Telecommunications Back Bone (TBB) consisting of 1/0 copper ground conductor bonded to the electrical system ground, Telecommunications Main Ground Busbar (TMGB), and smaller ground conductors and lugs as required.
- b. TMGB will be bonded to the nearest electrical panel and building steel with individual #6 green insulated copper conductors and 2-hole compression lugs. IDF equipment racks, security panels, and Network equipment chassis will be bonded to the TMGB with #6 green insulated copper conductor and 2-hole compression lugs.

2. Outlets

- a. Data and phone outlets will be Category 6 cable. Wi-Fi will be Category 6A. TV outlets will use RG6 coax cable from the termination points in the nearest building IDF.
- b. Dual data outlets (2 Cat6) at all desk and cubicle workstation locations.
- c. Outlets shall be provided on at least two opposite walls in each office.
- d. Quad (4 Cat6) data outlets shall be provided at each desk in the Tech room.
- e. Recessed floor boxes are not required in the Boardroom.
- f. Ceiling-mounted outlets will be provided for Wi-Fi coverage throughout the building. Wi-Fi outlets will have (2) Cat6A cables. Wi-Fi outlets are to be positioned at a maximum 100 ft. radius.
- g. Locations with wall-mounted flat panel displays for signage or AV applications will have an outlet placed at 72" AFF (or as directed by the AV Designer). This outlet will have a single Category 6 cable. Locations that require SATV or CATV will also have an RG6 coax cable with an F-type connector (or as directed by the SATV/CATV provider).

- h. Single Category 6 cable outlets will be provided for Access Control panels, CCTV cameras, Lighting Control panels, EMS panels, Elevator Equipment room, UPS equipment, Power system monitoring equipment, HVAC system monitoring panels as required.
3. Pathways
- a. Cables will be suspended above accessible acoustic tile ceilings with j-hooks.
 - b. Cables above hard lid or other non-accessible ceilings will be in conduit.
 - c. (1) A 1" conduit will be run inside the wall at each data/phone/TV outlet location to a 2-7/8" Deep x 4" square backbox.
4. IDF/MDF Buildout
- a. Fire-treated plywood mounted on (3) walls.
 - b. 2-port and/or 4-post telecom racks with vertical wire managers as required.
 - c. The ladder tray above the racks connects to all incoming pathways.
 - d. Conduit sleeve penetrations of walls, fire-rated where necessary.
 - e. TMGB or TGB is used to ground Telecom equipment.
 - f. Patch panels and horizontal wire managers for termination of all data/phone cables.
 - g. TV cables (RG6) to be terminated on a wall field tap/splitter.

G. Outline or Template Specifications

Include these requirements in the project specification sections matching their Section Heading.

SECTION 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Section Includes:
1. CPM schedules and associated reports
 2. Schedule of Values
 3. Daily Reports

1.3 CPM CONSTRUCTION SCHEDULES AND REPORTS

- A. General: Comply with the Contract's General Conditions.
- B. Submittals:
1. Initial Construction Schedule
 - a. Submit a "Draft" 3-Week Look-ahead Schedule at the Preconstruction Meeting.
 - b. Within ten calendar days after issuance of Notice to Proceed, the Contractor shall submit a detailed Initial Construction Schedule that includes all construction activities, from Notice to Proceed through Project completion.
 - c. Within 15 calendar days, the Construction Administrator will review the Initial Construction Schedule and provide comments.
 - d. Contractor shall revise the Initial Construction Schedule per the Owner's comments and resubmit within 15 calendar days. Upon approval by the Owner, the schedule shall be designated as the Contract Construction Schedule.
 - e. No change to the content or CPM logic of the Contract Construction Schedule shall be made by the Contractor without prior approval by the Construction Administrator.

2. Schedule Updates

a. The Contract Construction Schedule shall be updated and submitted monthly following the Contract General Conditions.

1. The updated Contract Construction Schedule shall accurately represent the as-built condition of all completed and in-progress work activities as of the schedule data date.
2. The Contract Construction Schedule shall use activity codes that logically summarize like activities. A summary schedule of no less than 20 activities shall be submitted monthly with a detailed contract construction schedule.
3. Prior to preparing the first update of the approved Contract Schedule, the Contractor shall designate the approved Contract Schedule as the baseline or “target schedule.” All schedule updates shall include each activity's original (i.e., target) information, including start dates, finish dates, durations, successors, predecessors, etc... The actual progress for each activity shall be shown directly below the target bar.
4. Monthly submittals shall include the following items.
 - i. Schedule electronic files
 - ii. A 3-week look-ahead schedule (current week plus two weeks forward), derived directly from the Contract Construction Schedule, shall be updated and submitted for review during each weekly progress meeting. The 3-week look-ahead schedule shall be a sub-network of the Contract Construction Schedule; hand-drawn schedules, marked-up versions of previous schedules, or schedules generated using alternate scheduling software will not be accepted.

C. Basic Requirements of Contractor's Scheduling System

1. The Contract Construction Schedule shall be prepared, updated, and maintained using the latest version of Microsoft Project. Should the Contractor request an alternate scheduling software system, a formal Request for Substitution shall be submitted per section 01 25 00. Should the Owner approve the use of an alternate system, the Contractor shall be required to provide one legally licensed copy of the software to the Construction Administrator, as well as necessary training in the use of the system, at no additional cost.
2. The system shall be usable by on-site personnel in the Contractor's site office. On-site management shall be capable of using the system to address all project activities and resources on a real-time interactive basis and

rapidly evaluating alternative means and methods in response to job conditions and as required to optimize project management. The contractor's scheduling system shall be capable of providing the following minimum on-site reporting functions:

- a. Precedence Diagram Method (PDM) schedules
- b. Progress reports in tabular formats
- c. Network comparisons
- d. Super and sub-networks
- e. Resource reporting
- f. Report writer allowing flexible formatting and summarization
- g. Graphic output to a laser jet printer or full-size plotting device

D. C.P.M. Schedule Format and Requirements

1. Activities shall be coded in a logical manner to allow for sorting and grouping of like characteristics, including but not limited to phase, work shift, project area, activity type (e.g., submittal, agency review, const. activity, etc.), trade, etc.
2. Include activities and milestones as requested for work completed by the Owner under a separate contract, Owner-furnished materials, move-in, etc.
3. The schedule duration shall be calculated using the Critical Path Method for the Initial Construction Schedule, Contract Construction Schedule, and all schedule updates.
4. Work activities shall be divided so that no scheduled activity shall be less than one nor more than 15 work days.
5. A minimum of 5% of the scheduled activities shall be designated milestone activities.
6. Identify work days and non-work days on the schedule.
7. The contractor shall work with each subcontractor and supplier to ensure that all relevant submittal, procurement, delivery, and installation dates for the various trades are accurately represented in the Initial Construction schedule and each subsequent schedule update.
8. The contractor's Superintendent shall be integrally involved in the production of the Initial Construction Schedule and each subsequent update.
9. Include activities for all project submittals as required under Section 01 33 00 and the technical specifications (Divisions 2 through 33).

- a. Indicate any required response times for procurement of long-lead items.
10. Failure by the Contractor to include any element of the work required for the performance of the Contract shall not relieve the Contractor of the obligation to complete the entire Work of the Contract by the Contract Completion Date.
 11. Resource-Load the schedule using the number of personnel assigned to this project from each subcontractor and trade partner.
- E. Construction Schedule Analysis
1. The Contractor shall provide the Owner with the following minimum information in the Initial Construction Schedule and subsequent Monthly Updates:
 - a. The activity identification code is keyed to the summary and detailed construction schedules.
 - b. Activity description
 - c. Status date and remaining duration
 - d. Activity duration
 - e. Early start/early finish and late start/late finish
 - f. Total float
 - g. Free float
 - h. Predecessor and successor activity for each activity
 - i. A listing of all constraints for each activity and a justification for using any constraint other than “as soon as possible.”
 - j. A comparison between the current update and the Initial Construction Schedule (baseline schedule).
 - k. No more than 20% of the total project activities shall be critical or near critical (less than five working days of total float).
 2. The Initial Construction Schedule and subsequent Monthly Schedule Updates shall include, but not be limited to, the following information:
 - a. NTP Date, mobilization, coordination review, and detailed activities.
 - b. Submittal preparation by the Contractor and review and approval by the Architect and Construction Administrator, including shop drawings, technical manuals, and all other submittals. The contractor shall allow at least 21 calendar days for the review of submittals.
 - c. Order, manufacture, fabrication, delivery, and checkout of all long lead and major construction materials.
 - d. Demolition of existing structures
 - e. Earthwork – excavation, backfill and compaction
 - f. Initiation and completion of site drainage

- g. Major utility connections
 - h. Work interfering with public roads
 - i. Initiation and completion of each major underground utility
 - j. Pedestrian and Vehicle paving
 - k. Completion of each reservable picnic area
 - l. Miscellaneous metals and equipment installation
 - m. M/E/P finishes - plumbing, electrical, telecommunications,
 - n. Sitework – curbs, gutters, hardscape, roads, etc.
 - o. All utility interfaces
 - p. Landscaping
 - q. Punch List
 - r. Performance and acceptance testing
 - s. Contractor close-out documentation and training
 - t. Contractor punch list corrective work
 - u. Final cleanup
 - v. Identification of all holidays and non-working days.
 - w. Milestones listed in Section 00 80 00 – Special Provisions; 1.1
3. The Contractor shall show all applicable tasks and milestones for the project. The Construction Administrator shall be the final arbitrator on which tasks and milestones should be included in the Initial Construction Schedule and subsequent updates.

F. Submittal Schedule

1. Within ten working days of the Contract Award, and before submitting items for review, generate a schedule of all required and informational submittals. Include anticipated submission dates, required approval dates (no less than 20 working days from the submission date), order-by date, and the latest possible material delivery date for each submittal item. Use the naming convention from 01 33 00 – Submittal Procedures to name each submittal.

G. Responsibility for Completion

1. Should any monthly or weekly update of the Contract Construction Schedule indicate that the critical path has been extended, thus impacting the Contract Completion Date, the Contractor shall submit a written action plan for bringing the schedule into compliance with the Contract Completion Date. The contractor shall initiate corrective actions, as approved by the Construction Administrator, at no additional cost. These actions shall include, but not be limited to, one or more of the following:
 - a. Increase construction manpower in specific or all trades to bring the completion date into compliance with Contract requirements.

- b. Increase the number of labor shifts, working hours per shift, or working days per week as required to bring the completion date into compliance with Contract requirements.
 - c. Reschedule activities to achieve the maximum number of concurrent work activities.
 - d. Arrange and pay for acceleration of fabrication schedules for long lead material items.
 - e. Arrange and pay for alternate shipping or delivery methods to expedite material procurement.
3. Comments provided by the Construction Administrator concerning the Initial Construction Schedule, Contract Construction Schedule, or any schedule update shall not relieve the Contractor from the responsibility for compliance with all of the requirements of the Contract Documents.

1.4 SCHEDULE OF VALUES

- A. **Timing of Submittal:** Submit the Schedule of Values within ten days of the Notice to Proceed. The first progress payment will not be made until the Owner's Representative has approved the Schedule of Values.
- B. **Supporting Data:** Upon request, provide sufficiently detailed supporting documents to validate the Schedule of Values and substantiate its accuracy.
 1. List the installed value of each of the identified parts of the work in sufficient detail, including quantity and unit price, to serve as a basis for computing values for progress payments during construction. Breakdown shall be by line items for ease of field verification of quantities completed in each line item.
- C. **Basis of Payment:** Once approved, the Schedule of Values is the basis of the Payment Application.
- D. **Cost Loading:** The allocation of the schedule of values to complete an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.
- E. **Actual Cost:** The cost assigned to a given line item will be considered its actual cost and value. Should a scope of work be removed from the contract, the total cost, as shown on the schedule of values, will be credited to the Owner.
 1. The schedule of values is based on the Contractor's bid to the Owner.
 2. "Front Loading" of the schedule of values is forbidden. Costs from project scopes later in the schedule cannot be shifted to earlier scopes. Payment will only be made for work completed to the Owner's satisfaction.

- F. Dollar Value: Identify subcontractors and suppliers that will provide materials or work greater than ten thousand dollars (\$10,000) or one-half of one percent (0.5%) of the total contract price, whichever is less.
- G. Allowances: Any allowances to the contract will be a summary item in the schedule of values. As change orders draw against an allowance, each change order will be added as a subordinate line item to the Allowance.
- H. Separate Labor and Materials: Unless expressly agreed to in writing on a case-by-case basis, labor and materials costs will be separate.

1.5 CONSTRUCTION PROGRESS REPORTS

- A. Daily Log: The contractor shall maintain a daily log on the EPM Platform with the following information as a minimum:
 - 1. Date.
 - 2. Weather conditions.
 - 3. Subcontractors and trades performing Work under the Agreement on the Site, including the number of workers each and the number of hours worked by each worker.
 - 4. Others on the Site performing work for the Owner under separate contracts.
 - 5. List of visitors to the site, giving name and company or agency affiliation.
 - 6. Descriptions of situations and circumstances that could delay the regular progress of work or be the basis of a claim for a change in contract time or sum.
 - 7. Changes to Work and who authorized changes.
 - 8. Comments as the Contractor determines are appropriate for the Project record.
 - 9. Reports shall include photos or videos to accurately illustrate a particular circumstance.
- B. Submission of Logs: Make daily logs available on EPM Platform by 10:00 AM the following work day. Export and deliver compiled daily logs every Monday. Weekly packages must include all subcontractor and trade partner reports and any quality control reports, safety reports, or other records produced during the previous week.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

01 33 00
Submittal Procedures

- A. Submittal Log: Before proceeding with affected work, the Contractor shall prepare and submit a Submittal Log, which lists submittal items per the product specifications for review and approval by the Owner's Representative and Architect. The contractor shall allow a minimum of (10) calendar days for Owner review. The Submittal Log shall identify all specified submittals to be made and shall serve as a checklist for submittals.
1. Maintain an accurate submittal log for the duration of the Contract. Indicate the current status of all submittals at all times. Submit the log at the progress meeting and as otherwise requested by the Owner Representative or Architect.
 2. The format shall be suitable for the Project and shall be subject to acceptance by the Owner's Representative and the Architect.
 - a. Include columns to track fabrication and manufacturing time, shipping lead times, and the date that materials must be on-site to proceed with the work on schedule.
 3. Comply with directions from the Owner's Representative and the Architect regarding the scope and format of the Submittal Log. With the Submittal Log, produce a Submittal Table demonstrating which types of submittals from this list are required from each Section of the Specifications.
- B. Timing of Submittals: Make submittals sufficiently in advance of construction activities to allow shipping, handling and review by the Architect and Architect's consultants. Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
1. The Architect will make desired corrections, consolidate relevant Owner comments within fifteen (15) work days, and return the submittal to the Contractor via the EPM system. Submittals that require coordination with other submittals may require more than fifteen (15) calendar days of review time. Submittals that require a selection of colors will be reviewed. Color selection may not be provided until all submittals requiring color selection have been received and reviewed and color selections have been approved by the Owner.
 2. Make corrections the Architect requires and submit via the EPM system for final review and distribution.

3. If an intermediate submittal is necessary, process the same as the initial submittal.
 4. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
- C. Contractor's Review of Submittals: Before submission to the Owner for review, the Contractor shall review each submittal for completeness and conformance to specified requirements. The contractor shall stamp each submittal with a review action stamp and sign each copy of the submittal. Submittals without stamp and signature will not be reviewed and will be returned. Electronic signatures are acceptable but must be authenticated during the submittal process. The contractor's submittal action stamp shall certify the following actions by the Contractor:
- D.
1. Field measurements have been determined and verified.
 2. Conformance with requirements of Contract Drawings and Specifications is confirmed.
 3. Catalog numbers and similar data are correct.
 4. Work being performed by various subcontractors and trades is coordinated.
 5. Field construction criteria have been verified, including confirmation that the information submitted has been coordinated with the work being performed by others for the Owner and actual site conditions.
 6. All deviations from the requirements of the Drawings and Specifications have been identified and noted.
 7. The Contractor shall certify that submittals have been reviewed and approved:

Stamp Submittals utilizing the following language:

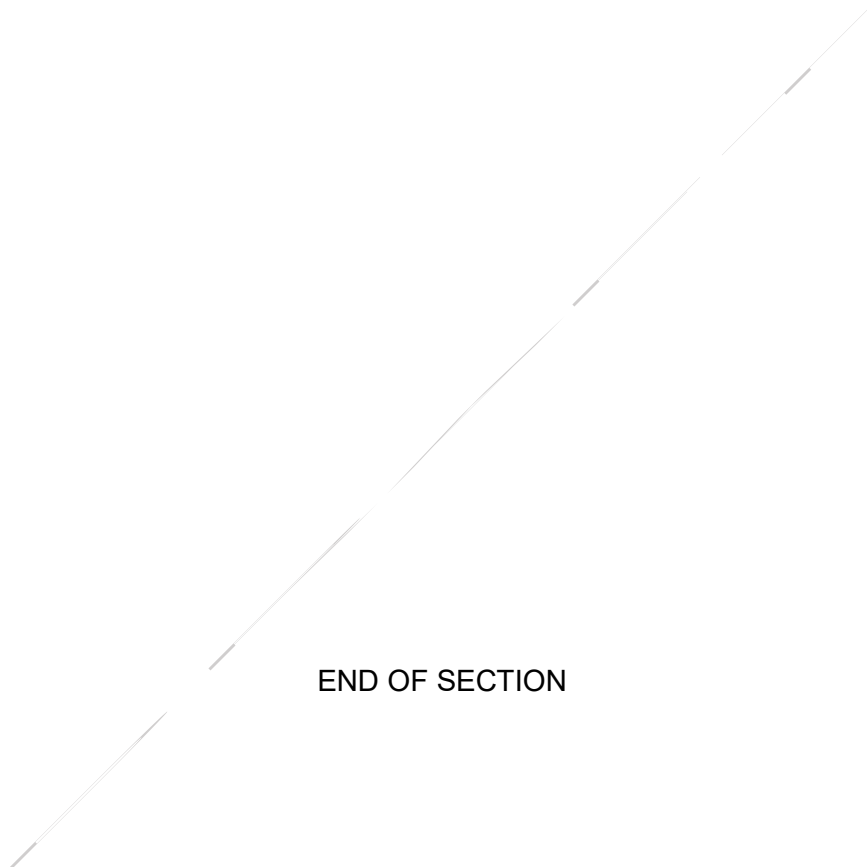
<p>*The undersigned certifies this submittal has been reviewed and approved with respect to the means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incidental thereto; and also warrants that this submittal complies with the Contract Documents and comprises no variation thereto.</p>	
Signature: _____	Date: _____
Name Printed: _____	Date: _____
Contractor Name: _____	Date: _____

2. Submittals not certified by being stamped and signed by the Contractor electronically will be returned without action, as will submittals which, in the Owner Representative's or Architect's opinion, have not been adequately reviewed and coordinated by the Contractor.

END OF SECTION

**SECTION 01 71 23.16
CONSTRUCTION SURVEYING**

- A. The contractor is responsible for doing the topographic and resolved boundary survey.
- B. The contractor is responsible for filing and fees for any mapping related to the boundary survey.
- C. The contractor is responsible for all construction staking.



END OF SECTION

H. Appendices to the Design Criteria

Appendix 1 - Underground Utilities from GPRS

Appendix 2 - Roof Evaluation and Recommendations by Tremco

Appendix 3 - Geotechnical Survey and Recommendations by Ninyo + Moore

Appendix 4 - Seismic Survey and Structural Recommendations by Jax Kneppers

Appendix 5 - HazMat/BioHaz Survey Results and Recommendations by Provost & Pritchard

Appendix 6 - Site Electrical System Survey and Recommendations by Aurum