

SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Summary of Work Under This Contract
- B. Regulatory Requirements
- C. Contractor Use of Site and Premises.
- D. Owner Occupancy.

1.2 SUMMARY OF WORK

- A. Work under this contract includes the following task areas, as shown on the drawings, specified in the Project Manual, and defined in the project contract documents, including but not necessarily limited to:

A small minimal remodel of interior District Offices spaces on the second floor of the Sutter County Center building.

- A. Perform all work in accordance with the requirements of the General Conditions and related Contract Documents.

1.3 REGULATORY REQUIREMENTS AND REFERENCE STANDARDS

A. Regulatory Requirements:

- 1. Architect has contacted governing authorities and reviewed design requirements of local, state and federal agencies for applicability to Project.
- 2. Contractor shall be responsible for contacting governing authorities directly for necessary information and decisions bearing upon performance of Work.

B. Reference Standards:

- 1. For Products specified by association or trade standards, comply with requirements of referenced standards, except when more rigid requirements are specified or are required by applicable codes.
- 2. Applicable date of each standard is that in effect as of date on proposal or date on Contract where no proposal is available, except when a specific date is specified.

C. California Code of Regulations:

1. Perform Work in accordance with the applicable provisions of California Code of Regulations, Title 24, Parts 1-6, and 10 - 12, 2019 editions, as applies.

Particular attention is directed to the following Sections of CCR, Title 24, Part 1, 2019 California Administrative Code, Chapter 4, "Safety of Construction of Public Schools".

- a. Section 4-335 – Structural Tests and Inspections.
- b. Section 4-336 - Verified Reports.
- c. Section 4-338 – Addenda and Construction Changes.
- d. Section 4-339 – Final Certification of Construction.
- e. Section 4-342 - Duties of the Project Inspector.
- f. Section 4-343 - Duties of the Contractor.

1.4 WORK SEQUENCE

- A. Coordinate construction schedule and operations with Owner.
- B. Construct the Work in a manner to provide for public convenience. Do not close off public use of facilities.

1.5 CONTRACTOR USE OF SITE AND PREMISES

- A. Coordinate use of premises and access to site under direction of Owner.
- B. Limit use of premises for Work and construction operations and to allow for work by other contractors.
- C. Contractors use of site and premises shall allow:
 1. Work by Others and Work by Owner.
 2. Use of site and premises by public.
- D. Access to Site: Coordinate with Owner.
- E. Building Exits During Construction: Maintain all exits. Do not obstruct at any time.
- F. Time and Construction Schedule Considerations:
 1. Schedule all construction operations with Owner.
 2. Construction operations generating excessive noise, such as use of pneumatic tools and powder actuated fastener equipment, shall be scheduled with the Owner. Permitted hours of operation for demolition and excessive noise operations are limited to period from 6:00 AM to 8:00 AM or on Weekends.

3. Locate all noise generating equipment, such as cut-off saws, in a remote location away from administrative or classroom areas.
 4. **(Not Applicable)** Schedule replenishing construction materials only during period of 7:00 AM to 9:00 AM.
 5. Owner reserves the right to modify such scheduled operations to accommodate school operations or classroom programs. Contractor shall be entitled to contract time extension per contract modification procedures.
 6. Provide Owner with **7 working days notice** prior to commencing such operations.
 7. Construction operations, such as material deliveries, debris removal, and crane operations, shall not occur when students, staff or visitors are present at construction site. Schedule such operations around school schedule, including recess and lunch periods. Where, in the sole opinion of the Architect, the construction site is sufficiently remote or isolated that students, staff or visitors are not exposed to such operations, construction operations may proceed as scheduled by Contractor in conformance with the Project Manual.
 8. After Owner takes beneficial occupancy of portions of project the Contractor, subcontractors and all support staff will not be allowed to enter such school facilities during hours school is in session. Where access is required to complete the work, coordinate access and scheduling with Owner's representative for non-school time.
 9. No interference with classroom or administrative activities will be permitted without approval of Owner, Inspector and School Administrator.
- G. Utility Outages and Shutdown: Utility Outages and Shutdown: All Contractor requests for a power, water, or utilities shut-down must be received in writing at least 10 days in advance prior to the shutdown date. No deviation to the commencement nor duration of the outage or shutdown from the schedule agreed upon is allowed.
- H. Corporation Yard and Storage Areas: Coordinate with Owner. Coordinate location with areas required by work performed under separate contract by others. Owner will establish acceptable path for products, staging areas, and trash disposal.
1. Coordinate location of all equipment parking, material and stockpile storage and construction parking with Owner.
- I. Furniture and Equipment Relocation:
1. Prior to beginning work in any one area, District will relocate all books, supplies, equipment and furniture in all areas of work.
 2. District will return books, supplies, and furniture to the classrooms after completion of work.

1.6 OWNER OCCUPANCY

- A. The Owner will occupy the site and existing facilities during entire period of construction for the conduct of normal school and business operations.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.

- C. The Owner will occupy portions of the project as individual rooms become available for outfitting, furniture and fittings installation, and related start-up tasks.
- D. **(Not Applicable on this Project)** Adjacent Floor/Area access: Not authorized.
 - 1. Do not core or drill through walls or floors into adjacent occupied areas.

1.7 FEES, BONDS, AND PERMITS

- A. Contactor shall obtain all required permits required for work under this contract, if applies, including but not necessarily limited to the following:
 - 1. Encroachment permits.
 - 2. Shoring, trenching and grading permits.
- B. Contractor shall contact County and local agencies and arrange for all required improvement bonds, entitlement fees and County/local agency engineering fees, if offsite improvements are required. After submission of documentation to Owner, Owner will pay such costs. Provide Owner with notice of cost obligation as required to avoid delay in project completion.
- C. All costs associated with permits defined in General Conditions, Paragraph 1.7.2 shall be included in Contract amount. Costs associated with bonds, entitlement and inspection fees defined above shall be paid directly to County/Local jurisdictional authority.
- D. For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

1.8 FIELD ENGINEERING

- A. Provide field engineering services; if required by scope of work. Establish lines and levels by use of recognized engineering survey practices.
- B. Locate and protect control and reference points.
- C. See Section 01 71 23, "Field Engineering".

PART 2 - PRODUCTS

- A. Not Used

PART 3 - EXECUTION

- A. Not Used

END OF SECTION

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Schedule of Values
- B. Applications for Payment
- C. Progress Payment Coordination
- D. Inspector of Record Payment Provisions
- E. Payment for Contract Modifications
- F. Retention
- G. Progress Payments – Owner Requirements
- H. Payments Withheld
- I. Final Completion and Final Payment Requirements

1.2 SCHEDULE OF VALUES

- A. Submit typed schedule on AIA Forms G702 and G703-Application and Certificate for Payment and Continuation Sheet, or approved equivalent.

Form Website Link – Form G702:

<https://www.aiacontracts.org/contract-documents/19661-application-and-certificate-for-payment>

Form website link – Form G703:

<https://www.aiacontracts.org/contract-documents/20631-continuation-sheet>

- B. Contractor's standard form or electronic print-out format may be considered, at Owners Representative's discretion. Submit within 15 days after award of Contract.
- C. Submit Schedule of Values per time periods defined in General Conditions.
- D. Include in each line item a directly proportional amount of Contractor overhead and profit.
- E. Revise schedule to list change orders for each Application for Payment.
- F. Identification: Include on schedule of values the following:
 - 1. Project name and Location.
 - 2. Name of Architect.
 - 3. Architect's Project Number.
 - 4. Contractor's Name and Address.
 - 5. Date of Submittal.
- G. Format: Type in tabular form with separate columns to indicate the following for each item listed.
 - 1. Table of Contents of this Project Manual, with modifications as pre-approved by Owner and Architect.

- a. Identify each line item with number and title of major Specification sections.
 - b. Name of Subcontractor.
 - c. Name of manufacturer or fabricator where applicable.
 - d. Name of supplier where applicable.
 - e. Change Order amounts allocated to the line item.
 - f. Total Dollar value of item.
 - g. Percentage of Contract sum represented by item, rounded to nearest one hundredth percent, adjusted to total 100 percent.
- H. Correlate line items with terms and identification used in other administrative work items, including schedules, list of subcontractors, list of products and suppliers, and submittal schedule.
- I. Provide schedules as follows.
1. Provide separate schedule of values for each building, and a single schedule for site work.
 2. Where an Application for Payment may include requests for equipment, components or materials purchased, stored or fabricated, but not yet installed, provide separate line item on the Schedule of Values for such items. Breakdown such line items to include component, equipment or material cost for each phase or sequence of construction, with associated staging, transport and installation cost.
- J. The total of the amounts of all scheduled line items shall equal the Contract Sum. Round amounts to nearest dollar.
- K. Provide separate line item for Contractor's overhead and profit.
- L. Revise schedule to list approved Change Orders and Construction Change Directives, and submit with each Application For Payment.
- M. The amounts shown on Schedule of Values may be used by Owner to determine the true value for additive or deductive change orders.

1.3 APPLICATIONS FOR PAYMENT

- A. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- B. Payment Period: Monthly, scheduled as defined in General Conditions.
- C. Submit application on AIA Form G702, "Application and Certificate for Payment", or approved equivalent, as follows:
 1. Submit initial rough draft of pay application to Architect, Inspector of Record and Owner for review.
 2. Architect will return initial rough draft of pay application to Contractor, including continuation sheets when required, following review.
 3. Submit PDF of pay application to Architect.
 - a. Submit to Inspector of Record for signature prior to submittal to Architect.
 - b. Submit conditional lien releases for work covered by current application warranting that title to all work, labor, materials and equipment covered by the application is free and clear of all liens, claims, security interests or encumbrances, and notarized unconditional releases for work covered by previous months billings.

- c. Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Contractor. Incomplete applications will be returned without action. Present required information in typewritten form.
 - d. Execute certification by signature of authorized officer.
 - e. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
 - f. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
 - g. Certificates for payment as recommended by the Architect or the Owner shall include a 5% retention that will be held by the Owner until such a time as outlined in Section 01 77 19, "Closeout Requirements".
4. Submit an updated construction schedule with each Application for Payment.
 5. Payment Period: Monthly.

1.4 SUBSTANTIATING DATA

- A. When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question.
- B. Provide one copy of data with cover letter for each copy of submittal. Show Application number and date, and line item by number and description.

1.5 PROGRESS PAYMENT COORDINATION

- A. See Section 01 77 19, "Closeout Requirements" for requirements and relationship between progress payment and maintenance of record drawings.
- B. See Section 01 33 00, "Submittal Procedures" for requirements and relationship between progress payment and construction schedule updates.

1.6 INSPECTOR OF RECORD PAYMENT PROVISIONS

- A. In the event Contractor's performance of the work activities requires the Owner's Inspector of Record to work overtime, holidays or weekends, Inspectors cost shall be reimbursed by Contractor to Owner by deductive contract adjustment.

1.7 PAYMENT FOR CONTRACT MODIFICATIONS

- A. The Contractor shall compensate the Owner, by Owner-Contractor Contract adjustment, for the Architect reasonable costs to modify Contract Documents required by work not performed in accordance with approved Contract Documents.

1.8 RETAINAGE

- A. Subject to the requirements of state law, each Application for Payment shall be subject to retainage in the amount of ten percent. The amounts so reserved will be subject to claims of liens provided by applicable state law.
- B. Pursuant to Section 22300 of the Public Contract Code of the State of California, the contract will contain provisions permitting the Contractor to substitute securities for any moneys withheld by the Owner to ensure performance under the contract.

- C. The Contractor warrants and guarantees herewith that title to all work, Materials and equipment covered by an application for payment will pass to the Owner either by incorporation in the construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interest or encumbrances, referred to in this article as “liens”; and that no work, materials or equipment covered by an application for payment will have been acquired by the Contractor, or by any other person performing work at the site or furnishing materials and equipment for the project, subject to an agreement under which an interest of an encumbrance is retained by the seller or otherwise imposed by the Contractor or such other person.

1.9 PROGRESS PAYMENTS – OWNER REQUIREMENTS

- A. After a certificate of payment has been issued, the Owner shall make payment in the manner and within the time provided in the Contract Documents.
- B. The contractor shall promptly pay each subcontractor (including suppliers, laborers and material men) performing labor or furnishing material for the work upon receipt of payment from the Owner out of the amount paid to the Contractor on account of the work of such subcontractor, supplier, laborer or material man, the amount to which said subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such work. The Contractor shall, by an appropriate agreement with each subcontractor, also require each subcontractor to make payments to his sub subcontractors in a similar manner.
- C. The Owner may, on request, furnish to any subcontractor, if practicable, information regarding the percentages of completion or the amounts applied for the Contractor and the action taken by the Architect on account of the work done by such subcontractor.
- D. Neither the Owner nor the Architect shall have any obligation to pay nor to see to the payment of any monies to a subcontractor except as may otherwise be required by law.
- E. No certificate for a progress payment nor any progress payment nor any partial or entire use or occupancy of the project by the Owner shall constitute an acceptance of any work which is not in accordance with the Contract Documents.
- F. The Contractor agrees to keep the work and the site on which work is to be performed free and clear of all liens and claims of liens on materials furnished pursuant to the Contract Documents.

1.10 PAYMENTS WITHHELD

- A. The Architect may decline to certify payment and may withhold their certificate in whole or in part, to the extent necessary to protect the Owner, if in their opinion they are unable to make representations to the Owner as provided in this Section.
- B. If the Architect is unable to make representations to the Owner and to certify payment in the amount of the application, the Architect will notify the Contractor as soon as possible. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a certificate for payment in the amount for which the Architect is able to make such representations to the Owner.
- C. The Architect may also decline to certify payment or any part thereof or, because of subsequent observations, Architect may nullify the whole or any part of any certificate for payment previously issued, to such extent as may be necessary in their opinion to protect the Owner from loss because of the following conditions.
 - 1. Defective work not remedied;
 - 2. Third party claims filed or reasonable evidence indicating probable filing of such claims;
 - 3. Failure of the Contractor to make payments property to subcontractors or for labor, materials or equipment;

4. Reasonable evidence that the work cannot be completed for the unpaid balance of the contract sum;
5. Damage to the Owner or another contractor;
6. Failure to execute the work in accordance with the Construction schedule;
7. Failure to provide, maintain, and update record drawings;
8. Reasonable evidence that the work will not be or had not been completed within the contract time;
9. Failure to carry out the work in accordance with the Contract Documents;
10. Liens filed, or reason to believe it is probable a lien will be filed for any portion of the work;
11. Failure or refusal of the Contractor to fully comply with Division 1.

1.11 FINAL COMPLETION AND FINAL PAYMENT

- A. Upon receipt of written notice from the Contractor as required in Section 01 77 19, "Closeout Requirements" that the work is ready for final inspection and acceptance and upon receipt of final application for payment, the Architect will promptly make such inspection, and when they find the work acceptable under the Contract Documents and the Contract fully performed, the Architect will issue a Final Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor, and noted in said final certificate, is due and payable.
- B. Retention of funds withheld will be released to the Contractor within 60 days of the date of completion of a work of improvement. Completion is defined as occurring when a Owner begins occupancy, beneficial use, and enjoyment of work of improvement (excluding an operation for testing, startup, or commissioning) accompanied by a cessation of labor on the work of improvement.
- C. Neither final payment nor the remaining retainage percentage shall become due until the work is free and clear of any and all liens and the Contractor submits to the Owner:
 1. An affidavit that all payrolls, bills for materials and equipment and other indebtedness connected with the work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied.
 2. Consent of surety, if any, to final payment.
 3. If required by the Architect, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contractor, to the extent and in such form as may be designated by the Architect.
- D. If, after substantial completion of the work, final completion thereof is materially delayed through no fault of the Contractor or by the issuance of change orders affecting final completion, and the Owner so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the contract, make payment of the balance due for that portion of the work fully completed and accepted.
- E. The making of final payment shall constitute a waiver of all claims by the Owner against the Contractor except those arising from:
 1. Unsettled liens and claims against the Owner, the Architect, or their employees, agents or representatives;
 2. Faulty or defective work appearing after substantial completion;

3. Failure of the work to comply with the requirements of the Contract Documents;
4. Failure to provide fully updated and completes record drawings;
5. Any warranties contained in or required by the Contract Documents; or
6. Damages incurred by the Owner resulting from lawsuits brought against the Owner, the Architect, or their agents, employees or representatives because of failures or actions on the part of the Contractor, his subcontractors or sub subcontractors, or any of their employees, agents or representatives.
7. The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final application for payment
8. All provisions of this Agreement, including, without limitation, those establishing obligations and procedures, shall remain in full force and effect notwithstanding the making or acceptance of final payment prior to the Date of Substantial Completion of the Project.

F. PREPARATION OF APPLICATION FOR FINAL PAYMENT

1. Administrative actions and submittals, which must precede or coincide with submittal of the final payment Application for Payment include the following:
 - a. Occupancy permits and similar:
 - b. Warranties (guarantees) and maintenance agreements.
 - c. Test/adjust/balance records.
 - d. Maintenance instructions.
 - e. Meter readings.
 - f. Start-up performance reports.
 - g. Change-over information related to
 - h. Owner's occupancy, use, operation and maintenance.
 - i. Final cleaning.
 - j. Completion of Project closeout requirements, including all reports and certifications required by Authorities Having Jurisdiction.
 - k. Completion of items specified for completion after Substantial Completion.
 - l. Assurance that unsettled claims will be settled.
 - m. Assurance that Work not complete and accepted will be completed without undue delay.
 - n. Transmittal of required Project construction records to Owner.
 - o. Proof that taxes, fees and similar obligations have been paid.
 - p. Removal of temporary facilities and services.
 - q. Removal of surplus materials, rubbish and similar elements.
 - r. Change of door locks to Owner's access.

1.12 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified in Section 01 77 19, "Closeout Requirements".

- a. Use continuation sheet for presenting the final statement of accounting.
 - b. Transmit a PDF copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Architect.
 - c. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
2. By signing a certificate for payment, the Architect shall not be deemed to represent that the Architect has made exhaustive or continuous on-site inspections to check the quality or quantity of the work, has reviewed the construction means, methods, techniques, sequences or procedures, or has made an examination to ascertain how or for what purpose the Contractor has used previous payments.
 3. Payments may be made by the Owner, in its sole discretion, on account of materials or equipment not incorporated into the work but delivered to the site and suitably stored and insured by the Contractor. Payments for materials or equipment stored shall only be considered upon submission by the Contractor of satisfactory evidence that it has acquired title to such material, that it will be utilized on the work under this contract and that it is satisfactorily stored, protected and insured, or such other procedures satisfactory to Owner (District Project Manager), Inspector, and Architect,

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. (NOT USED)

END OF SECTION

SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. General Requirements
- B. Definitions
- C. Product Options
- D. Substitution Procedures – Contractor’s Duties
- E. Substitution Procedures – Architect’s Duties

1.2 GENERAL REQUIREMENTS

- A. Provide products listed in Contract Documents, products by manufacturers listed in Contract Documents, and products meeting specified requirements.
 - 1. Contract Amount: Base on materials and products included in Contract Documents.
 - 2. Where listed in Contract Documents, materials and products by manufacturers not listed shall not be used without Owner’s and Architect’s approval of Contractor’s written request for substitution.
- B. Procedures are described for requesting substitution of unlisted materials in lieu of materials named in Specifications or approved for use in addenda.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.
 - 1. "Approved Equal" or "Equal" shall mean in the opinion of the Architect and/or Owner.
 - 2. DSA – Division of the State Architect.
 - 3. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 4. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 PRODUCT OPTIONS

- A. **Products Specified by Reference Standards or by Description:** Select product meeting referenced standard for products specified only by reference standard.
- B. **Named Manufacturers and Named Products:** Provide Products of the Basis of Design manufacturer named in compliance with specifications.
 - 1. **Where another manufacturer is listed as an approved alternate manufacturer to the specified Basis of Design manufacturer, and a specific make and model is NOT provided, Contractor shall demonstrate compliance with the Basis of Design products supplied by listed alternate manufacturer by providing substitution documentation as required by this Section.**
 - 2. **If a specific make and model is provided with the Approved Alternate Manufacture(s) listed in each specification section, a substitution request will not be required, as the characteristics for those products have been compared by the Architect/Engineer and are considered equivalent.**
 - 3. Where the substituted manufacturers standard product is not equal to that specified, the substituted manufacturer shall provide custom or non-standard products, system components, fabrication and configuration as necessary to comply with specified criteria, whether or not such criteria are the substituted manufacturers standard or stock item.
 - 4. Consideration of whether a substituted product is equal to that specified will include all characteristics of the specified product, based on published data available from the specified manufacturer, whether listed in the specification or not. See Paragraph 1.5H, this Section for specific submittal procedures.
 - 5. Consideration of whether a substituted product is equal to that specified is solely the decision of the Architect.
 - 6. Provide substitution documentation as specified in this Section, submitted on the provided form in Section 01 25 00.10, "Substitution Request Form".
- C. Where product is specified followed by term "No Substitution Permitted", or similar phrase, do not submit alternate products for review. Any substitution request received will be returned rejected.

1.5 SUBSTITUTION PROCEDURES – CONTRACTOR’S DUTIES

- A. Substitutions, including requests for substitution during bidding period, will be considered in accordance with the General Conditions and this Section.
 - 1. Submit all Requests for Substitutions within **45 days** after Notice to Proceed. Substitutions received after **45 day** period will be rejected.
 - 2. Request for Substitution will only be considered when submitted within specified time period of Contract award, and when such request is accompanied by complete data substantiating compliance of proposed substitution with Contract Documents criteria and standard of quality.
- B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.

- C. Incomplete substitution requests will be rejected without explanation.
- D. **Substitutions are required for all substituted products.** Substitutions will not be considered for acceptance when:
 - 1. They are indicated or implied on shop drawings or product data submittals only, without separate written request, or when acceptance will require revision to the Contract Documents.
 - 2. They are requested directly by a subcontractor or supplier.
 - 3. Acceptance will require substantial revision of Contract Documents.
- E. By submitting a request, the Contractor stipulates that the Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same warranty or longer warranty for the Substitution as for the specified Product.
 - 3. Will coordinate installation and make other changes that may be required for Work to be complete in all respects, at no additional cost to the Owner.
 - 4. Unless specifically noted in the Request for Substitution, waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will pay costs of changes to Contract Documents, Drawings, details and Specifications required by accepted substitutions.
- F. Any substitutions that change or affect the Structural, Access or Fire & Life Safety portions of the project construction documents shall be submitted as a CCD and approved by DSA prior to fabrication and installation.
- G. Contractor agrees to compensate Architect, at Architect's current billing rates, for review of Substitution requests that require modification of the Contract Documents.
 - 1. Compensation shall be made by an adjustment to the Contract amount.
 - 2. Compensation as agreed upon shall be paid by the Contractor whether the change is approved or rejected.
 - 3. Where approval(s) are required by Division of State Architect (DSA), the Contractor shall pay all plan check fees or fees required to obtain approval.
 - 4. The Contractor shall pay the Architect and its Consultants for all services rendered for drawings, calculations, review time, and/or DSA plan check time for each substitute item(s) for approval.
- H. Substitution Submittal Procedure and Documentation:
 - 1. Procedure:

- a. A maximum of one substitution request shall be submitted for any one item. Submit with same section name and number in specification. **Do not combine specification sections.**
 - b. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents and as follows.
 - c. Where necessary, arrange the product information to provide a side-by-side comparison of test data and other comparative data of the proposed substitution with the same test data and other comparative data in the specified item or product.
 - d. Substitution requests without such documentation will be rejected without review.
 - e. Where substitution request is rejected, provide submittal for specified product within five days of receipt of notice rejection.
 - f. Where decision cannot be made within the time required for orderly and uninterrupted work progress, provide the specified product.
2. Documentation – Submit all substitution requests on the provided form in Section 01 25 00.10, “Substitution Request Form”:
- a. Substitutions shall be accepted in PDF format.
 - b. If physical copies of product data or samples are required, provide three copies of each, along with PDF submittal request.
 - c. Provide a typed, line by line comparison of the characteristics and attributes of the specified item with those of the proposed substitution.
 - d. For product data submitted, provide only those items that are applicable to the products being compared. Cross out, or otherwise note, any non-applicable items within the submittal to expedite review.
 - e. Show comparative documentation, illustrating compliance with requirements for substitutions and the following, as applicable (attach to Substitution Request Form in Section 01 25 00.10, if required):
 - 1) Specification Name and Number shall be clearly indicated in the Substitution Request Form.
 - 2) Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - 3) Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - 4) Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

- 5) Product Data, including drawings and descriptions of products and fabrication and installation procedures.
- 6) Samples, where applicable or requested.
- 7) Certificates and qualification data, where applicable or requested.
- 8) Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
- 9) Research reports evidencing compliance with building code in effect for Project, from appropriate approval and testing agencies, e.g. ICC-ES, ASTM, UL, Warnock Hersey, etc.
- 10) Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
- 11) Provide an indication of cost impacts, if any. If a possible cost increase is indicated, upon request, provide a Change Order Request for consideration and approval by the Owner..
- 12) Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
- 13) Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

I. Substitutions for Convenience are not allowed.

INCLUDE OPTION BELOW ONLY IF THE ARCHITECT AND OWNER ARE WILLING TO ACCEPT SUBSTITUTIONS FOR CONVENIENCE

J. Substitutions for Convenience: Architect will consider requests for substitution if received within **45 days** after the Notice to Proceed. **OR commencement of the Work OR the Notice of Award.** Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.

- b. Requested substitution does not require extensive revisions to the Contract Documents.

- c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- d. Substitution request is fully documented and properly submitted.
- e. Requested substitution will not adversely affect Contractor's construction schedule.
- f. Requested substitution has received necessary approvals of authorities having jurisdiction.
- g. Requested substitution is compatible with other portions of the Work.
- h. Requested substitution has been coordinated with other portions of the Work.
- i. Requested substitution provides specified warranty.
- j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

1.6 SUBSTITUTION PROCEDURES – ARCHITECT’S DUTIES

- A. The Architect will review Substitution Request upon receipt with reasonable promptness and will request any additional data necessary to accept or reject substitution request.
- B. Substitution Requests received after 9:00 AM on Friday will be logged as received on the following Monday at 8:00 AM.
- C. Architect will recommend that Owner accept or reject substitution request based on, but not limited to, the following items:
 - 1. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - 2. Substitution request is fully documented and properly submitted.
 - 3. Requested substitution will not adversely affect Contractor's construction schedule.
 - 4. Requested substitution will not adversely affect the desired aesthetics for the Project.
 - 5. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - 6. Requested substitution is compatible with other portions of the Work.
 - 7. Requested substitution has been coordinated with other portions of the Work.
 - 8. Requested substitution provides specified warranty.
 - 9. Requested substitution clearly indicates whether additional costs will be incurred by the Owner.
 - 10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

- D. The decision to accept or reject substitution request will be made within a reasonable period after Architect receives final documentation data.
 - 1. Architect and Owner will determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.
 - 2. The Architect may reject any substitution request on the basis of aesthetics.
- E. If changes to the Contract Documents require reapproval by DSA, Architect/Engineer will indicate to the Contractor in their review response that addition costs must be incurred for re-approvals.
- F. If the Contractor accepts that additional costs to be borne by Contractor for changes to Contract Documents, Drawings, details and Specifications that are required by substitutions are acceptable, then Architect/Engineer will provide a cost proposal for consideration. Written acceptance of charges by Contractor is required prior to any cost being incurred by the Architect/Engineer.
- G. Substitutions with material effect on the project will be submitted for approval by DSA as a Construction Change Document (CCD), prior to fabrication or installation.
- H. The Architect will notify Contractor, in writing on the Substitution Request Form, of decision to accept or reject request.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Schedule of Values.
- B. Inspector of Record Payment Provisions
- C. Change Procedures
- D. Applications for Payment.
- E. Payment for Contract Document Modifications
- F. Requests for Information (RFIs)

1.2 SCHEDULE OF VALUES

- A. See Section 01 20 00, "Price and Payment Procedures" for Schedule of Values requirements.

1.3 INSPECTOR OF RECORD PAYMENT PROVISIONS

- A. In the event Contractor's performance of the work activities requires the Owner's Inspector of Record to work overtime, holidays or weekends, Inspectors cost shall be reimbursed by Contractor to Owner by deductive contract adjustment.

1.4 CHANGE PROCEDURES

- A. General
 - 1. Contractor shall establish measures as needed to assure familiarity of the Contractor's staff and employees with procedures for processing changes to the Contract Documents.
 - 2. The Contractor shall maintain and coordinate a Register of RFI's, ASI's, Contractor Change Order Requests, DSA CCD's and Change Orders at the job site, accurately reflecting current status of all pertinent data as submitted by the Contractor.
- B. Architect's Supplemental Instructions (ASI): The Architect will advise of minor changes in the Work that do not involve an adjustment to Contract Price or Contract Time by issuing supplemental instructions on AIA Form G710, DSA CCD-B, or other Architect issued document.
 - 1. If Contractor considers the minor change does represent a change in the contract, Contractor shall immediately notify the Architect of Contractor's intention to make a claim.

- C. Proposal Request (PR): The Architect may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications. Contractor shall:
1. Analyze the described change and its impact on costs and time. Submit response within 10 days. If accepted by Owner, Architect will prepare Change Order.
 2. When requested, meet with the Architect as required to explain costs and, when appropriate, determine other acceptable ways to achieve the desired objective.
 3. Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Architect in writing when such avoidance no longer is practicable.
 4. Following review, and if accepted by Owner, Architect will prepare Change Order.
- D. Architect's Supplemental Instructions (ASIs):
1. ASIs issued for minor changes in the work:
 - a. The Architect will advise of minor changes in the Work that do not involve an adjustment to Contract Price or Contract Time by issuing supplemental instructions on Architect's ASIs document.
 - b. If Contractor considers the minor change does represent a change in the contract, Contractor shall proceed with the change and immediately notify the Architect of Contractor's intention to make a claim.
 2. ASIs issued as a Proposal Request:
 - a. The Architect may issue a ASI requesting Contractor's response to a proposed change, and which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications. Contractor shall:
 - 1) Analyze the described change and its impact on costs and time. Submit response within 10 days. If accepted by Owner, Architect will prepare Change Order.
 - 2) When requested, meet with the Architect and Construction Manager as required to explain costs and, when appropriate, determine other acceptable ways to achieve the desired objective
 - 3) Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Architect through the Construction Manager in writing when such avoidance no longer is practicable.
 - b. Following review, and if accepted by Owner, Architect will prepare Change Order.
- E. Change Order Request (COR):
1. Contractor may submit a COR to the Architect for changes in conditions, Owner changes, or other direction from the Architect or Owner's inspector.

2. Document the proposed change and its complete impact, including its effect on the cost and schedule of the work.
 3. Present total cost and schedule impacts in documentation, including all mark-ups permitted by General Conditions. Provide detailed back-up as required by Architect, including supplier costs, sub-contractor labor time and rates, and all other data deemed necessary by Architect for Owner's and Architect's review of COR.
 4. Following final review by Architect and Owner of original and supplemental information, and if COR is accepted, no additional cost or schedule adjustments will be included.
 5. Architect will review COR. If accepted, Architect will prepare a Change Order or Construction Change Directive, or Owner may approve the Change Order Request at their option.
- F. Change Order (CO): Change Orders and Construction Change Directives will be issued by the Architect in accordance with procedures established in General Conditions.
1. Change Order Forms: Per attached form at end of this Section.
 2. Execution of Change Orders: Architect will issue Change Orders for signatures of Owner, Architect, and Contractor as provided in the General Conditions of the Contract.
- G. Construction Change Directives (CCD): DSA Form 140 CCD-A or CCD-B will be issued by the Architect in those cases where contract cost or time for the modification is in dispute.
1. Execution of Construction Change Directive: Architect will issue DSA approved CCD. Proceed with work as defined by CCD.
 2. Unless otherwise agreed, maintain detailed records of work done under the direction of a CCD on Time and Material basis. Provide full information required to substantiate costs for changes in the Work.
 3. Following agreement on cost of the work, a Change Order will be prepared.
- H. No payment on Time and Materials basis will be made without signature of Inspector of Record certifying time spent and materials used Architect and Inspector of Record shall establish documentation and reporting procedure for Time and Material certification.
- I. All DSA SSS, FLS, ACS changes in contract for construction, regardless of effect on Contract Price or Contract Time, require the approval of DSA in accordance with Section 4-338, Part 1, T-24 CCR, "Addenda and Change Orders".
- J. Architect will provide a single copy of all documents issued under this Article for transmission to Contractor. Contractor shall prepare copies as required for distribution to subcontractors, suppliers and others at no cost to Owner.

PAYMENT FOR CONTRACT DOCUMENT MODIFICATIONS

- K. **(Not Applicable on this project)** The Contractor shall compensate the Owner, by Owner-Contractor Contract adjustment, for the Architect reasonable costs to modify Contract Documents required by work not performed in accordance with approved Contract Documents.

1.5 REQUESTS FOR INFORMATION (RFIS)

- A. Refer to section 01 26 13, “Requests for Interpretation” for RFI procedures.

PART 2 - PRODUCTS

- a. Not Used

PART 3 - EXECUTION

- a. Not Used

END OF SECTION

SECTION 01 26 13
REQUESTS FOR INTERPRETATION

PART 1 - GENERAL

1.1. DESCRIPTION

- A. This section covers general requirements for Contractor's Requests for Interpretation (RFIs).

1.2. CONTRACTORS REQUESTS FOR INTERPRETATION

- A. Submit a Request for Interpretation to the Architect when:
1. An unforeseen condition or constructability question occurs.
 2. Questions regarding information in the Contract Documents arise.
 3. Information not found in the Contract Documents is required.
- B. When possible, request such clarification in writing at the next scheduled Project meeting. When the RFI is answered at the Project meeting, number the RFI and enter the response into the meeting minutes.
1. When the urgency of the need, or the complexity of the item makes clarification at the next scheduled Project meeting impractical, prepare and submit a formal written RFI to the Architect without delay.
- C. Submit RFIs within a reasonable time frame so as not to interfere with or impede the progress of the work. Keep the number of RFIs to a minimum. When the number and frequency of RFIs submitted becomes unwieldy, the Architect may require the Contractor to abandon the process and submit requests as either submittals, substitutions, or requests for change.
1. When an answer to an RFI has an effect on cost or time, notify the Architect and Owner in accordance with the Contract Documents at the time of submittal. Notification shall occur prior to commencing such work, so that the change order process can be initiated.
 2. At the time of submitting an RFI, alert the Architect to the time available before the response will cause an impact to the Project.
 3. Submit a PDF of the Request for Interpretation, in the format provided in Section 01 26.13.10 and include :
 - a. RFI number. For all revisions note the revisions with an underscore and a notation at the end of the RFI number equal to "R1", "R2", etc. (e.g. RFI 001_R1).
 - b. Include all references, such as drawing numbers, detail references or specification numbers, as appropriate.
 - c. Include importance factor with four available options: Urgent, High, Medium and Low
 - d. Describe subject of RFI in a concise form describing the nature of the problem
 - e. Clear, concise explanation of information or clarification requested.
 - f. Contractor's Suggested Resolution for the described request, if appropriate.

- g. Attach files, drawing references, sketches, images, any types of electronic information that pertain to the request.
- A. RFI's received in Architect's office after 9:00 AM Friday will be logged in as received by Architect on Monday, 8:00 AM. This applies to all forms of communication.
- B. The Architect will respond to legitimate and bonafide Requests for Information (RFIs) initiated by Contractor.
- C. The Architect's action will be taken with such reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review.
- D. Allow a minimum of 5 working days for review and response time; the response time will be increased if inadequate information is provided, when the RFI is submitted out-of-sequence, or if in the opinion of the Architect, more time is needed to answer the RFI.

1.3. QUALITY ASSURANCE

- A. Carefully study the Contract Documents to assure that the requested information is not available therein. RFIs requesting information available in the Contract Documents may not be answered by the Architect.
- B. In all cases where an RFI is issued to request clarification of coordination issues, for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar
- C. items, the Contractor shall fully lay-out a suggested solution using drawings or sketches drawing to scale and submit same with the RFI. An RFI which fails to include a suggested solution will not be answered.
- D. Do not use RFI for the following purposes:
 - 1. To request approval of submittals.
 - 2. To request approval of substitutions.
 - 3. To request changes to the Contract Documents to confirm action taken by the Contractor for requested changes/substitutions to the Contract Documents.
- E. If the Contractor believes that a clarification by the Architect may result in a change in Contract price, the contractor shall not proceed with the work indicated by the RFI until a change order or other acceptable tracking device is prepared and approved by the Owner.
 - 1. If the Contractor believes that a clarification by the Architect results in additional cost, the Contractor shall identify in the RFI the basis of the Contractor's bid as it relates to the RFI.
 - 2. Answered RFIs shall not be construed as an approval to perform extra work.

PART 2 - PRODUCTS

- A. Not Used

PART 3 - EXECUTION

A. Not Used

END OF SECTION

CONTRACTOR'S REQUEST FOR INFORMATION

RFI # _____

From: _____

Proj. # XXX _____ Date: _____

To: _____

Project: Yuba College **YCCD District Offices**
Minimized Remodel _____

Disciplines Impacted: Architectural Structural Mechanical
 Civil Landscape Electrical _____

Importance Factor **Urgent** **High** **Medium** **Low**

Reference: Drawing(s) _____ Spec Section(s) _____ Other _____

Please clarify or provide the following information (Attach additional pages, if required):

Possible Cost Impact Increase Decrease No Change Unknown
Possible Time Impact Increase Decrease No Change Unknown

This information is required as soon as possible,
but no later than _____

**PRIORITY ATTENTION
REQUIRED**

Copies to: _____

Contractor's Representative _____

Architect's Response (Attach additional pages, if required): _____ Date: _____

Copies to: _____

ARCHITECT Representative _____

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Coordination.
- B. Preconstruction Conference
- C. Preinstallation Conferences
- D. Progress Meetings
- E. Minutes of Meetings

1.2 RELATED SECTIONS:

- A. Section 00 52 00 – Agreement For Services
- B. Section 01 25 00 - Substitution Procedures
- C. Section 01 32 16 - Construction Progress Schedule
- D. Section 01 33 00 - Submittal Procedures
- E. Section 01 71 23 - Field Engineering
- F. Section 01 73 29 - Cutting and Patching
- G. Section 01 77 19 - Closeout Requirements

1.3 COORDINATION

- A. Contractor shall comply with the following project start-up and administrative requirements for work under the Contract:
 - 1. Coordinate the work and work of subcontractors with work by others under separate contract on Project.
 - 2. Establish procedures for the orderly progress and prosecution of the work, including, but not limited to, attendance at project meetings, communication and documentation procedures, submittal processing, and control of the site.
 - 3. Coordinate work with all inspection and testing, including compliance with all agency inspection criteria, including DSA inspections.

4. Coordinate and monitor use of temporary utilities, conserving energy where feasible.

Prepare detailed schedule for all subcontractors in compliance with Section 01 33 00, "Submittal Procedures" and Section 01 32 16, "Construction Progress Schedule".

5. Coordinate scheduling of work, submittals, and inspection/testing to assure the efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later. Monitor schedules for compliance with completion dates, modify and recommend adjustments. Manage subcontractors work, including monitoring of work force, work completed and impact on schedule

B. Contractor shall comply with the following requirements for coordinating the Work:

1. Coordinate scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
2. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
1. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
 - a. Priority of right of way in attic and other interstitial spaces shall be as follows:
 - 1) First Priority: Electrical lights, electrical panels and sloped drain piping.
 - 2) Second Priority: Ductwork.
 - 3) Third Priority: Fire protection piping, domestic hot water, domestic cold water and condenser water piping.
 - 4) Other.
3. Unless otherwise indicated, where piping, ducts, and wiring occurs in finished areas, conceal such pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
4. Coordinate completion and clean up the Work of separate Sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.
5. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.4 PRECONSTRUCTION CONFERENCE

- A. Architect will schedule a conference upon execution of the Contract.
- B. Attendance Required: Owner, Owner's Project Inspector, Owner's Testing Service representative, Architect, Contractor and major Sub-contractors, including assigned superintendent and foreman. Obtain Architect's prior approval of major subcontractor's attendance.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Designation of personnel representing the parties in Contract, and the Architect/Engineer.
 - 5. Procedures and processing of submittals, substitutions, applications for payments, proposal request, Requests for Interpretation, Change Orders, record documents and Contract closeout procedures.
 - 6. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 - 7. Submission of Construction Schedule.
 - 8. Submission of Schedule of Values.
 - 9. Scheduling activities of inspector and geotechnical Engineer.
 - 10. Use of premises by Owner and Contractor.
 - 11. Owner's requirements and any partial occupancy requirements.
 - 12. Construction facilities and controls provided by Owner.
 - 13. Temporary utilities provided by Owner.
 - 14. Survey and building layout.
 - 15. Security and housekeeping procedures.
 - 16. Procedures for testing.
 - 17. DSA-required notices
 - 18. Procedures and processing of field decisions, submittals, substitutions, proposal request, Change Orders and Contract closeout procedures.
 - 19. Scheduling, including coordination with work of others.

20. Use of premises by Owner and Contractor.
21. Owner's requirements and partial occupancy.
22. Construction facilities and controls provided by Owner.
23. Temporary utilities considerations.
24. Security and housekeeping procedures.
25. Procedures for maintaining record documents.
26. Requirements for start-up of equipment.
27. Inspection and acceptance of equipment put into service during construction period.

1.5 PRE-INSTALLATION CONFERENCES – SPECIFIC SECTIONS/PRODUCTS

- A. When required in individual specification Sections, convene a pre-installation conference at work site prior to commencing work of the Section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific Section.
- C. Notify Architect, Owner and Inspector of Record a minimum four (4) days in advance of meeting date.
- D. Prepare agenda, preside at conference, record minutes, and distribute copies within two days after conference to participants, with two copies to Architect.
- E. Review conditions of installation, preparation and installation procedures, and coordination with related work.

1.6 PROGRESS MEETINGS

Coordinate with **District Project Manager** to schedule and administer meetings throughout progress of the Work at maximum weekly intervals ..

Contractor shall assign the same staff members to represent and act on behalf of the Contractor at all progress meetings.

The District Project Manager shall prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies within seven days to Contractor, Owner, participants, and those affected by decisions made.

- A. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Architect, Project Inspector and others as appropriate to agenda topics for each meeting.
- B. Progress Meeting Agenda:
 1. Review minutes of previous meetings.

2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems which impede planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of progress schedule.
8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on progress schedule and coordination.
13. Other business relating to Work.

1.7 MINUTES OF MEETINGS

- A. Unless mutually agreed to otherwise, District Project Manager shall compile detailed minutes of the meetings, except pre-installation conferences, which shall be compiled by the Contractor, and furnish one copy to the Owner, Contractor, Architect and Inspector. Minutes shall record discussion, actions taken, and issues assigned to parties responsible for resolution.
- B. Recipients of minutes may make additional copies as they desire.
- C. Published minutes will be accepted as properly stating the activities and decision of the Meeting unless they are challenged in writing prior to the next regularly scheduled Progress Meeting.
 1. Persons challenging published minutes are responsible to convey to the person who prepared the minutes and that person shall redistribute copies of challenge to all recipients of the particular minutes being challenged.
- D. Contractor shall submit a copy of registered site drawing and certificate signed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

1.8 FIELD ENGINEERING

- A. See Section 01 71 23, "Field Engineering" for specific requirements related to field engineering.

1.9 CUTTING AND PATCHING

- A. See Section 01 73 29, “Cutting and Patching” for specific requirements related to cutting and patching.

PART 2 - PRODUCTS

- a. Not Used

PART 3 - EXECUTION

- a. Not Used

END OF SECTION

SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Schedule Submittal Procedures.
- B. Baseline Construction Schedule
- C. Monthly Interval Updates
- D. Recovery Schedules
- E. Early Completion of a Project
- F. Time Extension Requests

1.2 SCHEDULE SUBMITTAL PROCEDURES

- A. Transmit required schedule to Architect per criteria in the General Conditions, and as specified.
- B. Failure to make timely submittals will not be reason for extension of Contract Time.
- C. Transmit each submittal separately with Architect accepted form.

1.3 BASELINE CONSTRUCTION SCHEDULE

- A. Submit Construction Schedule in accordance with the General Conditions.
- B. Initial/Baseline Schedule
 - 1. The Contractor shall prepare and submit to the Owner's Representative with copy to the Architect, the Contractor's Initial Construction Schedule within **fifteen (15) calendar days** after the issuance of the Notice to Proceed. The Initial Construction Schedule shall be in the form of a Critical Path Method (CPM) network diagram and shall be in sufficient detail to show the sequence of activities required for the complete performance of all work, including submittals affecting the critical path.
 - a. A construction sequence that does not exceed the contract completion date. Progress schedules submitted must show only actual working days, irrespective of weekends, holidays, etc. unless work is scheduled to actually be performed on those dates. The District anticipates that it is rare that work will be performed on weekends, holidays, etc., and as such anticipates that most progress schedules submitted will reflect only a 5 day work week on the schedule. Failure to exclude weekends, holidays, and other non-working days will result in the Progress Schedule being rejected and constitutes a material breach of the Contract.

2. Include submittal/approval/fabrication and delivery sequences for all key materials and equipment on the project.
 3. Activities shall reflect major inspections and testing of equipment.
 4. Utilize computerized software, such as **Microsoft Project**, Primavera, Promus, Aldegraph, or equal computerized CPM scheduling software.
 5. Use conventional critical path methods, principles, and definitions to satisfy the requirements of this specification.
 6. Contractor shall provide Initial Schedule in the proper Schedule Format.
 7. The Owner's Representative will comment on the Contractor's Initial Schedule **within five (5) days** of its receipt.
 8. The Contractor will finalize and re-submit the schedule within **five (5) days** of the review meeting on the specified media. Upon acceptance by the Owner Representative, the approved Initial Schedule will become the project Baseline Contract Schedule. The Baseline Schedule shall not be revised without written approval of the Owner Representative.
 9. The Owner shall have the right to withhold progress payments from the Contractor at its discretion if the Contractor fails to finalize and obtain approval for the Baseline Contract Schedule within the prescribed period.
 10. Rain days shall be anticipated and included in the schedule.
 - a. Rain days shall be anticipated and included in the schedule. Rain days shall be defined as a day with 0.1 inch of measurable rain or more, as per National Weather Service. The Inspector of Record will not be authorized to approve any rain day delay claims however; the Inspector of Record certifies that the rain day actually resulted in the delay of the prosecuting of the scope of work being performed on the project at the time of the rain day. Rain day delay claims will not be approved merely to afford an extension of time of completion of the contract.
 11. Email attachment of the Updated Schedule in the proper Schedule Format.
 12. A copy of the most recent CPM construction schedule shall be posted in the Contractor's job office and copies of all out of date schedules shall be kept at the job office at all times for perusal by the District.
- C. The Schedule Reports shall consist of:
1. Email PDF attachment of the entire Initial Schedule in the proper Schedule Format.
- D. Schedule Format
1. The Contractor shall use Microsoft Project, Primavera Project Planner software (current version) or have the means of providing the Owner's Representative with files on Flash Drive or other Owner-accepted format, in a form that can be completely restored into Primavera without requiring the use of a conversion program or utilizing other software.

E. Short Interval Schedule

1. Short Interval Schedules (SIS) shall be submitted to the Owner Representative with copy to the Architect during the weekly site meetings.
2. The SIS interval shall be **three weeks** and shall include the past week, the week submitted and the week thereafter; the SIS may be hand generated.
3. The SIS shall be based on the Contract Schedule and shall be in bar chart form. The SIS shall be in sufficient detail to evaluate the Contractor's performance in the preceding week and planned progress in upcoming weeks vis a vis the Contract Schedule and Updates thereof.
4. Following review and revisions as necessary, the SIS will be accepted by the Owner Representative.

F. Float Time

1. Float or slack time is defined as the amount of time between the earliest start date and the latest start date of the earliest finish date and the latest finish date of a scheduled activity.
2. Float or slack time is not for the exclusive use or benefit of either the Contractor or the Owner. The Contractor acknowledges and agrees that actual delays affecting path of activities containing float, will not have any effect upon the Contract completion date, provided that the actual delay does not exceed the float time associated with those activities.

G. Construction Schedule Revisions

1. Updating the construction schedule to reflect actual progress shall not be considered to be a revision of the Schedule.

1.4 RECOVERY SCHEDULES:

1. If during the process of schedule updating it becomes apparent that the Construction Schedule no longer represents the actual prosecution and progress of the work, the Owner's Representative may require the Contractor to submit a revised schedule at no additional cost to the Owner. The Owner shall have the right to withhold progress payments from the Contractor at its discretion, if the Contractor fails to submit a timely, detailed and workable Recovery Schedule.
2. Once a Contractor determines or the District or Architect notifies the Contractor that based on his/her/its observations of the work completed and the work in progress that the Contractor is fifteen (15) calendar days or more behind schedule, the Contractor has a duty to prepare a **Recovery Schedule** and submit the same to the District within seven (7) calendar days of receipt of notice that the Contractor is off schedule by fifteen (15) calendar days or more or, if no such notice is received by Contractor, within seven (7) calendar days of the date it becomes known to Contractor that Contractor is off schedule by fifteen (15) calendar days or more. Failure to timely provide District with recovery schedules shall constitute a material breach of the contract and District may declare the Contractor in default and terminate the contract.

1.5 EARLY COMPLETION OF PROJECT:

- A. In the event the Contractor wishes to complete work earlier than the specified contract completion date, and the Owner/Architect approve such earlier completion, the following conditions apply:
 - 1. The contract completion date shall not be amended by the Owner Representative approval of Contractor's proposed earlier completion date.
 - 2. Contractor shall not, under any circumstances, receive additional compensation from the Owner for indirect, general, administrative or other forms of overhead costs, for the period between the time or earlier completion proposed by the Contractor and the official contract completion date.

1.6 TIME EXTENSION REQUESTS

- A. The monthly updated construction schedules submitted by the Contractor shall not show a completion date later than the Contract Time, subject to any time extensions granted by the Owner.
- B. If the Contractor believes that it is entitled to an extension of the Contract Time due to a Change Order of delay/disruption, the Contractor, within **ten (10) workdays** of the qualifying event(s), shall submit:
 - 1. A Time Extension Request notification letter with a detailed narrative justifying the time extension requested;
 - 2. Fragmentary Network (Fragnet) Analysis of the delay impact, identifying all schedule activities that are impacted by the subject occurrence;
 - 3. Tabular report of the qualifying update of the CPM schedule the analysis is based on; and
 - 4. A schedule analysis entitled "Time Extension Request Schedule" That incorporated the findings of the Fragnet analysis into the latest (qualifying) update of the CPM schedule;
 - 5. The Fragnet and time extension request schedules shall be time scaled, utilizing a computer generated network analysis unless otherwise approved by the Owner's Representative.
 - 6. The time extension request shall forecast the adjusted project completion date and impact to any intermediate milestones.
 - 7. Float is not for the exclusive use or benefit of either the Owner or Contractor. Contract time extensions shall be granted only to the extent the equitable time adjustments to the activity or activities affected by a change order of delay/disruption exceed the total float of a critical activity (or path) and extend the Contract Completion Date.
- C. When Contractor does not submit a Time Extension Request within ten (10) working days, it is mutually agreed that the particular Change Order (including Proposed Change Order) or delay/disruption does not impact the construction schedule and hence no time extension is due to the Contractor.
- D. The Owner shall not have any obligation to consider any time extension request unless the requirements of the contract documents are complied with. The Owner shall not be responsible or liable to the Contractor for any constructive acceleration due to failure of the Owner to grant time extensions under the terms of this contract, should Contractor fail to comply with the time extension submission and justification requirements stated herein.

PART 2 - PRODUCTS

A. NOT USED

PART 3 - EXECUTION

A. NOT USED

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures
- B. Substitutions
- C. Submittals and Substitution Requests Requiring Agency Review
- D. Electronic Submittal Procedures.
- E. Product Data Submittals.
- F. Manufacturer's Instructions and Certificates
- G. Shop Drawing Submittals
- H. Physical Sample Submittals
- I. Construction Schedules
- J. Contractor Responsibilities
- K. Architect Responsibilities
- L. Deferred Approvals
- M. Electronic Documents for Contractor's Use

1.2 DESCRIPTION

- A. Types of Submittals: Submittal procedures specified in this section include construction progress schedules, shop drawings, product data, samples, manufacturers' certificates, manufacturer's installation instructions, and agency deferred approvals.
- B. Intent: Architect's review of shop drawings is intended to be a preview of what the Contractor intends to provide, and will function as an effort to foresee unacceptable materials or assemblies and to avoid the possibility of their rejection at the Project Site. Architect will review submittals only for conformance with the design concept of the Project and with the information given in the Contract Documents.

- C. The Architect's review of shop drawings will be general and shall not be construed:
1. As permitting departure from the Contract requirements except as otherwise provided for under Section 01 25 00, "Substitution Procedures".
 1. As relieving Contractor of responsibility for omissions or errors, including details, dimensions, materials, etc.
 2. That review of a separate item indicates acceptance of an assembly in which the item functions. Architect will only review acceptance of an assembly in which the item functions. Architect will only review submittals required by Contract Documents for conformance with design concept of the Project and with the information given in the Contract Documents.

1.3 SUBMITTAL PROCEDURES

- A. Submit completed documentation in accordance with scheduling criteria where defined in contract documents.
- B. The documents will be reviewed by Architect for consistency with specified criteria. If necessary, Architect will return submittal to Contractor for corrections. Any corrections, if any, shall be made by Contractor and returned to Architect within 7 days.
- C. No contract time extensions will be granted for document modification caused by non-conformance with specified criteria.
- D. Transmit required submittals to Architect per criteria in the General Conditions and as specified.
- E. Transmit each sample submittal with AIA Form G810 or other Architect-accepted form.

Form website link:

<https://www.aiacontracts.org/contract-documents/20041-transmittal-letter>

- F. All submittals shall be made electronically through the system agreed to by JKAE, the Owner and the Contractor. Only Samples for verification should be submitted physically – See Item 1.6 in this Section for "Electronic Submittal Procedures".
- G. Transmit submittals within time periods established by the General Conditions and as required to maintain orderly and sequential progress of the work.
- H. Maintain complete and current submittal log, indicating status of all submittals and re-submittals. Provide summary of submittal status at each periodic construction meeting.
- I. Failure to make timely submittals will not be reason for extension of Contract Time.
- J. Unless specifically requested, do not send submittals unless required by the project specifications. Submittals transmitted to Architect not required by specification will be returned without review.
- K. Sequentially number the submittals and transmittal forms as shown in each section requiring submittals with the project manual section number from which the submittal is being requested (e.g., 01 33 00A). Any required revisions and resubmittals shall be noted with an underscore and

“R1”, “R2”, etc. (e.g. 01 33 00_R1).

- L. Provide submittals with the same number as indicated in the project specifications.
- M. **Do not combine specification sections within submittals.**
- N. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section name and number, as appropriate.
- O. Apply Contractor's stamp and signature or initial (electronically or physically) certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents. See General Conditions, Section 00 72 00, Paragraph 4.7.1.2.
- P. Unless otherwise authorized by the Architect, all of the submittals required by a specification section shall be submitted together at the same time. Electronic submittals of product data, shop drawings, etc. may be submitted ahead of physical color samples with approval of the Architect. Submittals that do not include all required submittals for a given specification section will be returned without review.
- Q. Schedule submittals to expedite the Project. Late submittals shall not be considered a valid reason for product substitution. Deliver Samples to architect at business address. Coordinate submission of related items.
- R. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work. If variations occur, submit a substitution request.
- S. Provide space for Contractor and Architect review stamps.
- T. Samples: Provide samples as specified in each Section.
- U. Manufacturer's Data: Provide descriptive data on all accessory items and operation.
- V. Installation Data: Submit descriptive data on installation procedures.
- W. Revise and resubmit submittals as required, identify all changes made since previous submittal.
 - 1. Provide re-submittals within seven days of receipt of returned submittal.
- X. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- Y. Architect's review of submittals shall not relieve the Contractor for compliance with the Contract Documents, or for responsibility for deviations from Contract Documents.
 - 1. In review of submittals, Architect will not provide dimensions or elevations for field conditions, or for conditions available from a detailed review of documents.
- Z. Revise and resubmit submittals as required, identify all changes made since previous submittal.

- AA. Distribute copies of reviewed submittals to concerned parties at no additional cost to Owner for duplication, blueprinting, mailing or other costs. Instruct parties to promptly report any inability to comply with provisions.
- BB. Architect will notify Contractor of availability of documents for pickup at Architect's office, and log such date as the date returned to Contractor. Architect is not obligated to transmit or deliver submittals to Contractor.

1.4 SUBSTITUTIONS

- A. Substitution requests will be considered in accordance with the General Conditions and must be submitted according to Section 01 25 00, "Substitution Procedures" on the provided substitution request form in Section 01 25 00.10.
- B. Substitutions submitted without following this procedure will be rejected.
- C. Substitutions will not be considered when indicated or implied on shop drawings or other forms of submittal without separate written request for substitution.

1.5 SUBMITTALS AND SUBSTITUTION REQUESTS REQUIRING AGENCY REVIEW

- A. Variations to Structural Safety, Fire and Life Safety and Access Compliance requirements require DSA review and approval.
- B. Architect will submit documents to DSA for review and comment in the form of a Construction Change Document (CCD). Architect will return documents to Contractor following DSA review and approval.
- C. Where required, Contractor shall make all changes or corrections required by DSA. Contractor shall pay all fees and provide all coordination and management necessary to obtain approval, including all meetings, correspondence and communications. Once corrections are made, Contractor shall return to Architect for resubmittal.
- D. After receiving DSA final approval, Architect will furnish Contractor a complete set of DSA approved documents in PDF format for Contractor's use in construction and for inspection by the Inspector of Record (IOR).

1.6 ELECTRONIC SUBMITTAL PROCEDURES

- A. All submittals shall be submitted electronically.
- B. Submittals shall be uploaded to the system agreed to by the Architect, the Owner and the Contractor in full size PDF format. Do not reduce Shop Drawings from original sheet size.
- C. One PDF copy of electronic submittals will be returned to the Contractor. Contractor may distribute submittals to the concerned parties electronically or physically. Any printing costs for physical distribution of submittals shall be borne by the Contractor. The Architect will not print copies for distribution.
- D. Follow all General Submittal Procedures as described above.

1.7 PRODUCT DATA SUBMITTALS

- A. Where specified in individual sections, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number for each product and supporting product data.
 - 1. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- B. Submit all product data electronically, in PDF format.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project. Mark out items that are not applicable to the project.
- D. After review, distribute in accordance with Submittal Procedures and provide copies for Project Record Documents as described in Section 01 77 00, "Closeout Requirements".
- E. Show dimensions and clearances required.

1.8 MANUFACTURER'S INSTRUCTIONS AND CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturers' certificates and printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.
- C. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- D. Certificates may be recent or previous test results on material or Product, but must address current regulatory requirements and be acceptable to Architect.

1.9 SHOP DRAWING SUBMITTALS

- A. Submit all shop drawings electronically, in PDF format.
- B. Provide the following information on each sheet:
 - 1. Project name and location.
 - 2. Contractor name and address.
 - 3. Subcontractor, manufacturer, or fabricator name and address.
 - 4. Date and scale of drawings
 - 5. Space for Contractor's and Architect's review and approval stamp.
- C. After review and distribution in accordance with Submittal Procedures, retain one copy of all

reviewed shop drawings at the job and label them "PROJECT RECORD DOCUMENTS" as described in Section 01 77 00, "Execution and Close-out Requirements".

1.10 PHYSICAL SAMPLE SUBMITTALS

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Provide units identical with final condition of proposed materials or products for the work. Coordinate sample submittals for interfacing work.
- B. Submit samples of finishes from the full range of manufacturers' standard colors textures, and patterns for Architect's selection.
- C. Submit the number of samples of selected finish color texture, and pattern as specified in individual specification Sections from the full range of manufacturers' standard colors, textures and patterns. Provide custom selections, as indicated in the Drawings and Specifications,
- D. Include identification on each sample, with full Project information.
- E. Submit the number or samples specified in individual specification Sections.
- F. If not specifically noted in individual specification Sections, submit a minimum of two (2) copies of each submittal including samples and resubmittals, as the Architect will retain one.
- G. Samples and Color Charts shall be physical submittals with accurate representation of color and other physical characteristics.
 - 1. Initial Submittal: Using manufacturers standard sample delivery system, in the number indicated within this Section submit samples of colors and finishes from the full range of manufacturers' standard colors (and custom colors if specified), textures, and patterns for Architect initial selection.
 - 2. The Architect will notify Contractor of initial selection by Architect's Supplemental Instructions (ASI), or other mutually agreed to format.
 - 3. Following receipt of initial selection, submit the number of samples of selected finish color, texture, and pattern as specified in individual specification Sections, with a minimum of five samples provided.
- H. Follow all General Submittal Procedures as described above.

1.11 CONSTRUCTION SCHEDULES

- A. Submit Construction Schedule in accordance with the General Conditions and as specified in Section 01 32 16, "Construction Progress Schedule".
- B. Contractor shall engage at his own expense all necessary personnel skilled in preparation of time and cost application of network techniques for construction projects.
- C. Initial Schedule preparation:
 - 1. Submit Initial Schedule within 14 days of date of Notice to Proceed.

2. Architect and Owner will meet with the Contractor to review and comment on the Contractor's Initial Schedule within five (5) days of its receipt.
3. The Contractor shall finalize and re-submit the schedule within five (5) days of the review meeting. Upon acceptance by the Owner, the accepted Initial Schedule will become the project Baseline Contract Schedule. The Baseline Schedule shall not be revised without written approval of the Owner.
4. Contractor's failure to incorporate all elements of work required for the performance of the contract or any inaccuracy in the Baseline Contract Schedule shall not excuse the Contractor from performing all work required for a completed project within the specified contract time period, notwithstanding the Owner's acceptance of the Baseline Contract Schedule.

D. Monthly and Periodic Interval Updates

1. The Contractor shall submit to the Owner each month, with one copy to the Architect, an updated Schedule of the work. The schedule shall be submitted no later than five (5) workdays from the status date.
2. The Updated Schedule shall include:
 - a. The Contractor's estimated percentage complete (progress) for each activity in progress.
 - b. Actual start/finish dates for activities.
 - c. Identification of errors, if any, from the previous updated schedule.
3. Submit updated schedule with each pay request, reflecting all adjustments in construction schedule and sequence.
4. Contractor shall submit a narrative report as part of his monthly review and update, in form agreed upon by Contractor and Architect. Narrative report shall include description of problem areas; current and anticipated delaying factors and their estimated impact on performance of other activities and completion dates; and an explanation of corrective action taken or proposed.
5. Provide three-week look-ahead schedule at each construction progress meeting.

E. Pay Requests will not be processed without submission of updated schedule.

F. **Schedule Format and Content:** Provide overall schedule in horizontal bar chart, critical path form, in PDF format, or other Architect approved format, for each building and site work, with separate line for each major work activity, and scheduled on a weekly basis. Integrate all portions of project to identify critical path. Where specified, prepare schedule based on Phases as shown on drawings and specified.

1. The data included on the bar chart shall consist of the activity number, activity description, early start and finish date, original duration, remaining duration, percent complete, resource units per day, and total float.

2. The schedule activities shall be coded to include activity responsibility and the area of work. Area codes shall distinguish construction activities related to individual buildings or areas within buildings (e.g. gymnasium classrooms, lobby, locker rooms), site work, increments, and phasing.
 - a. Coordinate durations with work by Rough Grading Package Contractor.
3. No activity in the schedule shall have a duration longer than twenty (20) workdays, with the exception of fabrication and procurement activities, unless otherwise approved by the Owner. Activity durations shall be the total number of actual days required to perform the work including consideration of weather impacts.
4. Group related and coordinated activities. Identify early/late start and finish dates, major milestones, float dates, and duration of each activity.
5. Identify all utility and service interruptions and connections, including disconnection of existing buildings.
6. Detailed network activities shall include, in addition, submittal and approval of shop drawings, procurement of critical materials and equipment, fabrication of special material and equipment and their installation and testing. All activities of the Owner that affect progress, and contract required dates for completion of all or parts of the work shall be shown.
7. If physical copies of schedules are provided, sheet size of diagrams shall be at least 30 by 42 inches. Each updated copy shall show a date of the last revision.
8. Initial submittal and complete revisions shall be submitted in PDF format and the same quantity as provided previously.

G. Float Time

1. Float or slack time is defined as the amount of time between the earliest start date and the latest start date or the amount of time between the earliest finish date and the latest finish date of a scheduled activity.
2. Float or slack time is not for the exclusive use or benefit of either the Contractor or the Owner. The Contractor acknowledges and agrees that actual delays affecting path of activities containing float, will not have any effect upon the Contract completion date, provided that the actual delay does not exceed the float time associated with those activities.

- H. For scheduling purposes, the Owner and campus will be officially closed on the following holidays during each school year:

HOLIDAYS - CAMPUS CLOSED

2023: 6/19, 7/4, 9/4, 11/10, 11/23-11/24, 12/22-12/29

2024: 1/1, 1/15, 2/16, 2/19, 4/1, 4/4, 4/5, 5/27, 6/19, 7/4

1. It shall be the responsibility of the Contractor to confirm the month, day, and year for the above holidays with the Owner facilities management. Contractor shall coordinate and schedule his work accordingly. The project site will be available to the Contractor during the holidays but there is no guarantee that other Owner and campus facilities or services will be made available to the Contractor during the holiday schedule.

I. Construction Schedule Revisions

1. Updating the construction schedule to reflect actual progress shall not be considered to be a revision of the Schedule.
2. If during the process of schedule updating it becomes apparent that the Construction Schedule no longer represents the actual prosecution and progress of the work by more than **10 calendar days**, the Owner may require the Contractor to submit a revised schedule at no additional cost to the Owner. The Owner shall have the right to withhold progress payments from the Contractor at its discretion, if the Contractor fails to submit a timely, detailed and workable schedule showing recovery necessary to achieve scheduled completion.

J. Final Schedule: At the completion of the contract and prior to the release of any bonds or final payment by the Owner, the Contractor shall submit to the Owner, with copy to the Architect for approval, a final schedule, showing the actual job history.

K. Time Extension Requests: The monthly updated construction schedules submitted by the Contractor shall not show a completion date later than the Contract Time, subject to any time extensions approved by the Owner.

1. Contractor shall submit Time Extension Requests within 10 days of an event Contractor believes qualifies for a contract time extension, including contract modifications provided by Architect or Owner.
2. The Time Extension Request shall include a notification letter with a detailed narrative justifying the time extension requested.
3. Accompanying letter, provide schedule analysis entitled "Time Extension Request Schedule" incorporating narrative analysis into the latest (qualifying) update schedule.
4. Time Extension Request shall forecast the adjusted project completion date and impact to any intermediate milestones.
5. When Contractor does not submit a Time Extension Request within ten (10) working days, it is mutually agreed that the particular event, including ASI's, RFI response, or CCD/Change Order (including Proposed Change Order) or delay/disruption does not impact the construction schedule and hence no time extension is due to the Contractor.
6. The Owner shall not be under any obligation to consider any time extension request unless the requirements of the contract documents are complied with. The Owner shall not be responsible or liable to the Contractor for any constructive acceleration due to failure of the Owner to grant time extensions under the terms of this contract, should Contractor fail to comply with the time extension submission and justification requirements stated herein.

1.12 CONTRACTOR RESPONSIBILITIES

- A. Review shop drawings, product data and samples prior to submission. Reject and correct submittals that contain errors prior to submitting to Architect.
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance with specifications.
 - 5. Conformance with applicable codes.
- C. Submittals giving inadequate indication of contractor review and approval will be returned without review, for resubmission.
- D. Coordinate each submittal with requirements of the Work and of the Contract Documents.
- E. Notify the Architect in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents. See Item 1.3 in this Section for Substitution Request requirements.
- F. Begin no fabrication or construction activity that requires submittals until return of submittals with Architect's stamp and initials or signature indicating finish review.
- G. After Architect's final review, distribute copies.
- H. Provide submittals within the following time periods and as required for the orderly progress of the work. Where no time period is established, provide submittals no later than the midpoint between notice of award and scheduled start date of the work related to the submittal. Where submittals are not submitted within specified limits, the Architect may delay certification of Payment Request until submittals are received.
 - 1. Concrete, including Mix Designs: No later than 14 days after Notice to Proceed.
 - 2. Asphalt Paving, including Mix Designs: No later than 14 days after Notice to Proceed.
 - 3. Aggregate Base: No later than 14 days after Notice to Proceed.
 - 4. Mortar and Grout, including Mix Designs: No later than 14 days after Notice to Proceed.
 - 5. Concrete Masonry Units and related items: No later than 14 days after Notice to Proceed.
 - 6. Structural Steel: No later than 14 days after Notice to Proceed and as specified in Division 05.
 - 7. Metal Decking: No later than 14 days after Notice to Proceed and as specified in Division 05.
 - 8. Architectural Casework: No later than 60 days after Notice to Proceed.

9. Firestopping: No later than 60 days after Notice to Proceed.
 10. Roofing and Sheet Metal: No later than 60 days after Notice to Proceed.
 11. Doors, Door and Window Frames: No later than 60 days after Notice to Proceed.
 12. Door Hardware: No later than 60 days after Notice to Proceed. In addition, provide Owner required keying information no later than 30 days before scheduled occupancy date. Coordinate all keying requirements with Owner.
 13. All HVAC, Fire Protection, Plumbing and Electrical Fixtures, Products and Equipment: No later than 60 days after Notice to Proceed.
- I. The Architect's action will be taken within a reasonable time period, while allowing sufficient time, in the Architect's professional judgment, to permit adequate review.
- J. Transmit each submittal separately with Architect accepted form.
1. Combine required material for a single specification Section into a single submittal. Incomplete or partial submittals will be returned without action for re-submittal in proper form.
 2. Do not combine data from more than one specification section or drawing component into a single submittal. Such submittals received will be returned without action for re-submittal in proper form.
 3. Submittals not reviewed by General Contractor will be returned without action for proper review and re-submittal.
 4. Unless otherwise specified, submit product data in quantity required by Contractor for construction, plus three copies for Architect's use. Architect will review a maximum of six (6) copies of submittal.
- K. Sequentially number the transmittal forms. Re-submittals to have original number with an alphabetic or numeric suffix.
- L. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- M. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- N. Schedule submittals to expedite the Project, and deliver to Architect at business address. Coordinate submission of related items.
- O. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.

- 1. Clearly identify, with bold clouding, or other graphic notation, all deviations from Contract Documents. Provide boxed note at clouded deviation specifically requesting approval of proposed change. Provide documentation of proposed change, including additional graphics and data as required by Architect.

1.13 ARCHITECT RESPONSIBILITIES

- A. Architect will review each submittal, mark with "Action" and where possible, return within a reasonable period of time from date of receipt. Where submittal must be held for coordination, Contractor will be so advised without delay. Action markings shall be interpreted as shown in the Architect’s submittal review stamp shown below (or similar review stamp):

REVIEWED – NO EXCEPTIONS TAKEN MAKE CORRECTIONS NOTED

REJECTED REVISE AND RESUBMIT

SUBMIT SPECIFIED ITEM RETURNED WITHOUT REVIEW

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings/submittal during this review do not relieve the Contractor from compliance with all of the requirements of the plans and specifications. Review of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the job site; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of, and with, the Work of all trades; and for performing all work in a safe and satisfactory manner.

DATE: _____ BY: _____

- B. Architect shall comply with previous provisions in this Section, as described herein
- C. See Section 01 25 00, “Substitution Procedures”, for Architect responsibilities for substitution requests.

1.14 DEFERRED APPROVALS

- A. Where shown on drawings and as specified in individual sections, submit documentation as required to obtain DSA approval of all deferred approval work.
- B. Submit deferred approval documentation under the provisions of Section 01 33 00 and as specified in the respective Sections.
 - 1. DSA Comply with the requirements of Section 4-317(g), Chapter 4, Part 1, Title 24, CCR.
 - 2. Submit documentation prepared under the direct supervision of a California licensed Engineer in the applicable discipline. All structural deferred approvals shall be prepared by California licensed Structural Engineer.
 - a. Provide Deferred Approval Number and DSA Project Number on the cover of each submittal.
 - b. Provide document format with sufficient space for Architect and DSA/OSHPD agency review stamps.
 - 3. All deferred approvals shall be stamped and sealed by the responsible engineer, licensed as specified. In accordance with DSA Section 4-317(g), Part 1, Title 24, CCR. Architect will review and mark with notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance with the design of the project.
 - 4. Clearly identify all deviations and proposed alternates to materials and systems shown on drawings and specified in this Project Manual.
 - 5. Drawings: Produce drawings on substantial bond paper using media of archive quality. Indicate dimensional locations of the various parts of the construction, sizes and type of members, connections, attachments, and openings.
 - 6. Specifications: Provide specifications in an approved format illustrating materials and systems proposed for use in design.
 - 7. Structural Calculations: Produce calculations in booklet form, 8-1/2 x 11 inch size, minimum of 3 wet signed and sealed copies.
 - 8. Provide sufficient information with respect to design criteria, analysis methodology and material capacity to adequately evaluate documentation for compliance with applicable sections of Title 24, CCR.
 - 9. Where required by DSA 4-336, provide verified reports for work done under deferred approvals.

1.15 ELECTRONIC DOCUMENTS FOR CONTRACTOR'S USE.

- 1. At Architect's sole discretion, and upon request, Architect will provide a file containing selected electronic file backgrounds for Contractor's use in shop drawing preparation.

2. Contractor shall sign Architect provided release form regarding such electronic file information.
3. Electronic files will be provided in AutoCAD format, in the Architects current version, as background views only, without dimensions, doors, notes and similar information. No seals, title blocks or approval stamps will be included on backgrounds.
4. Unless otherwise established, and at Architects sole discretion, only plan and section views of architectural, structural, mechanical, and electrical documents will be provided. Under no circumstances will the complete project AutoCAD file be provided.
5. The Architect will provide a single Flash Drive based file containing backgrounds for all discipline for the contractors use. Contractor shall be responsible for distribution of background files to subcontractors and vendors.
6. The Architect will prepare a cost for preparation of electronic file package. If the Contractor agrees to such cost, the cost will be processed as a deductive change order to the contract.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 42 29
REFERENCE STANDARDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Reference Standards
 - 1. Definitions
 - 2. Quality Assurance
 - 3. Standards and Regulations
 - 4. Schedule of References
 - 5. Project Manual and Specifications
 - 6. Jobsite Publications

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": The term "approved," when used in conjunction with Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Architect, requested by Architect, and similar phrases.
- D. The term "experienced," when used with the term "installer," means having successfully completed a minimum of five [5] previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- E. "Furnish": The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

- F. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
- G. "Install": The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.
- I. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- J. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.
- K. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

1.3 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents unless specifically noted.
- C. Obtain copies of standards when required by Contract Documents directly from publication source.
- D. Maintain copy at jobsite during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
- G. Schedule of references is general in nature; disregard any reference standard listed that is not applicable to this project.

1.4 STANDARDS AND REGULATIONS

- A. Applicability of Standards: Unless the Contract Documents or applicable regulatory requirements include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
1. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
 2. Referenced standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.
 3. Non-referenced standards are not directly applicable to the Work, except as a general requirement of whether the Work complies with recognized construction industry standards.
 4. Non-referenced standards: Except as otherwise limited by the Contract Documents, standards not referenced but recognized in the industry as applicable will be evaluated for performance of the Work. The Architect will decide whether a code or standard is applicable, or which of several are applicable.
- B. Publication Dates: Conform to reference standard by date of issue current on date of project approval by DSA, or date specified in Product Sections.
- C. Conflicting Requirements: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Obtain copies directly from the publication source when required by Contract Documents.
 2. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Architect reserves the right to require the Contractor to submit additional copies as necessary for use by others in the enforcement of requirements.
- E. Abbreviations and Acronyms for Industry Organizations: Where abbreviations and acronyms are used in Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the United States". Contact Architect regarding any questions regarding such abbreviations and acronyms.

F. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list.

1. ADA Americans with Disabilities Act (ADA)
2. ABA Architectural Barriers Act (ABA)
3. CFR Code of Federal Regulations
4. CRD Handbook for Concrete and Cement
5. DOD Department of Defense Military Specifications and Standards
6. DSA Division of the State Architect
7. FED-STD Federal Standard (See FS)
8. FS Federal Specification
9. FTMS Federal Test Method Standard (See FS)
10. ICC-ES ICC Evaluation Service, Inc.
11. MIL (See MILSPEC)
12. MIL-STD (See MILSPEC)
13. MILSPEC Military Specification and Standards
14. NES National Evaluation Service (See ICC-ES)
15. UFAS Uniform Federal Accessibility Standards

G. Schedule of Governing Codes:

1. California Code of Regulations (C.C.R.)
 - a. C.C.R. - Title 24, Part 1 – 2019 Building Standards Administrative Code.
 - b. 2019 CBC: 2018 IBC as Amended by 2019 California Amendments – C.C.R., Title 24, Parts 1 & 2
 - c. 2016 CEC: 2017 NEC as Amended by California 2019 Amendments - Part 3, Title 24, CCR
 - d. 2019 CMC: 2018 UMC as Amended by California 2016 Amendments - Part 4, Title 24, CCR
 - e. 2019 CPC: 2018 UPC as Amended by California 2016 Amendments - Part 5, Title 24, CCR
 - f. C.C.R. - Title 24, Part 6 - 2019 California Energy Standards
 - g. 2019 CFC: 2018 IFC as Amended by California 2016 Amendments, Part 9 - Title 24,

CCR.

- h. C.C.R. – Title 24, Part 11, 2016 California Green Building Standards Code
 - i. C.C.R. - Title 24, Part 12, 2016 California Referenced Standards Code
 - j. C.C.R. – Title 19
 - k. C.C.R. – Title 22, Social Security, latest register.
- 2. NFPA 101 - Life Safety Code.
 - 3. NFPA 72 – National Fire Alarm Code (California Amended) 2016 Edition.
 - 4. American Disability Act (ADA) or American Disability Act 2010 Standards
 - 5. Standard Specifications for Public Works Constructions.

1.5 SCHEDULE OF REFERENCES

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities listed in the 2016 California Building Code Title 24, Part 2, Chapter 35.

1.6 PROJECT MANUAL AND SPECIFICATIONS

A. Format and structure

- 1. Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 49-Division format and 2018 Masterformat numbering system.
- 2. The sections are placed in the Project Manual in numeric sequence; however, this sequence is not complete and the Table of Contents of the specifications must be consulted to determine the total listing of sections.
- 3. The section title is not intended to limit the meaning or content of the section, nor to be fully descriptive of the requirements specified within the Section.
- 4. The organization of the specifications shall not control the division of the work among subcontractors or establish the extent of work to be performed by any trade.

B. Definitions

- 1. Related Work Described Elsewhere: The caption "Related Sections" or "Related Work Described Elsewhere" identifies some Sections of the Specifications which may involve work involving coordination or general relationships to the work of the Section at hand. The omission of a Section from "Related Sections: or ""Related Work Described Elsewhere" does not limit the Contractors obligation to perform all portions of the Work with all appropriate and reasonable coordination.

2. Section Includes: The caption "Section Includes" or "Description" or "Summary" paragraph is intended to be a broad, general statement of the work covered by an individual section. The listing of principal items of work shall not be construed as an exhaustive or complete list.

C. Language

1. Specification Language and Intent: The words "the", "shall", "will", and all may be omitted in specification Sections. Where such words as "perform", "install", "erect", "test", or words of similar import are used, it shall be understood such words include the meaning of the phrase, "The Contractor Shall". The requirements indicated and specified apply to all work of the same kind, class, and type, even though the word "all" is not stated.
2. Specifications use certain conventions regarding style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are:
 - a. Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words that are implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable to maintain the context of the Contract Document indicated.
 - b. Imperative and streamlined language is generally used in the Specifications. Requirements expressed in the imperative mode are to be performed by the Contractor. Subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
 - c. The words "shall be" are implied wherever a colon (:) is used within a sentence or phrase.

1.7 JOB-SITE PUBLICATIONS

- A. Contractor shall keep a copy of Title 24, Parts 1 through 5, at the jobsite at all times.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 45 00
QUALITY CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality Assurance and Control of Installation
- B. Independent Testing and Laboratory Services
- C. Inspection Services
- D. Contractor Responsibility For Structural Tests and Special Inspections
- E. Field Samples and Field Mockups
- F. Manufacturer's Field Services and Reports

1.2 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. The Division of the State Architect (DSA), will provide review per Section 4-334, Part 1, Title 24, CCR. Contractor shall verify with Owner that DSA has been notified prior to start of construction in compliance with section 4-331.
- F. The Owner will retain a general inspector to inspect all work performed by Contractor in compliance with Section 4-333 and 4-342 DSA, Section 7-144 and 7-145 OSHPD, Part 1, Title 24, CCR.
 - 1. The Owner will retain special inspectors for those portions of the work as shown on the drawings and specified in the respective sections in compliance with Part 2, Title 24, CCR.
- G. Perform work by persons qualified to produce workmanship of specified quality.

1.3 INDEPENDENT TESTING LABORATORY SERVICES

- A. Owner will employ and pay for services of a DSA approved independent testing laboratory to perform inspections, tests, and other services required by applicable codes and various Specification sections.
 - 1. Owner or Architect may also require independent testing of items where doubts exists that product or system conforms to Contract Documents.
 - a. Contractor shall employ and pay for testing laboratory under above circumstances.
- B. Services shall be performed in accordance with requirements of governing authorities and with specified standards.
- C. Reports will be submitted to Owner and Architect in duplicate giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
 - 1. Where required, testing laboratory will submit copy of test results directly to enforcing agency.
- D. Contractor shall cooperate with testing laboratory personnel; furnish tools, samples of materials, design mix, equipment, storage and assistance as requested.
 - 1. Notify Owner, Architect and testing laboratory sufficiently in advance of expected time for operations requiring testing services.
- E. See Section 01 45 29, "Testing Laboratory Services" for specific requirements.

1.4 INSPECTION SERVICES

- A. Owner will employ and pay for services of a DSA certified project inspector, approved by the Division of the State Architect, to provide continuous, full time inspection of the project per CCR Title 24, Part 1, 2019 California Administrative Code (CAC), Section 4-333. The duties of the inspector are defined in CAC Section 4-342.
 - 1. Notify Architect and Inspector 48 hours prior to expected time for operations requiring specific inspection.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
 - 3. See Section 01 45 29, "Testing Laboratory Services" for specific requirements.

1.5 CONTRACTOR RESPONSIBILITY FOR STRUCTURAL TESTS AND SPECIAL INSPECTIONS

- A. Each Contractor responsible for the construction of a main wind-or seismic-force-resisting system, designated seismic system or a wind- or seismic-resisting-component listed in the statement of special inspections shall submit a statement of responsibility to the Architect and the Owner prior to commencement of work on the system or component. The Contractor's statement of responsibility shall contain the following:

1. Acknowledgment of awareness of the special requirements contained in the statement of special inspections;
2. Acknowledgment that control will be exercised to obtain conformance with the construction documents approved by the building official;
3. Procedures for exercising control within the Contractor's organization, the method and frequency of reporting and the distribution of the reports;
4. Identification and qualifications of the person(s) exercising such control and their position(s) in the organization.

1.6 FIELD SAMPLES AND FIELD MOCK-UPS

- A. Erect field samples and field mock-ups at locations on site as approved in advance and in accordance with requirements where included in Specifications section.
- B. Acceptable samples represent a quality level for the Work.
- C. Remove field sample or mock-up when specified in individual Sections.
- D. Test mock-ups requiring special equipment may be erected at location having access to necessary equipment; coordinate with Architect.
- E. Field samples and mock-ups not approved and not capable of being acceptably revised shall be removed from site.
- F. Approved field samples and mock-ups may be used as part of Project, only if specifically noted in individual specification Sections.
- G. For all approved sample submittals, such as color selections, material, finish or texture samples maintain those samples in the field office for Owner and Architect reference and comparison to field-installed work.

1.7 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. When specified in individual specification Sections, require material or Product suppliers or manufacturers provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start - up of equipment, test, adjust, and balance of equipment as applicable, and to initiate instructions when necessary.
 1. Observe field conditions, including conditions of surfaces and installation.
 2. Observe quality of workmanship.
 3. Provide recommendations to assure acceptable installation and workmanship.
 4. Where required, start, test, and adjust equipment as applicable.
- B. Representative shall submit written report to Architect or Owner listing observations, recommendations, site decisions or instructions given to applicators or installers that are

supplemental or contrary to manufacturers' written instructions.

- C. Submit reports within 5 days of observation.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 45 29
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Selection and Payment
- B. Quality Assurance
- C. Laboratory Responsibilities
- D. Laboratory Reports
- E. Limits on Testing Laboratory Authority.
- F. Contractor Responsibilities
- G. Additional Tests
- H. Schedule of Tests and Inspections

1.2 REFERENCES

- A. Title 24, CCR, All parts, current editions, as applies.
- B. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
- C. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection
- D. American Concrete Institute (ACI)
- E. American Welding Society – AWS QC1 - Specification for AWS Certification of Welding Inspectors

1.3 SELECTION AND PAYMENT

- A. Owner will employ and pay for services of an independent LEA accepted testing laboratory, approved by DSA, to perform specified inspection and testing as specified in this Section and CCR Title 24, Part 1, 2019 California Administrative Code, Sections 4-333, 4-335, 4-336 and 4-339.
 - 1. Unless specified as the Owner's responsibility, all other testing, mix design preparation and related quality control and certification requirements shall be paid by the Contractor at no additional cost to Owner.

2. All concrete mix designs shall be prepared at Contractor's cost and in compliance with Section 03 30 00, "Cast-In-Place Concrete" and 32 13 13, "Concrete Paving".
 3. All grout and mortar mix designs shall be prepared at Contractor's cost and in compliance with Section 04 05 13' "Masonry Mortaring".
 4. All asphalt concrete mix designs and aggregate base course shall be prepared at Contractor's cost and in compliance with 32 11 23, "Aggregate Base Courses" and Section 32 12 16, "Asphalt Paving and Striping".
- B. Only DSA, local legally constituted public authorities having jurisdiction over the Work, the Architect, and the Owner or their designated representatives shall be authorized to direct testing and inspection to determine compliance or non-compliance to the requirements of the Work.
- C. The Contractor shall reimburse the Owner, through Contract adjustment, for inspection and testing costs caused by the following Contractor actions:
1. All testing costs incurred after initial test established non-conformance with contract requirements.
 2. Inspection costs caused by Contractor's scheduling of work requiring inspections of less than 4 hours duration.
 3. Inspection costs caused by Contractor's failure to complete work requiring inspection within the scheduled duration period shown on Contractor's initial construction schedule.
 4. Inspection costs caused by Contractor's failure to order sufficient or required quantity of material.
 5. Inspection costs of items repaired following damage caused by Contractor.
 6. Inspection costs caused by Contractor's substitution of material, system or process, where such inspection and testing is required by the Architect, Owner or jurisdictional authority to demonstrate compliance with specified criteria.
 7. Inspection costs caused by Contractor's use of batch plant that does not comply with criteria waiving batch plant inspection.
 8. Inspection costs caused by Contractor's use of a supplier or subcontractor requiring inspection services to be performed at a location exceeding a 100 mile radius of project site.
 9. Inspection costs caused by Contractor's failure to complete work within normal hours and days, requiring overtime costs.

1.4 QUALITY ASSURANCE

- A. Comply with requirements of ASTM E329 and ASTM D3740.
- B. Laboratory: Authorized to operate in State in which Project is located, and currently approved by DSA (LEA).

- C. Laboratory Staff: Maintain a full-time registered Engineer or approved technician on staff to review services.
- D. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards (NBS) Standards or accepted values of natural physical constants.
- E. Tests and inspections shall be conducted in accordance with the requirements of the Specifications or, if not specified, in accordance with the latest standards of ASTM, ACI or other recognized authorities.
- F. Welding Inspectors shall be certified in accordance with AWS QC1 Standard for AWS Certification of Welding Inspectors.

1.5 LABORATORY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Architect, Inspector of Record and Contractor in performance of services.
- C. Perform specified inspection, sampling, and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Architect, Inspector of Record and Contractor of observed irregularities or non-conformance of Work or Products. Such nonconforming items shall not be incorporated in the finished Work unless specifically approved by Architect.
- F. Perform special inspections for areas of work as shown on drawings and specified in respective sections of the specifications in compliance with CCR Title 24, Part 1, 2019 California Administrative Code, Section 4-335 and DSA Form 3, "Structural Tests and Inspections" and as indicated in the Structural Drawings.
- G. Perform additional inspections and tests required by Architect.
- H. Attend preconstruction conferences and progress meetings, as required and requested.

1.6 LABORATORY REPORTS

- A. After each inspection and test, promptly submit copies of DSA-required laboratory report to Architect, Structural Engineer, Contractor, Owner, Project Inspector, DSA, and other parties as required by referenced sections and applicable regulations.
- B. Include:
 - 1. Date issued.
 - 2. Project title, JKAE project number and DSA File Number and Application Number.

3. Name of inspector.
 4. Date and time of sampling or inspection.
 5. Method of obtaining sample.
 6. Identification of product and specifications Section.
 7. Location in the Project.
 8. Type of inspection or test.
 9. Date of test.
 10. Results of tests.
 11. Conformance with Contract Documents.
 12. Indicate samples taken but not tested.
- C. When requested by Architect, provide interpretation of test results.
- D. Testing agency shall provide verified reports in compliance with CCR Title 24, Part 1, 2019 California Administrative Code, Section 4-336.
1. Provide such reports in duplicate, on approved form.
 2. Provide reports each time work on the project is suspended and at completion of project.
 3. Reports shall document actions taken, tests made, and other aspects of the construction operations for the period prescribed.
- E. In addition, Testing Agency shall provide semi-monthly reports as required by CCR Title 24, Part 1, 2019 California Administrative Code, Section 4-337.

1.7 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Laboratory may not approve or accept any portion of the Work.
- C. Laboratory may not assume any duties of Contractor.
- D. Laboratory has no authority to stop the Work.

1.8 CONTRACTOR RESPONSIBILITIES

- A. Deliver or make available to laboratory at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.

- B. Do not incorporate material or products requiring compliance with specified testing and inspection criteria without receiving documentation of compliance from approved agency.
- C. Cooperate with laboratory personnel and provide access to the Work and to manufacturer's facilities.
- D. Provide incidental labor and facilities to provide access to Work to be tested, to assist testing laboratory in obtaining and handling samples, to obtain and handle samples at the site or at source of Products to be tested, to facilitate tests and inspections, storage and curing of test samples.
 - 1. Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes.
 - 2. Comply with requirements of Section 01 35 16, "Alteration Project Procedures" and Section 01 73 29, "Cutting and Patching".
 - 3. Protect construction exposed by or for quality-control service activities and protect repaired construction.
 - 4. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.
- E. Contractor shall prepare integrated schedule for the course of construction showing all required inspection and testing. Determine the time required for the laboratory to perform testing and to issue reports and findings. Provide all required testing and inspection time within the construction schedule.
 - 1. Notify Architect, Project Inspector and laboratory minimum 48 hours prior to expected time for operations requiring inspection and testing services.
 - 2. Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
- F. Notify the Owner's representative a sufficient time in advance of the manufacture or material to be supplied by Owner under the Contract Documents, which must by terms of the Contract be tested, in order that the Owner may arrange for testing at the source of supply.

1.9 ADDITIONAL TESTS

- A. The Architect reserves the right to require additional tests to those specified, or upon materials not herein specified for testing.
- B. If the results of any test disclose noncompliance with the Drawings or requirements of the Specifications, the Architect reserves the right to require additional tests at the expense of the Contractor.
- C. The Contractor shall compensate the Architect or Engineers, at their standard hourly rates, for any additional services provided to analyze or justify non-compliant test results caused by substitutions, materials other than those specified or poor workmanship.

1.10 SCHEDULE OF TESTS AND INSPECTIONS

- A. Test and inspection list as approved by the Division of the State Architect, per DSA Form 103, “Structural Tests and Inspections” and as indicated in the Structural Drawings.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities, including: Electricity, Lighting, Heating and Ventilation, Telephone/Copy/Data Services, Water Service, Sanitary Sewer Service and Removal of Utilities, Facilities and Controls
- B. Protection of Installed Work
- C. Parking, Traffic Control, Access Roads and Noise Pollution Control
- D. Barriers and Fencing
- E. Tree Protection
- F. Progress Cleaning
- G. Field Offices and Storage Facilities
- H. Record Documents
- I. Documentation of Existing Conditions
- J. Security
- K. Project Identification and Signage
- L. Storm Water Control (reference to related section)
- M. Use of Elevators
- N. Use of Explosives

1.2 TEMPORARY ELECTRICITY

- A. Provide electrical service required for construction operations, with branch wiring and distribution boxes located to allow service and lighting by means of construction-type power cords.
 - 1. Connect to existing power service unless specified otherwise. Power consumption shall not disrupt Owner's need for continuous service. Coordinate location of connection with Owner.
- B. Owner will pay cost of energy used. Exercise measures to conserve energy. OR Pay cost of all temporary electricity, including connection costs from point of connection designated by serving utility.

1. Provide all required disconnects, overcurrent protection devices, branch circuits, power cords, and outlets as required for the Work.
 2. Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70.
 3. Where approved by Architect, permanent convenience outlets may be used during construction.
- C. Provide temporary power service as required to implement the work under this contract, including where required, self-contained engine generators. Provide temporary power service in compliance with all applicable regulations for temporary power connections as required by serving utility. Coordinate location of temporary power sources, including poles, generators and disconnect panels, with Owner.
1. Provide self-contained engine generators of sufficient capacity to provide required service in the event power is not available to conduct school operations. Coordinate location of temporary generators, including poles, generators and disconnect panels, with Owner. Generators shall not be located within 50 feet of air intakes, doorways or operable windows. Provide engine generators with maximum muffler capacity to minimize noise in teaching areas.
 2. Maintain engine generator capacity on-site as required to accommodate potential power loss. In the event of power loss or inability to restore power after shutdown, implement engine generators as required to provide power for Owner operations. Comply with all required codes and regulations, including serving utility criteria for generator use.

1.3 TEMPORARY LIGHTING

- A. Contractor shall provide and maintain temporary lighting for all construction operations.
1. Existing permanent lighting fixtures may be utilized during construction, supplemented by temporary lighting as required or connect temporary lighting to existing power service.
 2. Power consumption shall not disrupt Owner's need for continuous service.
 3. Coordinate location of connection with owner.
 4. Owner will pay cost of energy used. Exercise measures to conserve energy.
 5. Provide all required disconnects, overcurrent protection devices, branch circuits, power cords, and outlets as required for the Work.
 6. Where approved by Architect, permanent convenience outlets may be used during construction.
 7. Provide adequate lighting for security of construction operations and storage areas.
 8. Provide all lighting required for safety and security of paths and areas affected by construction, including pedestrian walkways.

9. Provide and maintain, at all times, temporary lighting and exit light/path devices in corridor areas shall be provided as required by applicable codes.
10. Maintain lighting and provide routine repairs.

1.4 TEMPORARY HEAT AND VENTILATION

- A. Contractor shall provide temporary heating, ventilating and air conditioning (HVAC) systems as necessary for the drying out of the building, the proper installation of Work and materials, and the protection of Work and materials against injury from condensation, dampness and cold. Refer to all sections for temperature and material maintenance requirements, as they apply to specific materials.
 1. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
 2. Where necessary to comply with requirements of this Section, provide ducted ventilation system.
 3. Use of permanent equipment for temporary construction heat and ventilation is prohibited without prior approval by Architect.
 4. All ductwork, vents and diffusers shall be completed sealed from construction.
 5. Contractor shall be responsible for replacement of equipment and other operational criteria.
 6. Utilize equipment as required to exhaust noxious fumes directly to the outside of the building at an approved location.
 7. Locate ventilation discharge point at an approved location, away from walkways, HVAC intakes, windows of occupied areas, and other similar locations.
 8. No internal combustion engines will be allowed within the building or within 50 feet of the building without prior written authorization from the Owner.
 9. Maintain temperatures as required by occupational safety regulations.

1.5 TELEPHONE/COPY/DATA SERVICE

- A. Provide, maintain and pay for telephone service and associated office equipment to field office and to Owners/Inspectors field office.
 1. Telephone service shall be in place at time of project mobilization.
 2. Provide two separate phone service lines, one for inspector's office and one for Owner's office, each providing private unlimited local calling service. Provide loud exterior bell, different in tone from Contractor's phone service.
 3. Provide two separate new answering machines or voicemail service, one for inspector's office and one for Owner's office. Answering machines/voicemail shall have remote message pickup feature.

4. Provide portable phone, pager, or similar device for use by Superintendent when away from field office.
 5. Provide, maintain and pay for xerographic copy machine, with 11 x 17 copy capability and enlargement and reduction capacity, able to scan up to 300 dpi to PDF format, with e-mail export capability, located in Contractors and Field Inspector's field offices.
- B. Provide, maintain and pay for internet data service to Contractor's and Field Inspector's field offices.
1. Provide separate internet service line for inspector's office. Service shall be high-speed cable. DSL is acceptable if no cable service is available.
 2. Coordinate with Owner and Project Inspector on all required connection protocols, including security. Modify service as required to comply with Owner requests. Provide data jack type and location as required by Owner.
 3. Data service shall be in place prior to start of construction.

1.6 TEMPORARY WATER SERVICE

- A. The Contractor shall provide and maintain and pay for suitable water source for construction operations, including cost of connection, temporary meters, distribution to point of use, and associated components. Provide temporary potable water service in compliance with all applicable regulations. The District will pay the cost of potable and irrigation water utilities. The Contractor shall manage water use to be at reasonable managed levels.
1. Provide and maintain connection to existing water service.
 2. Owner will pay cost of water used. Exercise measures to conserve water. OR Contractor shall provide, maintain, and pay for all temporary potable water piping as required to implement the work. Provide temporary potable water service in compliance with all applicable regulations. Coordinate location, including point of connection, with Architect.
 3. Provide non-potable water source for dust control and other construction operations as required by local jurisdictional authority regulations. Do not apply to any areas used by students or staff without Architects prior approval.
 4. Use of on-site existing water service for potable drinking water is acceptable. Coordinate point of connection with Owner.

1.7 TEMPORARY SANITARY FACILITIES

- A. Provide, maintain, and pay for all temporary toilet facilities as required to implement the work in compliance with all regulations, including CAL OSHA, and as specified.
1. Provide two toilet facilities at site, one each for male and female employees, or as required for all Contractor and subcontractor forces on each site, whichever is greater.
 2. In addition, provide lockable toilet facility for Architect and Inspector of Record exclusive use.

3. Locate toilet facilities as directed by Architect. Relocate when required by Architect.
 4. Maintain in a clean and sanitary condition at all times, with all required supplies.
- B. Use of existing toilet facilities, or toilets constructed as a part of this Contract, is prohibited.

1.8 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, and materials, prior to Final Application for Payment.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.9 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Provide and maintain all required dams, screens and collection systems necessary to prevent water used in interior demolition or construction operations from damaging adjacent areas.
- E. Take all means required to prevent damage to project, including interior areas, resulting from inclement weather, water, wind or other environmental impacts. Provide temporary coverings or enclosures as required for all roof and wall penetrations. Where moisture from condensation, rain or high winds is forecast or present, Contractor shall take all means to eliminate or prevent danger to the Work and to adjacent property, including covering unprotected surfaces, making all openings weather tight, removing loose materials, tools or equipment from exposed locations and removing or securing scaffolding.
- F. Provide, operate, and maintain pumping equipment required to remove water from the site, roof and interior flooded areas.

1.10 PARKING, TRAFFIC CONTROL, ACCESS ROADS AND NOISE POLLUTION CONTROL

- A. Parking:
 1. Contractor shall coordinate with the Owner all required on-site parking, as required for construction activities.
 - a. Coordinate location and number of parking spaces to be made available for Contractors forces with Owner.

- b. Do not permit parking on adjacent public streets.
- c. Parking for workmen employed on the work may be provided on the site, when approved by the Owner, and to the extent that space for that purpose is available without interference with activities related to performance of the Work. Additional parking spaces required by the Contractor shall be secured at Contractors own expense.

B. Traffic Control:

1. Traffic maintenance: Prior to start of work, determine the routing of construction vehicles, and the safeguards and procedures necessary to carry out the work. Obtain the Owner's approval of the traffic routes, and for any removal, temporary relocation and reinstallation of traffic control signal. In addition:
 - a. Be responsible for controlling construction traffic within and adjacent to the site.
 - b. Provide entrances, lifts and safeguards required or necessary to the progress of the work, and effectively control such traffic to provide minimum hazard to the work and all persons.
 - c. Route construction equipment, trucks, and similar vehicles via existing public streets to and from the site as approved by the governing authorities.
 - d. Where construction traffic occurs when Owner personnel, students and staff are on site campus, provide "spotter" responsible for leading construction traffic through site campus areas.
 - e. Obtain and pay for permits and inspections made necessary by use of public street, sidewalks, curbs, and paving. Post guarantees and bonds that may be required, and repair and make good any damages thereto acceptable to the authorities having jurisdiction.
 - f. Construct and maintain temporary walks for pedestrians. Keep streets adjacent to the site open to vehicular and pedestrian traffic.
 - g. Maintain constant access for police, fire and ambulance service.
 - h. Provide and maintain for proper control of traffic and safety of all concerned. Provide all necessary barricades, suitable and sufficient lights, reflectors, and danger signals.
 - i. Provide warning and closure signs, directional and detour signs, and whatever additional measures are necessary.
 - j. Indicate on a 24-hour basis restricted and dangerous conditions existing on or adjacent to the site. Illuminate barricades, danger signals, warning signs and obstructions at night. Keep warning lights burning from sunset until sunrise.
 - k. Access Roads:
2. Contractor shall provide access roads as required for all construction activities.

- a. Coordinate location of access roads to be used for construction activities with Owner.
 - b. If required, construct and maintain temporary roads accessing public thoroughfares to serve construction area.
 - c. Contractor shall maintain temporary access roads as required to implement the work under this contract, including currently developed access road.
 - d. Extend and relocate as Work progress requires. Provide detours necessary for unimpeded traffic flow.
 - e. Designated existing on-site roads may be used for construction traffic.
 - f. Provide means of removing mud from vehicle wheels before entering streets. Coordinate requirements for mud removal with Section 01 57 23, "Temporary Storm Water Pollution Control", as required.
 - g. Provide trench plates as required to resist traffic loads, including fire department vehicles.
 - h. Where trench plates occur in pedestrian paths, install with transitions as required to comply with accessibility regulations.
 - i. Maintain on-site fire protection facilities as required by applicable authorities and insurance requirements.
 - j. Provide and maintain access to fire lanes and fire hydrants at all times, free of obstructions. Coordinate location, locking device and dimension of gates with fire department having jurisdiction.
 - k. Provide and maintain access to fire hydrants, free of obstructions.
 - l. Obtain Fire Marshal approval of all fire lanes used during construction and trench plate installations.
 - m. Do not permit delivery trucks to block, park or wait on public streets.
3. Noise, Dust and Pollution Control:
- a. Provide materials and equipment necessary to comply with local requirements for noise, dust and pollution control.

1.11 BARRIERS AND FENCING

A. Barriers - Exterior:

1. Provide barriers to prevent unauthorized entry to construction areas, to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
 2. When regulated by codes, such legal requirements for protection shall be considered as minimum requirements. Provide protective measures in excess of such minimum requirements as specified or required.
 3. Provide barricades around excavations.
 4. Provide protection for all plant life designated to remain.
 - a. Replace damaged plant life with approved equivalent.
 - b. Erect tree protection within 3 days of mobilization. Enclose trees designated to remain with 2 x 4 wood frame. Install frame minimum 6 feet from trunk diameter, all sides. Provide 4x4 post supports, minimum 3 feet high, embedded 3 feet, at 3 foot on center maximum. Wrap frame with snow type fencing, in bright iridescent color visible at night.
 5. Protect non-owned vehicular traffic, stored materials, site and structures from damage.
- B. Barriers - Interior
1. After beneficial occupancy, and where required to permit Owners on-going operations, provide barriers as specified.
 - a. Construct barriers as metal framed/fire-resistive gypsum board fire resistive corridor construction, with self-closing, latching door assembly. Provide temporary partition and door assembly fire resistivity rating equal to the assembly being replaced. Close joints and seal edges at intersections with existing surfaces.
 - b. Use of sheet plastic dust barriers in place of rated assemblies is prohibited.
 2. Protect existing surfaces, equipment and furnishings from damage from construction operations and demolition. Where necessary, remove and store in separate area.
 3. Where demolition or construction operations generate fine dust or air-borne particulates, provide fire retardant drop cloths, screening or other approved barriers to prevent dust intrusion into existing cabinet interiors, equipment, drawers, and similar conditions.
 4. Provide contamination control mats at construction area access locations to prevent tracking of construction dust and dirt into Owner-occupied portion of building and elevator cars.
- C. Paint surfaces exposed to view from Owner-occupied areas with approved water based paint and in color as selected by Owner.

D. Fencing and Gates:

1. Prior to starting construction, provide chain link fence around perimeter of work under this contract within 3 days of mobilization, including storage areas and each individual building, at locations as directed by Architect so as to provide for complete segregation of construction and Owner operations.
 - a. Submit detailed plan of fence, including gates, for review and approval by Architect and Owner. Show flow of construction traffic.
 - b. Provide 6 or 8 foot high chain link fencing, with top rail and bottom wire. Provide fabric with selvedge edge and line posts at maximum 9 feet on center.
 - c. Equip fencing with gates with locks. Coordinate locking with Owner and Local Fire Marshal to allow for Owner and Fire Marshal access after hours.
 - d. Obtain Architect approval of embedment method at paving areas. Provide portable T-frame fencing panels with concrete base supports, where embedment is not possible.
 - e. Provide chain link fencing fabric and supports free of sags, breaks, rust and distortion.
 - f. Following Owners beneficial occupancy of portions of project, erect chain link fence at locations as approved by Architect to provide for complete segregation of construction and Owner operations.
2. Provide gates affording access as required by fire department having jurisdictional authority.
3. Obtain and pay for required permits and inspections, if required.
4. Protect against stored materials, dumping, chemically injurious materials, and puddling or continuous running water.

E. Removal:

1. Remove construction fence and other related construction upon completion of Work, or sooner if so authorized by the Owner, or as required to maintain Project progress.

1.12 TREE PROTECTION

- a. No parking of vehicles will be allowed under trees.
- b. Provide barriers around trees and plants designated to remain; protect plants at their drip lines against vehicular traffic.

1.13 PROGRESS CLEANING

- A. Control accumulation of waste materials and rubbish; recycle or dispose of off-site.

- B. Maintain areas free of dust and other contaminants, waste materials, debris, and rubbish during finishing operations. Maintain site in a clean and orderly condition.
- C. Use cleaning materials which do not create hazards to health or property, and which will not damage surfaces. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.
- D. Provide for all dumpsters, haul fees and dump charges as required. Do not use Owners collection facilities at any time.
- E. Remove waste materials, debris, and rubbish from interior spaces daily and deposit in approved dumpster location. Remove from site monthly or as needed. Dispose off-site in a legal manner.
 - a. Broom and vacuum clean interior areas prior to start of all surface finishing, including painting, and continue cleaning on an as-needed basis until painting and surface finishes are complete.
 - b. Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.
 - c. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.
 - d. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- F. Schedule operations so that dust and other contaminants resulting from cleaning procedures or construction operations will not fall on wet or newly coated surfaces.
- G. Maintain all public streets free of dust, mud, and debris as required by jurisdictional authority. Maintain parking lots, drives and walkways free of dust, mud and debris when Owner takes beneficial occupancy of a portion of project prior to final completion.
- H. Provide watering, dust palliative admixture or other methods as required to minimize dust generation during work. Where required by Owner, provide dust screen netting at property line temporary fencing.

1.14 TEMPORARY ENCLOSURES

- A. Provide temporary weather-tight closures for exterior openings for acceptable working conditions, for protection for materials, to protect interior materials from dampness, for temporary heating, and to prevent unauthorized entry.
- B. Provide doors with self-closing hardware and locks.
- C. Provide temporary partitions and ceilings as required to separate work areas from Owner occupied areas, to prevent penetration of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

1.15 FIELD OFFICES AND STORAGE FACILITIES

A. Contractor and Inspector of Record Field Offices:

1. Inspector Space: Provide separate office for District's Project Inspector.
2. If existing facilities are available for use as a field office, coordinate with Owner the use and maintenance of existing interior space for field office purposes.
3. If existing facilities are not available for field office use, provide and maintain a weatherproof and waterproof field office trailer, with lockable exterior access, for the Owner's, Architect's and Inspector's use, complying with the following criteria:
4. For Each Field Office:
 - a. Provide an office area, a minimum area of 120 square feet, with sufficient dimension to accommodate furniture as specified below.
 - b. Locate offices and sheds as directed by Owner and/or Architect.
 - c. Provide a 3x5 foot desk and a 3x6 foot lay out table, minimum.
 - d. Provide adequate heating and cooling, including air conditioning.
 - e. Provide overhead fluorescent lighting.
 - f. Provide separate phone service for inspector's exclusive use. Provide a data outlet.
 - g. Provide a 3x5 foot desk and a 3x6 foot lay out table, a 4 drawer file cabinet, and 2 office chairs. Provide plan rack suitable for 3 sets of 30 x 42 drawings in inspectors office.
 - h. Meeting Space: Provide adequate separate space for Project meetings with table and chairs to accommodate a minimum of six persons, with access with through 3 foot doorways.
 - i. Telephone Service: Provide telephone service to field office. Cellular service is acceptable. See Paragraph 1.5, this Section, for requirements.
 - j. Copier: Provide separate plain paper copier with enlargement and reduction capability.
 - k. Internet Service: Provide broadband internet service to field office.
 - l. Computer: Provide desktop computer system at Project field office with e-mail capacity and word processing system compatible with Architect's systems.
 - m. Digital Camera: Maintain operational digital camera on-site during construction along with software allowing transmission of digital pictures taken on-site via e-mail to Owner and Architect.

B. Architect, Owner, and their representatives shall have free access to the Owners and Inspectors office at all times.

- C. All field offices shall remain the property of the Contractor and shall be removed from the site upon completion of the work.
- D. Storage Facilities:
 - 1. Provide weather-tight storage, with heat and ventilation for products requiring controlled conditions.
 - 2. Furnish, install and maintain tool cribs, sheds and storage units for the Contractors use as necessary for the proper execution of the work.
 - 3. Limit on-site storage to Project area.
 - 4. Provide all necessary barricades, warning devices and enclosures required to protect and direct visitors and staff around tool and equipment located in passageways and corridors.
 - 5. Return all small tools and secure in locked compartments or cribs at close of work day.
 - 6. Safe-off or lock all equipment and large tools. Disable from malicious or accidental start-up and operation.
 - 7. Storage facilities shall provide protection of all products from damage due to environmental conditions, abuse, or theft.
 - 8. Requirements of regulatory agencies: Comply with requirements of regulatory agencies having jurisdiction. Obtain and apply for permits required by governing authorities.
 - 9. Job Conditions: Locate temporary structures to avoid interference with Work. Relocate temporary structures as required by job progress.

1.16 RECORD DOCUMENTS:

- A. Contractor shall maintain, on site, one copy of the following contract documents, defined as the Record Job Set. Stamp set "RECORD JOB SET - DO NOT REMOVE". During the course of construction, use this set to record actual revisions to the Work.
 - 1. Construction Drawings.
 - 2. Project Manual/Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Job Set separate from documents used for construction.
- C. Transfer information concurrent with construction progress. Record Job Sets will be reviewed at each Progress Meeting.

1. Where Record Job Sets do not reflect actual field conditions, the Architect may delay certification of Payment Request until sets are updated to the Architects satisfaction.
 2. Record Job Set information reflecting engineering elevations, locations and alignments shall be prepared by competent staff experienced in surveying methods a licensed Land Surveyor or Civil Engineer, licensed in State where project is located.
 3. Cost of Record Job Set preparation shall be paid by Contractor at no additional cost to Owner.
 4. Cost of all civil engineering and surveying associated with Record Job Set preparation shall be paid by Contractor at no additional cost to Owner. Other than the payment for services related to work of this contract, the Civil Engineer or Surveyor shall have no financial or business relationship with Contractor.
- D. Specifications: Legibly mark and record at each Part 2 Product section description of actual Products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and Modifications.
- E. Recording Data: Legibly mark each item to record actual construction including:
1. Measured actual horizontal and vertical locations of underground utilities, sub-drains, services and appurtenances, to a tolerance of 2 inches plus/minus, referenced to permanent surface improvements. Include elevations of all water lines, utilities, sanitary and storm drain inverts and storm drain/sub-drain/canyon drain system outfalls.
 2. Field changes of dimension and detail, including alignments, gutter slopes, slope bank locations, drainage structures, and related site improvements.
 3. Earthwork Engineering Record Documents, consisting of actual field elevations of grading and earthwork, to a tolerance of 0.1 feet. The actual elevation of each elevation shown on drawings shall be recorded. In addition, provide actual elevations at 50 foot intervals along all finish grade contours as shown on drawings, including all grade breaks and the top and toe of all slopes.
 - a. Where actual field elevations exceed specified tolerances, correct field condition and re-survey prior to preparation of final Record Set.
 - b. Record actual elevation in a rectangular box directly above the elevation or contour shown on drawings, using red, permanent ink.
 4. Measured locations of internal utilities, services, and appurtenances concealed in construction, to a tolerance of 1 inch plus/minus, referenced to visible and accessible features of the Work.
 5. Field changes of major architectural features, such as door relocation, wall furring, field changes of dimension and detail, and material transitions.

6. Details not on original Contract Drawings.

F. Maintenance of Record Documents and Samples:

1. Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

1.17 DOCUMENTATION OF EXISTING CONDITIONS

A. Prior to beginning any alterations, including grading, wall demolition or fixture removal, prepare a record of existing improvements affected by the work of this contract, including but not limited to the following:

1. Off-site street and frontage improvements, identifying all evidence of existing settlement, cracking, and other signs of damage, distress or failure.
2. Condition of adjacent properties, including fencing, retaining walls, pools, paving, and structures. Clearly identify all evidence of existing settlement, cracking, alignment and other signs of damage, distress or failure.
3. Condition of landscaping, including canopy overhang, shrubbery and grass/groundcover. Clearly identify all evidence of existing trunk damage, grass compaction, crushed and broken shrubs and other signs of distress or failure.

B. Format

1. Prepare record document using digital color video, recorded on Flash Drive, and any other means of documentation necessary to describe existing condition.
2. Prepare digital color video at such scale and detail as required to document existing damage occurred prior to beginning work. If the record documents do not clearly show damage as a pre-existent condition, Contractor shall be responsible for repair or replacement of such damaged improvements.
3. Obtain Owners' Inspector of Record certification that documents were prepared prior to beginning construction. Deliver Flash Drive and associated documentation to Owner prior start of construction.

1.18 SECURITY

A. Provide security and facilities as necessary to protect work and personnel from vandalism, unauthorized entry, theft, damage, or assault.

1. Security Service: Contractor shall provide licensed and bonded on-site security service, approved by Owner, at all times the work is not being prosecuted, including nights, inclement weather, holidays and weekends. Such security service shall be responsible for maintaining the premises in a secure condition at all times, and shall include roaming tours and inspection of all work under construction. Owner reserves right to require replacement of service for non-performance.
- B. Within a 48 hour period, replace or repair, to specified condition Architect's satisfaction, all surfaces or items damaged by graffiti during course of construction.
- C. Where Owner has given approval to take fire detection system off-line, return system to active status at completion of work or end of each work period.
 1. Fire Safety During Construction: Comply with provisions of CCR, Title 24, 2019 California Fire Code, Chapter 33, "Fire Safety During Construction and Demolition", but not limited to, access roads, fire extinguisher and fire watch regulations.
 2. Coordinate all requirements for fire safety during construction with Fire Marshal.
- D. Where security or fire detection systems are disabled for any reason, including where Owner has given approval for such system shut down, provide fire watch or security guard service as directed by Owner and at no additional cost to the Owner.
- E. After beneficial occupancy by Owner, all Contractor staff, subcontractors and suppliers shall notify Owners administrative staff when on site and sign in and out with staff, as directed by Owner. Notify staff when work is completed or shut down for that work period.
 1. Wear badges with photo identification, as directed by Owner, at all times. In addition, wear orange safety vests or other approved shirt design at all times, hard hats, etc. as required by occupational safety regulations.
 2. Do not enter staff rooms at any time without approval of staff.
 3. All Contractor's staff, subcontractors and suppliers shall avoid interaction, contact and communication with students. Under no circumstances shall Contractors staff, subcontractors and suppliers be in contact with patients/students without Owner staff present.
 4. All work, including work of subcontractors, shall be conducted under the observation of the Contractor's supervisory personnel complying with all required fingerprinting regulations.
- F. Remove all radio or other music generating devices operated sufficiently loud so as to be objectionable, as determined solely by the Owner, to neighbors, or Owner's operations.
 3. Dogs and other pets are not permitted on site campus without prior approval by Owner.
 4. No smoking or use of any tobacco products is permitted on Owner's property.

5. All Contractor staff, subcontractors and suppliers shall present a professional and civil manner to staff, visitors, neighbors and students. Use of language or behavior judged offensive, obscene or suggestive by the Owner is not permitted. Clothing that is suggestive, is marked with images that suggest or promote drug, alcohol or tobacco use, or represents behavior judged offensive, obscene or suggestive by the Owner is not permitted. Immediately remove from site campus any Contractor personnel exhibiting such behavior.
6. Persons under the influence of or engaged in the use of drugs or controlled substances, as defined by Schedules I through V of Section 202 of the Controlled Substances Act and regulations defined at 21 CFR 1308 - 1308.15, shall be immediately removed from site campus.
7. Use of alcoholic beverages is prohibited on site campus. Persons under the influence of or engaged in the use of alcoholic beverages shall be immediately removed from site campus.

1.19 STORM WATER CONTROL (**NOT APPLICABLE**)

- A. Contractor shall obtain all necessary permits, including preparation of engineering documentation, as required to comply with jurisdictional authority regulations regarding storm run-off and erosion control. Compliance with requirements of the federal Clean Water Act, associated State Water Resources Board and local regulations is specifically required. See Section 01 57 23, "Temporary Storm Water Pollution Control" for requirements.
- B. Dewatering:
 1. Provide and operate drainage and pumping equipment; as required, to maintain excavations and site free of standing water.

1.20 PROJECT IDENTIFICATION AND SIGNAGE (**NOT APPLICABLE**)

- A. Provide 4 x 8 sign, constructed of marine grade plywood, mounted on wood frame construction with concrete footings. Provide professional sign painter quality painted design and message as approved by Architect.
- B. Message will include project identification, name of client, architect, and contractor, and miscellaneous data as determined by Architect.
- C. Install sign at location directed by Architect. Remove at end of project and deliver to Owner.
- D. No other signs are permitted except those noted in the Section and as required by law.

1.21 USE OF ELEVATORS (WHERE PROVIDED) (**NOT APPLICABLE**)

- A. Coordinate all use of all existing elevators for construction operations with Owner. Owner will designate specific elevators for use during construction period.
- B. Protect interior wall surfaces with pads and flooring with removable sheet goods.
- C. Remove protective pads and floor covering and vacuum clean interior after each period of use.

PART 2 - PRODUCTS

2.1 MATERIALS

- a. NOT USED

PART 3 - EXECUTION

- a. NOT USED

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Products
- B. Submittals
- C. Quality Assurance
- D. Delivery, Storage and Handling
- E. Protection After Installation
- F. Owner-Provided/Owner-Installed Work (OFOI)
- G. Owner-Provided/Contractor Installed Work (OFCI)

1.2 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures and systems forming Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of Work. Products may also include existing materials or components required for reuse.
- B. Comply with Specifications, referenced standards, and applicable codes and regulations as minimum requirements.
- C. Provide new materials except as specifically allowed by Contract Documents.
- D. Materials to be supplied in quantity within a Specification section shall be by one manufacturer, shall be the same, and shall be interchangeable.
- E. Provide equipment and systems composed of materials from a single manufacturer except where otherwise recommended by equipment or systems manufacturer or where otherwise indicated in Contract Documents.
- F. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.

1.3 SUBMITTALS

- A. Submittals: Provide submittals per Section 01 33 00, "Submittal Procedures".
 - 1. Submittal 01 60 00 A: Product List: Prior to submittal of second Request for Payment, submit to Architect complete list of major products that are proposed for installation, with name of manufacturer, trade name, and model.
 - a. Tabulate products by Specification number and title.
- B. Substitutions: Provide per Section 01 25 00, "Substitution Procedures"

1.4 QUALITY ASSURANCE

- A. Comply with industry standards and applicable codes except when more restrictive tolerances or requirements indicate more rigid standards or precise workmanship.
- B. Comply with manufacturer's instructions.
- C. Perform work by persons qualified to produce workmanship of specified quality.
- D. Install products straight, true-to-line, and in correct relationship to adjacent materials, with hairline joints, free of rough, sharp and potentially hazardous edges.
- E. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.
 - 1. Seismic Anchors: Conform to code requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Transport products by methods to avoid product damage, deliver in undamaged condition in manufacturer's unopened containers or packaging.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement or damage.
- D. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
- E. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- G. For exterior storage of fabricated products, place on sloped supports above ground and protect as necessary to prevent deterioration or damage to the product.
- H. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- I. Arrange storage to provide access for inspection; periodically inspect to assure products are undamaged and are maintained under required conditions.
- J. Provide equipment and personnel to handle products by methods to prevent soiling and prevent damage.
- K. Promptly inspect shipments to assure products comply with requirements, quantities are correct, and products are undamaged.
- L. Immediately remove from Project products damaged, wet, stained, and products with mold and products with mildew.
- M. Take special care to prevent absorbent products such as gypsum board and acoustical ceiling units from becoming wet.
- N. Store loose granular materials on solid flat surfaces in well drained area. Prevent mixing with foreign matter.
- O. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement or damage.

- P. Arrange storage of products to permit access for inspection. Periodically inspect to ensure products are undamaged and are maintained under specified conditions.
- Q. When approved by the District's Representative, provide off site storage and protection in a bonded warehouse approved by District when site does not permit on site storage or protection at no cost to District.

1.6 PROTECTION AFTER INSTALLATION

- A. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.
- B. Provide protective covers at walls, projections, corners, jambs, sills and soffits in and adjacent to traffic areas.
- C. Cover walls and floors of elevator cabs, and jambs of cab doors, when elevators are used by construction personnel.
- D. Protect finished floors and stairs from dirt, wear and damage:
 - 1. Secure heavy sheet goods or similar protective materials in place, in areas subject to foot traffic.
 - 2. Lay planking or similar rigid materials in place, in areas subject to movement of heavy objects.
 - 3. Lay planking or similar grid materials in place in areas where storage of products will occur.
 - 4. Distribute loads of heavy stockpile materials, such as gypsum wall board, to prevent floor loading conditions in excess of loading capacity.
- E. Protect waterproofed and roofed surfaces:
 - 1. Restrict use of surfaces for traffic of any kind, and for storage of products.
 - 2. When an activity is mandatory, obtain recommendations for protection of surfaces from installer or manufacturer. Install protection and remove on completion of activity. Restrict use of adjacent unprotected areas.
- F. Restrict traffic of any kind across planted lawn and landscape areas.

1.7 OWNER-FURNISHED/OWNER-INSTALLED WORK (OFOI)

- A. Indicate in construction progress schedule Owner-Furnished/Owner-Installed items and schedule time for installation.
- B. Items indicated on Drawings as OFOI will be furnished by Owner (District) and installed by Owner (District).
- C. Work indicated as OFOI shall be performed under separate contract employees by Owner (District) at its discretion.
- D. Where work of this Contract adjoins or conflicts with OFOI, work, Contractor shall cooperate with Owner (District) and its employees in manner that will provide for reasonable and accurate completion of this Contract and work under separate contact.

1.8 OWNER-FURNISHED/CONTRACTOR-INSTALLED WORK (OFCI)

- A. Indicate in construction progress schedule Owner (District)-Furnished/Contractor-Installed items and schedule time for its installation.
- B. Contractor shall verify exact sizes and services required for each item of equipment indicated on Drawings or in project manual as OFCI and shall obtain from Owner (District) rough-in drawings, diagrams, setting templates and other necessary information to ensure proper mating of assemblies.
- C. Contractor shall receive at project site each item of equipment from Owner (District) and from that time on shall assume full responsibility for items and equipment until one year from date of Certified Completion.
- D. Contractor shall give District 15 days prior notice of requirements for delivery to site of all OFCI equipment.
- E. Contractor shall be responsible for receiving OFCI items and equipment and shall uncrate, inspect and notify Owner (District) in writing within 7 days of receiving said items or equipment of acceptance or rejection of items or equipment. Owner (District), after receiving notice, will take appropriate action to have items or equipment made acceptable for Contractor's use. Rejected items shall be carefully stored and protected from damage by Contractor until District takes appropriate action.
- F. Contractor shall be responsible for final placing, installation, connection, start-up, checking, testing and demonstrated satisfactory operation. Owner (District) will provide names of manufacturer's representatives, who shall assist the Contractor in checking, testing and demonstrating equipment.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

SECTION 01 71 23 FIELD ENGINEERING

PART 1 - GENERAL

1.1 SECTION INCLUDES:

- A. Field Engineering/Surveying – General Requirements
- B. Qualifications of Surveyor or Engineer
- C. Submittals
- D. Project Survey Requirements
- E. Survey Reference Points
- F. Horizontal and Vertical Controls
- G. Records

1.2 FIELD ENGINEERING/SURVEYING – GENERAL REQUIREMENTS

- A. Provide field engineering in accordance with the General Conditions and as specified.
- B. Provide field engineering as required to generate Record Drawing data as specified in Section 01 77 19, “Project Record Documents”.
- C. Provide licensed Civil Engineer, currently registered in California, and acceptable to the Architect. Where approved by jurisdictional authority and Architect, a licensed Land Surveyor may be acceptable.
- D. Maintain and protect all control datum and reference points established by Owner's survey.
- E. Provide field engineering services as required to implement the work in accordance with industry standards and specified tolerances. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

1.3 QUALIFICATIONS OF SURVEYOR OR ENGINEER

- A. Qualified California registered professional engineer or registered land surveyor, acceptable to Architect.
- B. Registered professional engineer of discipline required for specific service on Project, licensed in State of California.

1.4 SUBMITTALS

- A. Submittals: Provide submittals per Section 01 33 00, “Submittal Procedures”.

- B. Submit name, address, and license of surveyor and professional engineer to Architect, via the Construction Manager

1.5 PROJECT SURVEY REQUIREMENTS

- A. Prior to the start of work, Contractor shall review and verify the existing horizontal and vertical controls as provided in the Contract Documents. Any discrepancies are to be reported to the Architect.
 - 1. Provide the same review and verification for all underground utilities.
- B. Establish and safeguard minimum of two permanent benchmarks on project site, referenced to data established by survey reference points. Record locations, with horizontal and vertical data, on Project Record Documents.
- C. Establish and maintain lines and levels to locate and layout entire scope of work.
- D. Preserve and protect all on-site underground utilities lines and existing on-site improvements in the area of construction.

1.6 SURVEY REFERENCE POINTS

- A. Where shown or available, existing basic horizontal and vertical survey reference points for Project are those designated on Drawings.
- B. Contractor shall establish horizontal and vertical survey control lines and points on site prior to commencement of contractors' work. Include a minimum of one north-south and one east-west grid line along with two permanent benchmarks for vertical data. These controls shall be maintained by Contractor throughout the course of construction.
- C. Locate and protect survey reference points prior to starting site work and preserve all permanent reference points during construction.
 - 1. Make no changes or relocations without prior written notice to Architect for their review and interpretation.
 - 2. Replace Project survey reference points which may require relocation because of necessary changes in grades or locations. Establish replacements based on original survey control.

1.7 HORIZONTAL AND VERTICAL CONTROLS

- A. Within two (2) weeks of Notice to Proceed, and prior to the start of work, Contractor shall review and verify the existing horizontal and vertical controls as provided in the Contract Documents. Additionally, Contractor shall review the following record documents as prepared by Increment 1 contractor:
 - 1. Certified Pad Survey
 - 2. Utility piping plans and points of connection.
- B. All discrepancies are to be reported to the Architect.

- C. Contractor to include Field Survey in Schedule of Values and project schedule.
- D. Contractor to provide and pay for field engineering services required for the execution of work, including, but not limited to:
 - 1. Survey Work required in execution of the work under this contract.
 - 2. Civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.
- E. Provide field staking of all improvements; where existing, identify existing survey reference points and property line corner stakes indicated on Drawings.
- F. Locate and be aware of all existing on-site utility lines and improvements.

1.8 RECORDS

- A. Maintain complete, accurate log of all control and survey work as it progresses.
- B. On completion of final site improvements, prepare certified survey and record (as-built) drawing including the following information:
 - 1. All boundary dimensions at perimeter of site, building pads, and parking lots.
 - 2. Locations and elevations of all underground utilities and site drainage piping and structures, Point of connection, including manholes and drain inlets, and locations of stub outs of building services for each individual building.
 - 3. Elevations of entire site, shown on a maximum 25 foot grid within building and central site area and a maximum 50 foot grid on balance of site, but in any event the distance between survey points should be no more than is necessary to accurately portray as-built conditions.
 - 4. Submit record survey and drawings for review by the Inspector and Architect, including certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance, or non-conformance, with Contract Documents.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

EXECUTION REQUIREMENTS (NOT APPLICABLE)

PART 1 - GENERAL

1.1. SUMMARY

- A. This section describes execution requirements.
 - 1. Installer qualifications.
 - 2. Examination.
 - 3. Manufacturer's instructions.
 - 4. Installation.
 - 5. Final Cleaning.
 - 6. Protection.

1.2. INSTALLER QUALIFICATIONS

- A. Experienced Installers: Unless noted otherwise by a particular specification Section, installers shall have minimum of five years successful experience installing items similar to those required for Project, except for individuals in training under direct supervision of experienced installer.

1.3. EXAMINATION

- A. Acceptance of Conditions: Beginning installation of a product signifies installer has examined substrates, areas, and conditions for compliance with manufacturer requirements for tolerances and other conditions affecting performance.
- B. Field Measurements: Take field measurements as required to fit Work properly; recheck measurements prior to installing each product.
 - 1. Where portions of Work are to fit to other construction verify dimensions of other construction by field measurements before fabrication; allow for cutting and patching in order to avoid delaying Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

1.4. MANUFACTURERS' INSTRUCTIONS

- A. Manufacturer's Recommendations: When work is specified to comply with manufacturers' recommendations or instructions, distribute copies to persons involved and maintain one set in field office.
 - 1. Conform to requirements specified in Section 01 33 00, "Submittal" Procedures for submittal of recommendations or instructions to Architect; submit to Architect only where specified or where specifically requested.
- B. Perform work in accordance with details of recommendations and instructions and specified requirements.

1. Should a conflict exist between Specifications and recommendations or instructions consult with Architect.
- C. Where manufacturer's information notes special recommendations in addition to installation instructions, comply with both recommendations and instructions.
- D. Pre-Installation Meetings: Installers and suppliers are to attend pre-installation meetings scheduled by Contractor.
- E. Comply with manufacturers written recommendations and installation instructions unless more restrictive requirements are specified.
- F. Locate Work and components accurately, in correct alignment and elevation.
 1. Make vertical work plumb and horizontal work level.
 2. Install components to allow space for maintenance and ease of removal for replacement.
- G. Install products at time and under conditions to ensure best possible results; maintain conditions required for product performance until Substantial Completion.
- H. Conduct operations so no part of Work is subject to damaging operations or loading in excess of that expected during normal conditions.
- I. Securely anchor permanent construction in place, accurately located and aligned with other portions of Work.
- J. Allow for building movement including thermal expansion and contraction.
- K. Make joints of uniform width; arrange joints as indicated, for best visual effect where not otherwise indicated; fit exposed connections together to form hairline joints except where otherwise indicated.

1.5. FINAL CLEANING

- A. Cleaning During Construction: Specified in Section 01 50 00, "Temporary Facilities and Controls".
- B. Progress Cleaning: Keep installed areas clean using cleaning materials specifically recommended by manufacturers of product being cleaned; where not otherwise recommended use nontoxic materials that will not damage surfaces.
 1. Remove debris from concealed spaces before enclosing space.
 2. Supervise construction operations to assure no part of construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.
- C. Final Cleaning: Execute final cleaning at Substantial Completion.
 1. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces.
 - a. Vacuuming Equipment: Type with high efficiency particulate arrestor (HEPA) type filters; properly maintained.
 2. Clean equipment and fixtures to a sanitary condition, clean filters of

mechanical equipment, replace filters where cleaning is impractical.

- a. Clean ducts.
3. Clean site; sweep paved areas.
4. Remove waste, surplus materials and rubbish from Project and site; recycle to maximum extent feasible.

1.6. PROTECTION

- A. See Section 01 60 00, "Product Requirements" for specific requirements.
 - a. Protect products subject to deterioration with impervious cover. Provide ventilation to avoid condensation and trapping water.
 - b. Take care to use protective covering and blocking materials that do not soil, stain, or damage materials being protected.
 - c. After installation, provide coverings to protect products from damage from traffic and construction operations, remove when no longer needed.
 - d. Protect interior materials from water damage; immediately remove wet materials from site to prevent growth of mold and mildew on site.

PART 2 - PRODUCTS

- A. NOT USED

PART 3 - EXECUTION

- A. NOT USED

END OF SECTION

SECTION 01 75 00
STARTING AND ADJUSTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Starting Systems
- B. Testing, Adjusting and Balancing
- C. Demonstration and Instructions (cross-reference provide to section)

1.2 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Inspector and Architect 48 hours prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence or other conditions which may cause damage.
- D. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of responsible manufacturer's representative and/or Contractor personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, and check equipment or system installation prior to start-up and to supervise placing equipment or system operation.
- H. Submit a written report to the Architect that equipment or system has been properly installed and is functioning correctly.
- I. Provide advance notice to Architect and Inspector of Record regarding all coordination for utility and service systems hook-ups.

1.3 TESTING, ADJUSTING, AND BALANCING

- A. Contractor shall employ services of an independent firm to perform testing, adjusting and balancing. Contractor shall pay for services.
- B. The independent firm will perform services specified in Electrical and Mechanical sections.
- C. Reports will be submitted by the independent firm to the Architect indicating observations and

results of tests and indicating compliance or non-compliance with specified requirements and with the requirements of the Contract Documents.

1.4 DEMONSTRATION AND INSTRUCTIONS

- A. Coordinate with all requirements in Section 01 79 00, "Demonstration and Testing".

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

SECTION 01 77 19
CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Substantial Completion and Punchlist Procedures
- B. Final Completion Procedures
- C. Project Record Documents
- D. Operation and Maintenance Data
- E. Warrantees
- F. Spare Parts and Maintenance Materials
- G. Final Cleaning
- H. Adjusting and Training (cross references provided)

1.2 SUBSTANTIAL COMPLETION AND PUNCH LIST PROCEDURES

- A. When Contractor considers the Work or a designated portion thereof is substantially complete, notify Architect and Owner with list of items to be completed or corrected, and request Punch List Inspection.
 - 1. Punch List Format: Pre-approved by Owner and Architect - tabular form with each space listed required.
- B. Within a reasonable time Architect, Architect's Consultants, Inspector and Owner will conduct an inspection in order to determine Architect, Architect's Consultants and Owner will conduct an inspection in order to determine acceptance of work and identify items remaining to complete.
- C. The Architect will prepare a Punch List of such items and transmit to Contractor.
- D. Should Architect determine Work is not substantially complete, Contractor will be promptly notified in writing, giving reasons.
- E. Contractor shall remedy deficiencies and send a second written notice of substantial completion; Architect, Architect's Consultants, Inspector and Owner will re-inspect Work.
- F. If Architect determines that punch list items remaining are sufficiently minor, and that Owner can occupy work and use it for its intended purpose, then Architect will prepare a Notice of Substantial Completion for Owner's signature.

1. If work is not substantially complete, Contractor shall continue construction until such time as project status justifies subsequent inspection. Architect and Project Manager and Architect's Consultant costs incurred in such subsequent inspections will be paid by Contractor by Owner-Contractor contract adjustment.
2. Contractor shall complete all items on Punch List within 30 days, or as stated on Notice of Substantial Completion.

1.3 FINAL COMPLETION PROCEDURES

- A. At such time as Contractor believes project is complete and following completion of Punch List items, notify Architect and request Final Inspection
 1. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect Final inspection.
 2. Upon receipt of request for final inspection, Architect will perform a Final Inspection and recommend actions as defined by the General Conditions.
 3. If Architect determines work is acceptable under the Contract Documents, Contractor shall submit Final Application for Payment and close-out documents.
- B. Contractor shall provide all close-out documents required by Contract Documents, per Section 01 77 19, "Closeout Requirements", and as required in this Section, with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor, within ten days of the last day of the contract period.
 1. Close out documents include, but are not necessarily limited to:
 - a. Project Record Set: Indicate actual work on Drawings and in Project Manual; indicate actual products used in Project Manual, including manufacturer, model number and options.
 - a. Operational and maintenance manuals and data.
 - b. Warranties and Guarantees.
 - c. Keys and keying schedules.
 - d. Spare parts, extra stock and materials.
 - e. All jurisdictional approval documents, including Final Verified reports (DSA 6 Forms, certification of fire alarm and related documents.

1.4 FINAL PAYMENT

- A. When, in the opinion of the Architect, the project is complete (after all punch list items are complete as described in Item 1.2 Substantial Completion), the Architect will advise the Owner and the Owner will file the Notice of Completion with the County Recorder.

- B. Should there be items not available due to delays in delivery, or should work remain incomplete, the Architect and the Owner may require the Contractor to post a certified check in an agreed upon amount sufficient to cover such incomplete or uncorrected items. Such certified check shall be held until completion of all incomplete Work.
- C. The final payment, including retention, outlined in Section 01 20 00, "Price and Payment Procedures" shall be held by the Owner until forty (40) days after the date of recording of the Notice of Completion by the County Recorder. If no stop notices or encumbrances are filed and if all required forms have been filed and approved by DSA and work is complete, the retention shall be paid the contractor. Assessed liquidated damages and extra services provided by the Architect and Inspector of Record due to additional inspections of incomplete work shall be deducted from the retention.
- D. Final payment to the Contractor will not be made until all requirements have been met and all documents set forth herein have been received, including but not limited to: Record Drawings, Warranties, Operation and Maintenance Manuals, Demonstration/Training and extra stock.
- E. Final Application for Payment Coordinate with Section 01 20 00, "Price and Payment Procedures".
 - 1. After final submittals have been submitted and approved, Contractor shall submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
 - 2. Final Application for Payment shall be submitted to Inspector of Record and approved, prior to being sent to Architect for review.
 - 3. When requested by Architect, provide evidence of payment, lien releases and consent of surety to make final payment to Contractor.
 - 4. The District's Board will take an action to accept the project and authorize the filing of a Notice of Completion.

1.5 RECORD PROJECT DOCUMENTS

- A. Provide Record Drawings, Record Specifications, and Other Record Documents as described in Section 01 78 39, "Project Record Documents"

1.6 OPERATION AND MAINTENANCE DATA

- A. Provide Operation and Maintenance Data as described in Section 01 78 23, "Operations and Maintenance Data".

1.7 WARRANTIES

- A. Compile required and incidental warranties required by Contract Documents.
- B. These warranties shall be in addition to and not a limitation of other rights Owner may have against Contractor under Contract Documents and which may be prescribed by law, regardless of wording of warranty.

- C. Provide duplicate notarized copies.
- D. Assemble documents executed by subcontractors, installers, suppliers, and manufacturers.
- E. Provide table of contents and assemble in binder with durable plastic cover, clearly identified regarding extent of contents.
- F. Electronic Format: Submit warranties on electronic media in PDF format.
- G. Warranty Form: Use form acceptable to Owner; completed form shall not detract from or confuse interpretations of Contract Documents. (See Section 00 65 36)
 - 1. General Contractor shall sign warranty.
 - 2. Subcontractor and installer shall sign warranty where specified.
 - a. Provide required manufacturer's warranties for waterproofing and roofing systems countersigned by subcontractor and installer.
- H. Submit final warranties prior to final application for payment.
 - 1. For equipment put into use with Owner's permission during construction, submit within ten days after first operation.
 - 2. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.
- I. Provide information for Owner's personnel regarding proper procedure in case of failure and instances that might affect validity of warranty.
- J. Size: 8-1/2" by 11" for three-ring binder; fold larger sheets to fit 8 1/2" x 11 format.
- K. Warrantees - General Requirements:
 - 1. Warranties are intended to protect Owner against failure of work and against deficient, defective and faulty materials and workmanship, regardless of sources.
 - 2. Limitations: Warranties are not intended to cover failures that result from:
 - a. Unusual or abnormal phenomena of the elements.
 - b. Owner's misuse, maltreatment or improper maintenance of work.
 - c. Vandalism after substantial completion.
 - d. Insurrection or acts of aggression including war.
 - 3. Related Damages and Losses: Remove and replace work which is damaged as result of failure, or which must be removed and replaced to provide access for correction of warranted work.

4. Warranty Reinstatement: After correction of warranted work, reinstate warranty for corrected work to date of original warranty expiration, but not less than half original warranty period.
5. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.
6. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.
7. Rejection of Warranties: Owner reserves right to reject unsolicited and coincidental product warranties that detract from or confuse interpretations of Contract Documents.

1.8 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.
- B. Deliver to Project site and place in location as directed; obtain receipt prior to final payment.

1.9 FINAL CLEANING

- A. Contactor shall conduct all final cleaning required to comply with requirements of this Section prior to final inspection.
- B. Use cleaning materials which do not create hazards to health or property and which will not damage surfaces. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.
- C. Employ experienced workers or professional cleaners for final cleaning. Comply with instructions of manufacturer for surface being cleaned.
- D. Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner
- E. Contractor shall clean all completed interior work, including but not necessarily limited to, surfaces exposed to view in final construction, all cabinet/casework interiors and surfaces, and all equipment and fixtures.
 1. Remove temporary labels, stains and foreign substances. Where stain cannot be removed, replace item to the satisfaction of the Project Manager and Architect.
 2. Polish transparent and glossy surfaces.
 3. Wet wipe painted and prefinished surfaces. Do not leave residue or wipe marks.

4. Where HVAC system was operated during construction, clean permanent filters and replace disposable filters immediately prior to final inspection. Clean ducts, blowers and coils if units were operated without filters during construction.
 5. Perform final cleaning of all plumbing and electrical components. Polish all glossy surfaces, wet wipe all other finished exposed surfaces and elements.
- F. Clean all completed building exterior surfaces and site work, including but not necessarily limited to, surfaces exposed to view in final construction, all roof surfaces, all site paving surfaces, and all equipment and fixtures.
1. Remove temporary labels, stains and foreign substances from exterior surfaces.
 2. Polish exterior signage components and similar glossy surfaces.
 3. Remove dirt and dust from all exterior surfaces by approved means. Clean all sealant joints and similar applications.
 4. Remove debris, construction products, fasteners, and trash from all roof surfaces.
 5. Rake grounds that are neither paved nor planted to a smooth even-textured surface.
 6. Clean all paving surfaces as necessary to remove construction dust and dirt, including debris from joints using approved methods. Remove all construction stains by approved means. Remove asphalt and seal coat splatter from curb faces.
- G. Remove waste and surplus materials, rubbish, and construction facilities from the site and legally dispose of.

1.10 ADJUSTING AND TRAINING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation and provide adequate training for continued maintenance. See Section 01 75 00 "Starting and Adjusting" and Section 01 79 00, "Demonstration and Testing".

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

SECTION 01 78 23
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 01 33 00 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit on digital media acceptable to Architect. Enable reviewer comments on draft submittals.

- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect's. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.
- E. Comply with Section 01 77 19 "Closeout Requirements" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", with title of project, and subject matter of binders
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
 - 3. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, type on 24 pound white paper.
 - a. Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
 - b. Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - 1) Significant design criteria.
 - 2) List of equipment, including trade names, model or type numbers.
 - 3) Parts list for each component.
 - 4) Operating instructions.
 - 5) Maintenance instructions for equipment and systems.
 - 6) Cleaning instructions.
 - 7) Maintenance instructions for special finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.
 - c. Project documents and certificates, including the following:

- 1) Shop drawings.
 - 2) Provide product data.
 - 3) Certificates.
 - 4) Photocopies of warranties.
- d. Provide a separate volume for each of the following systems, with a table of contents and index tabs for each volume:
- 1) Electrically operated items.
 - 2) Mechanical equipment and controls.
 - 3) Electrical equipment and controls.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf, post-type binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
 2. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
 3. Provide heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 4. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. Enclose title pages and directories in clear plastic sleeves.
 5. Supplementary Prepared on 8-1/2-by-11-inch white bond paper.
 6. Drawings, If Required: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual,

insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

- C. Submit one copy of completed Volumes in final form to Architect 15 days prior to final inspection. This copy will be returned after final inspection, with Architect comments.
- D. Revise content of documents as required prior to final submittal.
- E. Submit final volumes, **ONE hard copy set each**, with corresponding electronic format set, in PDF format, revised, within 15 days after final inspection.
- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required, on a Flash Drive in each hard copy binder.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.
 - 6. Name and contact information for Architect.
 - 7. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 - 8. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
 - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to

ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
 - 1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 - 2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 - 3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 - 1. Fire.
 - 2. Flood.
 - 3. Gas leak.
 - 4. Water leak.
 - 5. Power failure.
 - 6. Water outage.
 - 7. System, subsystem, or equipment failure.
 - 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.

3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor has delegated design responsibility.
 3. Operating standards.
 4. Operating procedures.
 5. Operating logs.
 6. Wiring diagrams.
 7. Control diagrams.
 8. Piped system diagrams.
 9. Precautions against improper use.
 10. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:
 1. Product name and model number. Use designations for products indicated on Contract Documents.
 2. Manufacturer's name.
 3. Equipment identification with serial number of each component.
 4. Equipment function.
 5. Operating characteristics.
 6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.

9. Complete nomenclature and number of replacement parts.
- D. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
- E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.
- C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item

using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

- a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.
- E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training video recording, if available.
- F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 1. Include procedures to follow and required notifications for warranty claims.
- J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 1. Do not use original project record documents as part of maintenance manuals.

1.11 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- E. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 01 73 00 – Execution Requirements
 - 2. Section 01 75 00 - Starting and Adjusting
 - 3. Section 01 77 00 - Closeout Procedures
 - 4. Section 01 78 23 - Operation and Maintenance Data
 - 5. Section 01 78 39 - Project Record Documents

1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:

- a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

1.4 RECORD PROJECT DRAWINGS

- A. Record Drawings: Upon completion of the Work, submit one set of reproducible drawings made from DSA approved stamped originals from the Architect for preparation of Record Set. In addition, provide scanned copy of the final set.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file on a Flash Drive.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.

- b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect
 - e. Name of Contractor.
5. Neatly and accurately transfer data from record job set prints specified in Section 01 50 00, "Temporary Facilities & Controls".
 6. Mark Record Prints to show the actual installation where installation varies from that shown originally.
 - a. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - b. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 7. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 8. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 9. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
 10. Graphic quality shall be equal to that of the original document.
 11. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 12. Refer instances of uncertainty to Architect for resolution.
 13. Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 14. Provide PDF files on a flash drive to Architect.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.
1. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - a. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - b. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - c. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

- d. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
2. Miscellaneous Record Submittals:
 - a. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- D. Final Record Drawing Submittals:
 1. Cost of Record Set reproducibles and all preparation shall be paid by Contractor at no additional cost to Owner.
 2. Sign and date Record Job Sets and Record Sets, certifying that the information and data added is accurate and complete.
 3. Record drawings and specifications not complying with specified criteria shall be rejected.
 4. Prior to submission for final payment, review Record Drawing Set and Project Manual(s) with Architect and obtain approval of the scope of transfer. Architect will provide a list of corrections required. If corrections are required, update Record Set with all requested updates and resubmit to Architect. Following approval, submit Record Job Sets and Record Set to Architect with claim for final Application for Payment.
 5. Coordinate preparation of Record Job Sets and Record Drawing Set and Project Manual(s) with work under separate contract. Coordinate preparation of interim Job Record Sets and Record Sets to coincide with completion of work areas. At completion of project, assemble all interim sets into final composite Job Record Set, Record Set and Record Project Manual(s).
 6. Provide PDF files on a flash drive to Architect.
- A. Reports: Submit written report indicating items incorporated into Project Record Documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.
 1. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 2. Refer instances of uncertainty to Architect for resolution.
 3. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 01 31 00, "Project Management and Coordination" for requirements related to use of Architect's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
- B. Format: Submit record specifications as **annotated PDF electronic file** scanned PDF electronic file(s) of marked-up paper copy of Specifications.

1.6 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
- C. Format: Submit Record Product Data as **annotated PDF electronic file** scanned PDF electronic file(s) of marked-up paper copy of Specifications.
1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as scanned PDF electronic file(s) of marked-up paper copy of Specifications.
1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's and Owner's reference during normal working hours.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

SECTION 01 79 00
DEMONSTRATION AND TRAINING (NOT APPLICABLE ON THIS PROJECT)

PART 1 - GENERAL

1.1 SECTION INCLUDES

1. Requirements for seminars and system demonstrations.

1.2 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel within seven (7) calendar days of Substantial Completion, prior to occupancy.
- B. Demonstrate Project equipment by a qualified manufacturers' representative who is knowledgeable about the Project.
- C. For equipment or systems requiring seasonal operation, perform demonstration for other seasons within six months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- E. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance and shutdown of each item of equipment at agreed-upon times at equipment location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

1.3 DESCRIPTION

A. Seminar Agenda and Outline:

1. Prepare a seminar agenda and outline in consultation and cooperation with Architect, Architect's consultants, and Owner. Include following:
 - a. Equipment and systems which will be included in seminars.
 - b. Name of companies and representatives presenting at seminars.
 - c. Outline of each seminar's content.
 - d. Time and date allocated to each system and item of equipment.
2. Submit a preliminary seminar agenda and outline for review and comment by Owner.
3. Revise and resubmit agenda and outline until all seminar requirements have been satisfied and seminar dates and presenters have been finalized.
4. Submit a final seminar agenda and outline no later than eight weeks before date of Acceptance of Work.

B. Seminar Organization:

1. Coordinate qualification of training personnel, seminar contents, and presentations with Owner.

2. Coordinate individual presentations and ensure manufacturer's representatives scheduled to be at training seminars are present.
3. Qualified Contractor or Sub-contractor personnel familiar with design, operation, maintenance and troubleshooting of equipment and systems shall lead seminars.
4. Coordinate individual presentations and ensure manufacturer's representatives scheduled to be at training seminars are present.
5. All presentation leaders shall be familiar with design, operation, maintenance and troubleshooting of equipment and systems.
6. Where a single person is not familiar with all aspects of equipment or system; arrange for specialists familiar with each aspect.
7. Coordinate proposed seminar dates with Owner and select mutually agreeable dates.
8. Videotaping: Arrange for videotaping of training seminars and system demonstrations, including seminar and demonstration questions and answers.

C. Seminar Content:

1. Contractor or manufacturer's representative will explain design philosophy of primary systems.
2. Include following information in presentations dealing with specific systems:
 - a. An overview of how system is intended to operate.
 - b. Describe design parameters, constraints and operational requirements.
 - c. Describe system operation strategies.
 - d. Provide information to help in identifying and troubleshooting problems.
 - e. Explanation of how equipment operates.
 - f. Recommended preventative and routine maintenance.

D. System Demonstration:

1. Demonstrate operation of equipment and systems when specified in individual technical sections. Include following in demonstration.
 - a. Start-up and shut down.
 - b. Operation.
 - c. Scheduled and preventative maintenance.
 - d. Troubleshooting.
2. Demonstration may be conducted at time of original starting with Owner's prior approval.
3. Use manufacturer's operation and maintenance data as basis of instruction.

E. Seminar and Demonstration Questions:

1. Be prepared to answer questions raised by attendees at demonstrations and seminars.
2. If unable to satisfactorily answer questions immediately, provide written response within three days.
3. Be prepared to answer questions raised by Owner's personnel at demonstrations and seminars.

1.4 SUBMITTALS **DISTRICT TO VERIFY IF THEY WANT VIDEO RECORDS ON ANY PROJECTS**

- A. Provide closeout submittals per Section 01 77 19, “Closeout Requirements”, Section 01 78 23, “Operation and Maintenance Data” and Section 01 78 39, “Project Record Documents”
 - a. Video-records: Submit two copies; include label on each video disc and on each container identifying Project and Seminar content.

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION