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SECTION 01 10 00 – SUMMARY OF WORK

PART 1 GENERAL

1.1 PROJECT

- A. Abbreviated Written Summary: Briefly and without force and effect upon the Contract Documents, the Work of the Contract can be summarized as follows:
1. The Project consists of the construction of the Hamilton City Community Hall and Chester Walker Memorial Library – ADA Upgrade, herein referred to as Project. The Project is located at 330 Broadway, Hamilton City, California and the Work of the Contract can be summarized as follows: The Project consists of the following:
 - Chester Walker Memorial Library: Construct new accessible parking space with concrete walkway to access the existing front entrance / interior tenant alteration to replace two existing non-accessible restrooms to one accessible restroom / install a new egress door
 - Hamilton City Community Hall: Construct new accessible parking spaces with ramps to access the existing front and rear entrances / interior tenant alteration to locate a new warming kitchen / update three existing restrooms to be accessible (the third restroom is an add alternate) / install a wheelchair lift to provide accessibility to the existing stage
 2. The Project is located in Hamilton City, California, as shown on Documents prepared by Calpo Hom & Dong Architects.

1.2 COUNTY OCCUPANCY

- A. County intends to occupy the Project by Ninety (90) Calendar Days from the Notice to Proceed the date stated in as the date of substantial completion.
- B. The Contractor shall schedule the Work to accommodate County occupancy.

1.3 CONTRACTOR USE OF SITE

- A. Construction Operations: Limited to boundary of Work and private property (if private property the Contractor shall obtain written permission from the private property owner to use such site and provide the County with a copy of the agreement with the private property owner), exclusive of designated wetland area.
- B. Provide access to and from site as required by law and by County:
1. Emergency Building Exits During Construction: Keep all exits required by the 2016 California Building Code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 2. Do not obstruct roadways, sidewalks, or other public ways without permit from County.
- C. Time Restrictions:
1. Limit conduct of construction noise, malodorous, and dusty exterior Work to the hours of 7:00 a.m. to 7:00 p.m. daily, unless otherwise authorized by Engineer.
 2. Limit conduct of loading and unloading activities to the hours of 7:00 a.m. to 10:00 p.m., Monday through Friday, unless otherwise authorized by Engineer.

3. See County of Glenn Municipal Code, Noise Control for additional restrictions that shall be followed.
- D. Utility Outages and Shutdown:
 1. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 14 calendar day notice and approval by County and authorities having jurisdiction.
 2. Prevent accidental disruption of utility services to other facilities.
- E. Nonsmoking Building: Smoking is not permitted on the Project's site.
- F. Controlled Substances: Use of tobacco products and other controlled substances on the Project's site is not permitted.

1.4 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Technical Specifications. One or more of the following are
 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Specification.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

- A. Submission procedures.
- B. Documentation of changes to Contract Price and Contract Time.

1.3 RELATED SECTIONS

- A. Division 0 Sections
- B. Section 01 25 13 - Product Substitution Procedures.
- C. Section 01 33 00 – Submittal Procedures: Work schedule affected by Alternates.

1.4 DESCRIPTION

- A. The items of work indicated below propose modifications to, substitutions for, additions to and/or deletions from the various parts of the Work specified in other Sections of the Specifications. The acceptance or rejection of any of the alternates is strictly at the option of the County subject to County's acceptance of Contractor's stated prices contained in this Proposal.

1.5 REQUIREMENTS

- A. Submit Alternates with full description of the proposed Alternate and the effect on adjacent or related components.
- B. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at County's option. Accepted Alternates will be identified in the County-Contractor Agreement.
- C. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.
- D. Where an item is omitted, or scope of Work is decreased, all Work pertaining to the item whether specifically stated or not, shall be omitted and where an item is added

ALTERNATES

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or modified or where scope of Work is increased, all Work pertaining to that required to render same ready for use on the Project in accordance with the intention of the Drawings and Specifications shall be included in an agreed upon price amount.

1.6 SELECTION AND AWARD OF ALTERNATES

- A. Indicate variation of Bid Price for Alternates described below and list in Bid Form Document or any supplement to it, which requests a 'difference' in Bid Price by adding to or deducting from the base bid price.
- B. Bid will be evaluated on base bid price. After determination of preferred bidder, consideration will be given to Alternates and Bid Price adjustments.

1.7 SCHEDULE OF ALTERNATES

- A. Additive Alternates:

PART 2 - 1. ADDITIVE ALTERNATE 1: PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION 01 23 00

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SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.

1.3 RELATED SECTIONS

- A. Section 01 60 00 - Product Requirements, for submittal procedures and Contract document revisions initiated by Contractor.

1.4 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Convenience: Changes proposed by Contractor or County that are not required in order to meet other Project requirements but may offer advantage to Contractor or County.
 - a. Substitutions for Convenience shall include any comparable ("or equivalent") product, including proposed changes to named products, proposed changes to listed manufacturers and proposed changes to basis-of-design products, unless a Substitution for Cause regarding the comparable products are proposed in which case the Contractor shall provide information of the cause.
 - 2. 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.

1.5 SUBMITTALS

- A. Substitution Requests: Submit complete request by PDF or three hard copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Appropriate form as approved by Engineer.
 - 2. Documentation: Submit the information indicated below to provide the Engineer with the minimum information necessary to fairly review and evaluate the proposed substitutions, proposed comparable products and proposed changes to specified products. Show compliance with requirements and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information which shall be necessary to accommodate proposed substitution, including a list of changes or modifications needed to other parts of the Work and to construction performed by County and separate Contractors.

SUBSTITUTION PROCEDURES

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- c. Detailed side by side comparison of significant qualities of proposed substitution 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.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples and mock-ups, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project's names and addresses and names and addresses of Architects and Owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with California Building Code in effect for Project, from ICC-ES or other recognized code organizations acceptable to authorities having jurisdiction.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution 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.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. 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.
 - m. 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.
3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Engineer will notify Contractor of acceptance or rejection of proposed substitution within fourteen calendar days of receipt of request, or within fourteen calendar days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order or Construction Change Directive. Engineer's Supplemental Instructions may be used for minor changes in the Work.
 - b. Use product specified if Engineer does not issue a decision on use of a proposed substitution within time allocated.

1.6 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

1.7 PROCEDURES

- A. Coordination: Modify or adjust affected Work as necessary to integrate Work of the approved substitutions.

PART 2 – PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Convenience: Per General Conditions, Section C - Control of Work; and the following:
 - 1. Conditions: If the following conditions are not satisfied, Engineer will return requests as Rejected, noting noncompliance with these requirements:
 - a. Requested substitution offers County a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities County must assume. County's additional responsibilities may include compensation to others for redesign and evaluation services, increased cost of other construction by County, 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. Requested substitution provides sustainable design characteristics that specified product provided.
 - e. Substitution request is fully documented and properly submitted.
 - f. Requested substitution shall not adversely affect Contractor's construction schedule.
 - g. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - h. Requested substitution is compatible with other portions of the Work.
 - i. Requested substitution has been coordinated with other portions of the Work.
 - j. Requested substitution provides specified warranty.
 - k. 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.
- B. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 14 days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:
 - a. Describe the non-convenience cause that is triggering the request for the change.
 - b. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - c. Requested substitution provides sustainable design characteristics that specified product provided.

- 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.

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

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 handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Division 01 25 00 Section "Substitution Procedures" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Engineer may issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on the following form:
 - 1. AIA Document G710, "Supplemental Instructions" or similar form acceptable to the Engineer.

1.4 PROPOSAL REQUESTS

- A. County-Initiated Proposal Requests: Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Engineer are not instructions either to stop Work in progress or to execute the proposed change.
 - 2. Within the time specified in Proposal Request or twenty calendar days, when not otherwise specified, after receipt of Proposal Request, submit a quote estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use form acceptable to Engineer.

- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate such modification by submitting a request for a change to Engineer.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 01 25 00 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 7. Proposal Request Form: Use form acceptable to Engineer.

1.5 CHANGE ORDER PROCEDURES

- A. On County's approval of a Proposal Request, Engineer will issue a Change Order for signatures of County and Contractor on AIA Document G701, or similar form.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Engineer may issue a Construction Change Directive on AIA Document G714 or similar form. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the Work. It also designates the method to be followed to determine change(s) in the Contract Sum or the Contract Time.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specifications Sections, apply to this Section.
- B. Department of Housing and Community Development – CDBG Program Labor Compliance and Contract Language, Exhibit “A.”

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Division 01 26 00 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Division 01 32 00 Section "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.
 - 3. Division 01 30 00 Section "Submittal Procedures" for administrative requirements governing the preparation and submittal of the submittal schedule
- C. Payment will not be made if an Active DUNS is not provided to the County Labor Compliance Officer.
- D. Payment will not be made if required documents and forms have not been submitted to the Labor Compliance Officer for the Contractor and all Sub-Contractors that have performed work on the project site including but not limited to documents outlined in Exhibit A and the Labor Compliance Report issued by the officer.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Correlate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Engineer at earliest possible date but no later than ten days before the date scheduled for submittal of initial Application for Payment.
 - 3. Sub-schedules for Separate Design Contracts: Where the County has retained design professionals under separate Contracts who will each provide certification of payment

PAYMENT PROCEDURES

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- requests, provide sub-schedules showing values coordinated with the scope of each design services Contract as described in Division 01 Section 01 10 00 "Summary."
- B. Format and Content: Use the Specification's table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section. Provide additional detail as required or requested.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Engineer.
 - c. County's Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange schedule of values consistent with format of AIA Document G703.
 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Item number.
 - b. Description of the Work.
 - c. Dollar value.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Specification's table of contents. Provide at least two line items for principal subcontract amounts in excess of five percent of Contract Sum, as follows:
 - a. Labor
 - b. Equipment and material.
 5. Include separate line items under Division 01 heading for prime Contract and principal subcontracts for Project's closeout requirements in an amount of at least five percent of the Contract Sum and Sub-contract amounts.
 6. Round all amounts to nearest whole dollar; total shall equal the Contract Sum.
 7. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
 8. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 9. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 10. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase Contract. Show line-item value of purchase Contract. Indicate County payments or deposits, if any, and balance to be paid by Contractor.

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11. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual Work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
12. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by County.
 1. Initial Application for Payment, Application for Payment at time of Project Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between County and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Progress payments shall be submitted to Engineer by the twenty-fifth day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 1. Submit draft copy of Application for Payment five days prior to due date for review by Engineer.
- D. Application for Payment Forms: Use forms acceptable to Engineer and County for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for Work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for Work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 4. Indicate separate amounts for Work being carried out under County-requested Project acceleration.
- F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 1. Provide certificate of insurance, evidence of transfer of title to County, and consent of surety to payment, for stored materials.

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2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- G. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt within 24 hours. County's copy shall include waivers of lien and similar attachments.
 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. County reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Submit waivers of lien on forms complying with California law, executed in a manner acceptable to County.
- I. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from Subcontractors, Sub-subcontractors, and suppliers for construction period covered by the previous application.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. County reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who could be lawfully entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to County.
- J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 1. List of Subcontractors.
 2. Schedule of values.

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3. Contractor's construction schedule (preliminary if not final).
 4. Submittal schedule (preliminary if not final).
 5. List of Contractor's principal consultants.
 6. Copies of building permits.
 7. Initial progress report.
 8. Report of preconstruction conference.
 9. Documents and forms outlined in the Department of Housing and Community Development – CDBG Program Labor Compliance & Contract Language Exhibit A for the General and all identified Sub Contractors.
- K. Application for Payment at Project's Completion: Submit an Application for Payment showing 100 percent completion for portion of the Work claimed as complete.
1. Include documentation supporting claim that the Work is complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect any Certificates of Partial Project Completion issued previously for County occupancy of designated portions of the Work.
 3. Submit all outstanding Labor Compliance documents and forms.
- L. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. Final, unconditional lien releases (in exchange for final payment).
 5. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 6. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
 7. AIA Document G707, "Consent of Surety to Final Payment."
 8. Evidence that claims have been settled.
 9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Project Completion or when County took possession of and assumed responsibility for corresponding elements of the Work.
 10. Final liquidated damages settlement statement.
 11. Final Labor Compliance documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 30 00 - SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Administrative and procedural requirements for submittals required for the Work, including but not limited to; Shop Drawings, Product Data, Samples, material lists, quality control items, and Labor Compliance items as required by the Contract Documents.
- B. Wherever possible, throughout the Contract Documents, the minimum acceptable quality of Workmanship and products has been defined by the name and catalog number of a manufacturer and by reference of recognized industry standards.
- C. To ensure that specified products are furnished and installed in accordance with the design intent, and procedures have been established for submittal of design data and for its review by Engineer and/or others.

1.2 RELATED SECTIONS

- A. Division 00 - General Conditions.
- B. Section 01 31 00: Project Management and Coordination.
- C. Section 01 40 00: Quality Requirements
- D. Section 01 50 00: Temporary Facilities and Controls.
- E. Section 01 60 00: Product Requirements
- F. Division 02 through Division 50.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.1 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

- A. All documents transmitted for purposes of administration of the Contract are to be in electronic (PDF) format and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email. The Contractor shall provide this service at no additional cost to the other users. Labor Compliance documents must be submitted as original hard copies signed with blue ink. Electronic documents will not be accepted.
- B. Besides submittals for review, information, and closeout, this procedure applies to requests for information (RFIs), progress documentation, Contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, and any other document any participant wishes to make part of the Project record.
- C. Contractor and Engineer are required to use this service.
- D. It is Contractor's responsibility to submit documents in PDF format.
- E. Subcontractors, suppliers, and Engineer's consultants will be permitted to use the service at no extra charge.

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- F. Users of the service need an email address, Internet access, and PDF review software that includes ability to mark up and apply electronic stamps such as Bluebeam PDF Revu, www.bluebeam.com, or approved equal, unless such software capability is provided by the service provider.
- G. Paper document transmittals will not be reviewed (except Deferred Approvals and Close-Out Maintenance & Operations Manuals); emailed PDF documents will not be reviewed.
- H. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.
- I. Training: The Contractor shall provide a single four-hour web-based training session for all participants, with representatives of Engineer and Contractor participating; further training is the responsibility of the user of the service.
- J. Project Closeout: Engineer will determine when to terminate the service for the Project.

3.2 GENERAL REQUIREMENT AND PROCEDURES

- A. Contractor shall package each submittal appropriately for transmittal and handling and will then send Engineer, and County representative submittal for review per the Project plans and specifications. Submittals will not be accepted from sources other than from Contractor.
- B. Contractor shall clearly identify any deviations from the Contract Documents on each submittal. Any deviation not so noted, even if stamped reviewed, is not acceptable.
- C. After Engineer review, Engineer shall transmit submittals to Contractor. Contractor shall further distribute to Subcontractor's and others as required. Work shall not commence, unless otherwise approved by Engineer until approved submittals are transmitted to Contractor.
- D. Contractor's Review and Approval: Every submittal upon which proper execution of the Work is dependent shall bear the Contractor's review and approval stamp, dated and signed by Contractor certifying that Contractor (a) has reviewed, checked, and approved the submittal and has coordinated the submittal contents with requirements of Work and Contract Documents including related Work, (b) Contractor coordinated with all other shop drawings received to date and this duty of coordination has not been delegated to Subcontractors, material suppliers, the Engineer, or the Engineers on this Project, (c) determined and verified quantities, field measurements, construction criteria, materials, equipment, catalog numbers and identifications, and similar data, or will do so, and (d) states the Work illustrated or described in the submittal is recommended by Contractor and the Contractor's warranty will fully apply thereto.
- E. Contractor shall coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities requiring sequential activity.
- F. Timing of Submittals:
 - 1. In accordance with General Conditions, Contractor shall submit to the Engineer, those Shop Drawings, Product Data, diagrams, materials lists, Samples and other submittals required by the Contract Documents.
 - 2. The Contractor shall submit within ten (10) calendar days of the Notice to Proceed, an itemized listing of required submittals with a scheduled date for each submittal. The schedule of submittals shall provide adequate time between submittals in order to allow for proper review without negative impact to the Construction Schedule.

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3. Schedule of submittals shall be related to Work progress, and shall be so organized as to allow sufficient time for transmitting, reviewing, corrections, resubmission, and re-reviewing.
 4. Contractor shall coordinate submittal of related items and Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received by Engineer.
 5. Contractor shall revise, update and submit submittal schedule to Engineer on the first of each month, or as required by the County.
 6. Contractor shall allow in the Construction Schedule, at least fourteen (14) calendar days for Engineer review following Engineer receipt of submittal. For mechanical, plumbing, electrical, structural, and other submittals requiring joint review with Engineer's Consultants, and/or others, Contractor shall allow a minimum of eighteen (18) calendar days following Engineer receipt of submittal. Submittals will be reviewed with reasonable promptness, but Engineer reserves the right of additional time where required based on, but not limited to, submittal size, and complexity.
 7. No adjustments to the Contract Time and/or Milestones shall be authorized because of a failure to transmit submittals to Engineer sufficiently in advance of the Work to permit review and processing.
 8. In case of product substitution, Shop Drawing preparation shall not commence until such time Engineer reviews said submittal relative to the General Conditions.
- G. Resubmit submittals in a timely manner. Resubmit as specified for initial submittal but identify as such. Review times for re-submitted items shall be as per the time frames for initial submittal review.
- H. Engineer, or authorized agent, will stamp each submittal with a uniform, action stamp marking the stamp appropriately to indicate the action taken, as follows:
1. Final Unrestricted Release: When Engineer, or authorized agent, marks a submittal "Reviewed" the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
 2. Final-But-Restricted Release: When Engineer, or authorized agent, marks a submittal "Make Corrections Noted" (Reviewed as Noted) the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
 3. Returned for Re-submittal: When Engineer, or authorized agent, marks a submittal "Revise and Resubmit, Submit Specified Item, Rejected" do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat as necessary to obtain different action mark. In case of multiple submittals covering same items of Work, Contractor is responsible for any time delays, schedule disruptions, out of sequence Work, or additional costs due to multiple submissions of the same submittal item. Do not use, or allow others to use, submittals marked "Rejected, Revise and Resubmit" at the Project's site or elsewhere where Work is in progress.

SUBMITTAL PROCEDURES

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4. Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Engineer, or authorized agent, will return the submittal marked “Action Not Required”.
5. Not Required Submittal: Where a submittal is submitted for review but is not required to be submitted, the Engineer, or authorized agent, will return the submittal identified with legend “No Action Taken”.
- I. Review and Approval of Submittals by the Engineer: Submittals will be reviewed but only for conformance with the design concept of the Project and with the information indicated on the Drawings and stated in the Specifications. Approval of a separate item as such will not indicate approval of the assembly in which the item functions. Approval of submittals shall not relieve the Contractor of responsibility for any deviations from requirements of the Contract Documents or any revisions in resubmittals unless Contractor has given written notice of such deviation or revision at the time of submission or resubmission and written approval has been given to the specific deviation or revision, nor shall approval relieve the Contractor of responsibility for error or omissions in the submittals or for the accuracy of dimensions and quantities, the adequacy of connections, and the proper and acceptable fitting, execution, functioning, and completion to the Work.
- J. All costs for the preparation, correction, delivery, and return of the submittals shall be borne by the Contractor.

3.3 SHOP DRAWINGS

- A. Shop Drawings are original drawings in electronic format (except Deferred Approvals to be hard copies) prepared by Contractor, Subcontractor, supplier, or distributor illustrating some portion of Work by showing fabrication, layout, setting, or erection details. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Copies of the Contract Drawing marked to show Shop Drawing information are not acceptable and will not be reviewed and shall be promptly returned to the Contractor.
- B. Produce Deferred Approval Shop Drawings to an accurate scale that is large enough to indicate all pertinent features and methods. Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 24 x 36 inches.
- C. Shop Drawings shall include, at a minimum, fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings. Include the following information:
 1. Dimensions
 2. Identification of products and materials included by sheet and detail number.
 3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
- D. Provide two (2) spaces, approximately 4 by 5 inches, on the label or beside the title block on Shop Drawings to record Contractor and Engineer review, and the action taken. Include the following information on the label for processing and recording action taken:
 1. Project name.
 2. Project number.

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3. Date.
4. Name and address of Engineer.
5. Name and address of Contractor.
6. Name and address of Subcontractor.
7. Name and address of supplier.
8. Name and address of manufacturer.
9. Name and title of appropriate Specification section.
10. Drawing number and detail references, as appropriate.

3.4 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of Work or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, wiring diagrams, schedules, illustrations, or performance curves.
 1. Mark each copy to show or delineate pertinent materials, products, models, applicable choices, or options. Where Product Data includes information on several products that are not required, clearly mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
 - g. Notation of dimensions and required clearances.
 - h. Indicate performance characteristics and capacities.
 - i. Indicate wiring diagrams and controls.
 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

3.5 SAMPLES

- A. Submit Samples of sufficient size, quantity, cured and finished and physically identical to the proposed product or material. Samples include partial or full sections or range of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches denoting color, texture, and/or pattern.
 1. Mount or display Samples in the manner to facilitate review of qualities indicated. Include the following:
 - a. Specification section number and reference.
 - b. Generic description of the Sample.
 - c. Sampling source.
 - d. Product name or name of manufacturer.
 - e. Compliance with recognized standards.
 - f. Availability and delivery time.
 2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of

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these characteristics between the final submittal and the actual component as delivered and installed.

- a. Where variations in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least three (3) multiple units that show the approximate limits of the variations.
 - b. Refer to other Specification sections for requirements for Samples that illustrate Workmanship, fabrication techniques, assembly details, connections, operation, and similar construction characteristics.
 - c. Refer to other sections for Samples to be returned to Contractor for incorporation into the Work. Such Samples must be undamaged at time of installation. On the transmittal indicate special requests regarding disposition of Sample submittals.
 - d. Samples not incorporated into the Work, or otherwise not designated as County property, remain the property of Contractor and shall be removed from the Project's site prior to Beneficial Occupancy.
3. Color and Pattern: Whenever a choice of color or pattern is available in a specified product, submit accurate color chips and pattern charts to Engineer for review and selection by Engineer and County.
 4. Required Copies and Distribution: Same as denoted in Section 3.02.
- A. When specified, erect field Samples and mock-ups at the Project site to illustrate products, materials, or Workmanship and to establish standards by which completed Work shall be judged.
 - B. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of the Work. Sample sets may be used to obtain final acceptance of the Work associated with each set.

3.6 QUALITY CONTROL SUBMITTALS

- A. Submit quality control submittals, including design data, certifications, manufacturer's field reports, and other quality control submittals as required under other sections of the Contract Documents.
- B. When other sections of the Contract Documents require manufacturer's certification of a product, material, and/or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
- C. Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the represented company.
- D. Requirements for submittal of inspection and test reports are specified in other sections of the Contract Documents.

3.7 CERTIFICATES

- A. Submit all certificates in triplicate to Engineer, in accordance with requirements of each Specification Section.

END OF SECTION

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

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 provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General Project coordination procedures.
 - 2. Coordination drawings.
 - 3. Requests for Interpretation (RFIs).
 - 4. Project meetings.
- B. Related Requirements:
 - 1. All the Division 01 sections, but especially the following:
 - 2. Division 01 30 00 Submittal Procedures.
 - 3. Division 01 32 00 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 4. Division 01 70 00 Section "Execution" for procedures for coordinating general installation and field-Engineering services, including establishment of benchmarks and control points.
 - 5. Division 01 78 00 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request For Interpretation (RFI) from Engineer or Contractor, seeking information from each other during construction.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing Subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by Subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by Subcontract.
 - 4. Key Personnel Names: Within 15 calendar days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for County and separate Contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Pre-installation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as County's property.

1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
 - 1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Prepare coordination drawings to comply with accepted industry drafting standards. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

- a. Applicable Drawings may be used as a basis for preparation of coordination drawings, provide title blocks, stamps and certifications are removed. Prepare additional sections, elevations, and details as needed to describe relationship of various systems and components.
 - 1) Provide review stamp, with signature and date, of each trade proposed to Work within the opening or penetration.
 - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple Contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
 - 1) Provide review stamp, with signature and date, of each Contractor and trade proposed to Work within the opening or penetration.
 - c. Indicate functional and spatial relationships of components of Engineering, structural, civil, mechanical, and electrical systems.
 - 1) Grid lines and levels, and references to appropriate Contract drawings.
 - 2) Location and dimensions of openings and penetrations.
 - d. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Engineer indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
 - e. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - f. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - g. Indicate required installation sequences.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show Engineering and structural elements, and mechanical, plumbing, fire protection, fire alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
 2. Review: Engineer will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility. If the Engineer determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Engineer will so inform the Contractor, who shall make changes as directed and resubmit.
 3. Coordination Drawing Prints: Prepare coordination drawing prints in accordance with requirements of Division 01 Section "Submittal Procedures."
- C. Coordination Digital Data Files: At Contractor's option, prepare coordination digital data files in accordance with the requirements of Division 01 Section "Submittal Procedures."
1. File Preparation Format: DWG, Version, operating in Microsoft Windows operating system.

1.7 REQUESTS FOR INTERPRETATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Engineer will return RFIs submitted to Engineer by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's Work or Work of Subcontractors.
 3. Submit one item for each RFI number.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Engineer and Engineer.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
 - b. Photographs shall not be accepted as a substitute for Engineering sketches. Photographs may be submitted as supplements to properly prepared sketches and coordination drawings.
- C. RFI Forms: Software-generated form acceptable to Engineer.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Engineer's and Engineer's Action: Engineer and Engineer will review each RFI, determine action required, and respond. Allow ten (10) calendar days for Engineer's response for each RFI. RFIs received by Engineer or Engineer after 1:00 p.m. will be considered as received the following Working day.
1. The types of RFIs listed below will be returned without action. The RFI process is not the proper mechanism to address such topics. Submit requests under appropriate procedures outlined in Contract Document.
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Engineer's actions on submittals.

- g. Incomplete RFIs or inaccurately prepared RFIs.
2. Engineer's action may include a request for additional information, in which case Engineer's time for response will date from time of receipt of additional information.
3. Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 26 00 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer in writing within eight calendar days of receipt of the RFI response.
4. Name and address of Engineer.
5. Date Engineer's and Engineer's response was received.
- E. On receipt of Engineer's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer within eight calendar days if Contractor disagrees with response.
 1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.
- F. Upon completion of Project, submit three complete archive copies of Project's Web site files to Engineer in a digital storage format acceptable to the Engineer.
- G. Contractor, Subcontractors, and other parties granted access by the Contractor to Project's website shall execute a data licensing agreement in the form of an Agreement acceptable to the Engineer.

1.8 PROJECT MEETINGS

- A. General: Engineer will schedule and conduct basic meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Entity responsible for conducting meeting shall inform participants and others involved, and individuals whose presence is required, of date and time of each meeting.
 2. Agenda: Entity responsible for conducting meeting shall prepare and distribute the meeting agenda.
 3. Minutes: Entity responsible for conducting meeting shall record significant discussions and agreements achieved, and distribute the meeting minutes to everyone concerned, within seven calendar days of the meeting.
- B. Preconstruction Conference: Engineer shall schedule and conduct a preconstruction conference before starting construction, at a time convenient to Engineer, but no later than fifteen calendar days after execution of the Agreement.
 1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Engineer and Engineer's consultants; Contractor and its superintendent; major Subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedules, including overall and rolling schedules

- b. Phasing.
 - c. Critical Work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Sustainable design requirements.
 - m. Preparation of record documents.
 - n. Use of the premises.
 - o. Work restrictions.
 - p. Working hours.
 - q. County's occupancy requirements.
 - r. Responsibility for temporary facilities and controls.
 - s. Procedures for moisture and mold control.
 - t. Procedures for disruptions and shutdowns.
 - u. Construction waste management and recycling.
 - v. Parking availability.
 - w. Office, Work, and storage areas.
 - x. Equipment deliveries and priorities.
 - y. First aid.
 - z. Security.
 - aa. Progress cleaning.
 - bb. Labor law, including payment and reporting requirements.
4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Pre-installation Conferences: Contractor shall conduct a pre-installation conference at Project site before each construction activity that requires coordination with other contractors.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting.
 - a. Advise the following of scheduled meeting dates:
 - 1) Engineer
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.

- h. Sustainable design requirements.
 - i. Review of mockups.
 - j. Possible conflicts.
 - k. Compatibility problems.
 - l. Time schedules.
 - m. Weather limitations.
 - n. Manufacturer's written recommendations.
 - o. Warranty requirements.
 - p. Compatibility of materials.
 - q. Acceptability of substrates.
 - r. Temporary facilities and controls.
 - s. Space and access limitations.
 - t. Regulations of authorities having jurisdiction.
 - u. Testing and inspecting requirements.
 - v. Installation procedures.
 - w. Coordination with other Work.
 - x. Required performance results.
 - y. Protection of adjacent Work.
 - z. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: The Project closeout conference shall review requirements and responsibilities related to Project closeout.
1. If not conducted as part of a normally scheduled job progress meeting, Engineer shall schedule and conduct a Project closeout conference, at a time convenient to Engineer and Contractor, but no later than thirty calendar days prior to the scheduled date of Project Completion.
 2. Attendees: Authorized representatives of Engineer, Contractor and its superintendent; major Subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of record documents.
 - b. Procedures required prior to inspection for Project Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for completing sustainable design documentation.
 - e. Requirements for preparing operations and maintenance data.
 - f. Requirements for delivery of material samples, attic stock, and spare parts.

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- g. Requirements for demonstration and training.
 - h. Preparation of Contractor's punch list.
 - i. Procedures for processing Applications for Payment at Project Completion and for final payment.
 - j. Submittal procedures.
 - k. Coordination of separate Contracts.
 - l. Requirements for completing sustainable design documentation.
 - m. County's partial occupancy requirements.
 - n. Installation of County's furniture, fixtures, and equipment.
 - o. Responsibility for removing temporary facilities and controls.
4. Minutes: Entity conducting meeting shall record and distribute meeting minutes.
- E. Progress Meetings: Engineer shall conduct progress meetings at weekly intervals.
- 1. Coordinate preparation of payment requests with dates of meetings.
 - 2. Attendees: In addition to representatives of Engineer, each Contractor, Subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule shall be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities shall be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Resolution of BIM component conflicts.
 - 4) Status of submittals.
 - 5) Status of sustainable design documentation.
 - 6) Deliveries.
 - 7) Off-site fabrication.
 - 8) Access.
 - 9) Site utilization.
 - 10) Temporary facilities and controls.
 - 11) Progress cleaning.
 - 12) Quality and Work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) Status of RFIs.
 - 16) Status of proposal requests.

- 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Contractor shall revise construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Contractor shall provide revised schedule to reporting entity so that it may be issued concurrently with the report of each meeting.
- F. Coordination Meetings: Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.
1. Engineer shall conduct Project coordination meetings at weekly intervals. Revise first subparagraph below if Project requires coordination meetings on a monthly or weekly basis.
 2. Attendees: In addition to representatives of Engineer, each Contractor, Subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each Contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule shall be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities shall be completed within the Contract Time.
 - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each Contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Resolution of BIM component conflicts.
 - 4) Status of submittals.
 - 5) Deliveries.
 - 6) Off-site fabrication.
 - 7) Access.
 - 8) Site utilization.
 - 9) Temporary facilities and controls.
 - 10) Work hours.
 - 11) Hazards and risks.

- 12) Progress cleaning.
- 13) Quality and Work standards.
- 14) Change Orders.
4. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

REQUEST FOR INTERPRETATION

Project Name:			
		RFI No.	
To:	Contractor:		
Subject:			
Specified Section	Paragraph No.	Drawing No.	Detail No.
Category:			
<input type="checkbox"/> Need for Clarification <input type="checkbox"/> Unforeseen Condition <input type="checkbox"/> Conflict Within Documents		<input type="checkbox"/> Coordination Problem <input type="checkbox"/> Other	
Description:			
Contractor's Proposed Resolution:			
<input type="checkbox"/> Attachments: <input type="checkbox"/> Cost Impact: \$ (Estimated) <input type="checkbox"/> Time Impact:			
Contractor Signature			Date:
Engineer's Response:			
<input type="checkbox"/> Attachments:			
Engineer Signature:			Date:

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SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

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 documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's construction schedule.
 - a. Upcoming Work Summaries (Short Interval Schedules).
 - 2. Construction schedule updating reports.
 - 3. Special reports.
- B. Related Requirements:
 - 1. Division 01 40 00 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

- A. Activity: A discrete part of a Project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the schedule.
 - 3. Successor Activity: An activity that follows another activity in the schedule.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction Project where activities are arranged based on activity relationships. Relational calculations determine when activities can be performed and the critical path of the Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either County or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the start of the successor activity.
- F. Project Completion: See General Conditions G-6.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following formats, of size required to display entire schedule for entire construction period:
 - 1. Digital copy in PDF Format or another format agreed to by both parties.
- B. Start-up construction schedule.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
 - 3. Total Float Report: List of all activities sorted in ascending order of total float.
 - 4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.
- E. Material Location Reports: Submit at monthly intervals.
- F. Field Condition Reports: Submit at time of discovery of differing conditions.
- G. Qualification Data: For scheduling consultant.

1.5 QUALITY ASSURANCE

- A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 31 00 Section "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:
 - 1. Discuss constraints, including Work stages.

1.6 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate Contractors.
- B. Coordinate Contractor's construction schedule with the schedule of values, list of Subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.
- C. Contract Time generally refers to calendar days. Coordinate working days, nonworking days and holidays as required to correlate with Contract Time.

PART 2 – PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for commencement of the Work to date of Substantial Completion.
- B. Activities: Treat each building, story or separate area as a separate numbered activity group for each principal element of the Work, as applicable. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than twenty calendar days, unless specifically allowed by Engineer.
 2. Procurement Activities: Include procurement process activities for all long lead items, and other major items requiring a cycle of more than 60 calendar days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 30 00 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 4. Startup and Testing Time: Include not less than fourteen calendar days for startup and testing.
 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Engineer's administrative procedures necessary for certification of Substantial Completion
 6. Punch List and Final Completion: Include not more than thirty calendar days for punch list and final completion.
- C. Constraints: Include constraints and Work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Uninterruptible services.
 - c. Use of premises restrictions.
 - d. Environmental control.
 - e. Reference Section 01 10 00 Summary of Work for other Work Restrictions.
- D. Upcoming Work Summaries (Short Interval Schedules): Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update, but not less than two week's activities. Submit an updated upcoming Work schedule at each job progress meeting. Summarize the following issues:
1. Unresolved issues.
- E. Weather:
1. Normal inclement weather conditions, also referred to as anticipated weather days, will be considered and included in the planning and scheduling of all Work influenced by high or low ambient temperatures, wind, and / or precipitation to ensure completion of all Work within the Contract Time.

2. All weather-sensitive activities must be assigned a Calendar that incorporates anticipated weather days as non-work days, in accordance with the Rain Days per month provided in the General Conditions (section D-4).
3. No time extensions will be allowed due to precipitation unless Rain Day(s) which occurs during a month exceed the average number of Rain Days provided as outline in General Conditions.
4. No time extensions will be allowed due to inclement weather unless it impacts the Contract Time as demonstrated by a Time Impact Analysis. A Time Impact Analysis is the procedure by which the Contractor demonstrates the effect of specific time impacts on the overall project schedule. Include in each Time Impact Analysis, the following documents or information:
5. Provide a detailed narrative description of each alleged impact event. The alleged impact to each and every specifically affected activity in the affected Schedule will be described in detail, including how each activity referenced in the Time Impact Analysis reflects the alleged impact. This narrative shall describe:
 - i. The weather event which caused of the impact;
 - ii. The start date of the impact;
 - iii. The duration of the impact;
 - iv. The activities affected; and
 - v. Methods the Contractor can employ, at no or minimal cost to the County, to re-sequence or reschedule the work to mitigate the delay.
6. Work must be planned to minimize the impact of rain and include the grading of the Work area, installation of dewatering pumps and provision of covers.
7. Keep drainage and dewatering systems operable 24 hours per day and 7 days each week throughout construction.

2.2 START-UP CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within 14 calendar days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first Workday of each week with a continuous vertical line. Outline significant construction activities for first 90 calendar days of construction. Include skeleton diagram for the remainder of the Work.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Preparation: Indicate each significant construction activity separately. Identify first Workday of each week with a continuous vertical line.
 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. Start-up Network Diagram: Submit diagram within 14 calendar days of date established for the Notice to Proceed. Outline significant construction activities for the first 90

calendar days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

- B. CPM Schedule Requirements: Prepare Contractor's construction schedule time-scaled CPM Network analysis diagram for the Work.
 - 1. Develop Network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 60 calendar days after date established for the Notice to Proceed.
- C. CPM Schedule Requirements: Prepare a list of all activities required to complete the Work. Using the start-up Network diagram, prepare a skeleton Network to identify probable critical paths.
 - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Delivery.
 - b. Fabrication.
 - c. Testing and commissioning.
- D. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
 - 1. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
 - a. Submit value summary printouts one week before each regularly scheduled progress meeting.

2.5 REPORTS

- A. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. List of stored materials away from Project site shall be categorized by each Specification Section.

2.6 SPECIAL REPORTS

- A. General: Submit special reports directly to Engineer within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

PART 3 – EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
- B. Include a report with updated monthly schedule that indicates every change, including, but not limited to the following item:
 - 1. Identify and discuss the work scheduled to start in the next update period.

2. A description of activities along the two most critical paths where the total float is less than or equal to 20 calendar days.
 3. A description of current and anticipated problem areas or delaying factors and their impact and an explanation of corrective actions taken or required to be taken.
 4. Identify and explain why activities based on their calculated late dates should have either started or finished during the update period but did not.
 5. Identify and discuss all schedule changes by activity ID and activity name including what specifically was changed and why the change was needed. Include at a minimum new and deleted activities, logic changes, duration changes, calendar changes, lag changes, resource changes, and actual start and finish date changes.
 6. Identify and discuss out-of-sequence Work.
- C. As the Work progresses, indicate final completion percentage for each activity.
- D. Distribution: Distribute copies of approved schedule to Engineer, separate Contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
- E. Failure to Achieve Progress:
If the progress falls behind the approved project schedule for reasons other than those that are excusable within the terms of the contract, the City of Hamilton may require provision of a written recovery plan for approval. The plan must detail how progress will be made-up to include which activities will be accelerated by adding additional crews, longer work hours, extra work days, or similar.

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. References and standards.
- B. Quality assurance submittals.
- C. Mock-ups.
- D. Control of installation.
- E. Inspection services.
- F. Manufacturers' field services.

1.2 RELATED REQUIREMENTS

- A. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.3 REFERENCE STANDARDS

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).
- B. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2014.
- C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2013.
- D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.
- E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.
- F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2013.
- G. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2010.
- H. Title 24 CCR, Part 1: Continuous inspection, Section 4-333
- I. 2016 CBC Chapter 17 - California Building Code Structural Testing and Inspection

1.4 SUBMITTALS

- A. Testing Agency Qualifications: As approved by the County.
- B. Test Reports: After each test/inspection, promptly submit two copies of report to Engineer and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.

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- h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Conformance with Contract Documents.
 - k. When requested by Engineer, provide interpretation of results.
2. Test report submittals are for Engineer's knowledge as Contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract documents, or for Engineer's information.
- C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Engineer, in quantities specified for Product Data.
1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Engineer.
- D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the County's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- E. Manufacturer's Field Reports: Submit reports for Engineer's benefit as Contract administrator for County.
1. Submit report in duplicate within 30 calendar days of observation to Engineer for information.
 2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract documents.

1.5 REFERENCES AND STANDARDS

- A. For products and Workmanship specified by reference to a document or documents not included in the Specifications, also referred to as reference 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 of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at Project site during submittals, planning, and progress of the specific Work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- F. Neither the Contractual relationships, duties, nor responsibilities of the parties in Contract nor those of Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.6 TESTING AND INSPECTION AGENCIES

- A. County will employ and pay for services of an independent testing agency to perform special inspections required by the 2016 California Building Code, Part 2, Volume 2,

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Chapter 17 Structural Tests and Special Inspections. All other testing and inspection shall be provided by Contractor unless otherwise noted.

- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and Workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise Workmanship.
- E. Have Work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 MOCK-UPS

- A. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Where mock-up has been accepted by Engineer and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Engineer.

3.3 TESTING AND INSPECTION

- A. Testing Agency Duties:
 - 1. Test samples of mixes submitted by Contractor.
 - 2. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
 - 3. Perform specified sampling and testing of products in accordance with specified standards.
 - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 5. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or products.

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6. Perform additional tests and inspections required by Engineer.
7. Attend preconstruction meetings and progress meetings.
8. Submit reports of all tests/inspections specified.

B. Limits on Testing/Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency may not stop the Work without authorization from County.

C. Contractor Responsibilities:

1. Deliver to Agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
4. Notify Engineer and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with County's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Engineer.

E. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.4 MANUFACTURERS' FIELD SERVICES

- A. Where specified in individual specification sections require material or product suppliers or manufacturers to 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, include as part of Work.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.5 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not conforming to specified requirements.
- B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct an appropriate remedy or adjust payment.

END OF SECTION

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SECTION 01 42 16 - DEFINITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. Basic Contract definitions are included in the Conditions of the Contract.
- B. Approve: Where used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the 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 the Architect, requested by the Architect, and similar phrases.
- D. Experienced: When used with the term Installer, means having a minimum of five previous projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of the authority having jurisdiction.
- E. Furnish: Means supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- F. Indicated: Refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Where terms such as shown, noted, scheduled, and specified are used, it is to help the reader locate the reference.
- G. Install: Describes operations at Project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. Installer: An Installer is the Contractor or an entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
- I. Project Site: Is the space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other work as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- J. Provide: Means to furnish and install, complete and ready for the intended use.

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- K. 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.
- L. Testing Laboratories: A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents 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.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 GOVERNING DICTIONARY

- A. The definitions of the words used in these Specifications, which are not defined in the Section, the General Conditions, or in referenced standards, are as given in "Webster's Third New International Dictionary," The Definitive Merriam-Webster Unabridged Dictionary of the English Language.

1.5 ABBREVIATIONS AND NAMES

- A. Where acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

1.6 SPECIFICATION FORMAT AND LANGUAGE

- A. These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 50-Division format and MASTERFORMAT 2004 numbering system.
- B. Language used in the Specifications and other Contract Documents is abbreviated. Words that are implied, but not stated shall be interpolated as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and the context of the Contract Documents so indicates.

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- C. Imperative language is used generally. Requirements expressed in the imperative mood are to be performed by the Contractor. The indicative mood is employed on occasion when such sentence structure is necessary to convey the intended meaning in a more accurate or understandable format. (The imperative and indicative moods of sentence structure are defined in CSI's Manual of Practice.)
- D. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
- E. Streamlining: Employs the colon as a symbol for the words "shall be", "shall have", "shall conform with", "shall meet the requirements of", or "shall comply with".
- F. A colon is also used to set off a paragraph title or heading from the text that follows. This is the case when a grammatically complete sentence follows a heading and a colon. It is also used as a punctuation mark in a sentence to direct attention to matter that follows. This is not streamlining.

1.7 INTERPRETATIONS

- A. In order to reduce the length of these Specifications, certain phrases are written without objects and shall be interpreted as described below.
- B. As indicated: Whenever "as indicated" is specified in these Specifications, it shall be understood to read "as indicated on the Drawings".
- C. As required: Whenever "as required" is specified in these Specifications, it shall be understood to read "as required for a complete and finished installation" or "as required for a complete and finished, operable installation".
- D. As specified: Whenever "as specified" is specified in these Specifications, it shall be understood to read "as specified herein" or "as specified in these Specifications".

1.8 STANDARD OF QUALITY

- A. Where one certain kind, type, brand or manufacturer of material is named in these Specifications, it shall be regarded as the required minimum standard of quality. Submit requested substitutions in accordance with Section 01 25 13.

1.9 SUBMITTALS

- A. It shall be understood that the various submittals required by the individual specifications sections are to be submitted to the Architect for review and approval as specified in the General Conditions.
- B. Unless "no substitute" is specified, these Specifications shall be interpreted to include the words "or approved equal" after every product specified by manufacturer's brand name or model number. Substitutions will be handled and processed in accordance with Section 01 25 13.

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1.10 PERMITS, LICENSES, AND CERTIFICATES

- A. For the County'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.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION 01 42 16

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary telecommunications services.
- C. Temporary sanitary facilities.
- D. Temporary Controls: Barriers, enclosures, and fencing.
- E. Security requirements.
- F. Vehicular access and parking.
- G. Waste removal facilities and services.
- H. Field offices.

1.2 RELATED REQUIREMENTS

- A. Section 01 58 13 - Temporary Project Signage.

1.3 TEMPORARY UTILITIES

- A. Provide and pay for all electrical power, lighting, water, ventilation, and janitorial service and supplies required for construction purposes.
- B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.4 TELECOMMUNICATIONS SERVICES

- A. Provide equipment and connections for Contractor's and Engineer's field office.
- B. Telecommunications services shall include:
 - 1. Windows 7 or Windows 10 based personal computers dedicated to Project telecommunications, with necessary software.
 - 2. Color laser printer and fax/copier/scanner with minimum 25 pages per minute color print speed.
 - 3. Telephone Land Lines: two lines, minimum; one handset per line.
 - 4. Internet Connection: High speed data connection adequate to serve Project needs.

1.5 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures.
- B. Provide at time of Project mobilization.
- C. Provide sanitary facilities within each office trailer where office trailer is provided.
- D. Maintain daily in clean and sanitary condition.
- E. At end of construction, return facilities to same or better condition as originally found.

1.6 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to Workers or the public and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

- C. Provide protection for landscape plantings designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- E. Traffic Controls: As needed per local authorities.

1.7 FENCING

- A. Provide 6 foot (1.8 m) high fence around Project limits of construction site. Equip fence with vehicular and pedestrian gates with locks.

1.8 EXTERIOR ENCLOSURES

- A. Provide temporary weather tight closure of exterior openings to accommodate acceptable Working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.9 SECURITY

- A. Provide security and facilities to protect Work and County's operations from unauthorized entry, vandalism, or theft.

1.10 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Engineer.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Provide dust-control treatment that is nonpolluting and non-tracking. Reapply treatment as required to minimize dust.
- F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.11 WASTE REMOVAL

- A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.
- B. Provide waste removal facilities and services as required to maintain the site and all temporary facilities in clean and orderly condition.
- C. Provide containers with lids. Remove trash from site weekly, or as needed.
- D. If materials to be recycled or re-used on the Project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

1.12 PROJECT TEMPORARY SIGNS - SEE SECTION 01 58 13

1.13 FIELD OFFICES

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table.

- B. Provide space for Project meetings, with table and chairs to accommodate 10 persons.
- C. Provide a separate private office trailer similarly equipped and furnished, for use by the County's representatives (Engineer). In addition to other requirements of this section, provide:
 - 1. Four (4) desk workstations, each with a computer and chair.
 - 2. One (1) color fax/printer/scanner copier with a minimum of 25 pages per minute color print speed.
 - 3. Three (3) 3-high lateral file cabinets.
 - 4. One (1) 5'x3' white board
 - 5. Conference table with seating for 10
 - 6. Plan table
 - 7. Water cooler and refill service.
 - 8. Microwave oven.
 - 9. Restroom in office trailer.
- D. Locate offices a minimum distance of 30 feet (10 m) from existing.
- E. Provide full janitorial services as needed to keep facility clean. Provide and maintain expendable janitorial supplies including, but not limited to:
 - 1. Toilet paper.
 - 2. Toilet seat cover.
 - 3. Paper hand towels.
 - 4. Hand soap.
- F. Remove trash and dispose in accordance with 1.11 Waste Removal above.

1.14 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 57 13 - TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Prevention of erosion due to construction activities.
- B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.
- C. Restoration of areas eroded due to insufficient preventive measures.
- D. Compensation of County for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.2 RELATED REQUIREMENTS

- A. Section 01 57 23 - Storm Water Pollution Prevention

1.3 REFERENCE STANDARDS

- A. ASTM D4355 - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc Type Apparatus; 2007.
- B. ASTM D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity; 1999a (Reapproved 2014).
- C. ASTM D4533 - Standard Test Method for Trapezoid Tearing Strength of Geotextiles; 2011.
- D. ASTM D4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles; 2008.
- E. ASTM D4751 - Standard Test Method for Determining Apparent Opening Size of a Geotextile; 2012.
- F. ASTM D4873 - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples; 2002 (Reapproved 2009).
- G. California State Water Resources Control Board, Construction General Permit; current edition.
- H. California Stormwater Quality Association (CASQA), California Stormwater Best Management Practice (BMP) Handbook; current edition.
- I. EPA (NPDES) - National Pollutant Discharge Elimination System (NPDES), Construction General Permit; current edition.
- J. USDA TR-55 - Urban Hydrology for Small Watersheds; USDA Natural Resources Conservation Service; 2009.

1.4 PERFORMANCE REQUIREMENTS

- A. Comply with all requirements of the State Water Resource Control Board (SWRCB) Construction General Permit (CGP) for erosion and sedimentation control.
- B. Best Management Practices Standard: CASQA Stormwater BMP Handbook.
- C. Do not begin clearing, grading, or other Work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.

1. County will obtain permits and pay for securities required by authority having jurisdiction.
2. County will withhold payment to Contractor equivalent to all fines resulting from non-compliance with applicable regulations.
- D. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.
- E. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this Project.
 1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
- F. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on Project site due to construction activities for these Project.
 1. Control movement of sediment and soil from temporary stockpiles of soil.
 2. Prevent development of ruts due to equipment and vehicular traffic.
 3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to County.
- G. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the Project site due to construction activities for the Project.
 1. Prevent windblown soil from leaving the Project site.
 2. Prevent tracking of mud onto public roads outside site.
 3. Prevent mud and sediment from flowing onto sidewalks and pavements.
 4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to County.
- H. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the Project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to County; remove deposited sediments; comply with requirements of authorities having jurisdiction.
 2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.
- I. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the Project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to County; remove deposited sediments; comply with requirements of authorities having jurisdiction.
- J. Open Water: Prevent standing water that could become stagnant.
- K. Maintenance: Maintain temporary preventive measures until permanent measures have been established.
- L. Comply with Section 01 57 23 - Storm Water Pollution Prevention.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

- B. Prepare Storm Water Pollution Prevention Plan (SWPPP) in conformance with Section 01 57 23 - Storm Water Pollution Prevention.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Mulch: Use one of the following:
1. Straw or hay.
 2. Erosion control matting or netting.
 3. Polyethylene film, where specifically indicated only.
- B. Grass Seed For Temporary Cover: Select a species appropriate to climate, planting season, and intended purpose. If same area will later be planted with permanent vegetation, do not use species known to be excessively competitive or prone to volunteer in subsequent seasons.
- C. Bales: Air dry, rectangular straw bales.
- D. Bale Stakes: One of the following, minimum 3 feet (1 m) long:
1. Steel U- or T-section, with minimum mass of 1.33 lb per linear foot (1.98 kg per linear m).
 2. Wood, 2 by 2 inches (50 by 50 mm) in cross section.
- E. Silt Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible; fabric including seams with the following minimum average roll lengths:
1. Average Opening Size: 30 U.S. Std. Sieve (0.600 mm), maximum, when tested in accordance with ASTM D4751.
 2. Permittivity: 0.05 sec^{-1} , minimum, when tested in accordance with ASTM D4491.
 3. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355 after 500 hours exposure.
 4. Tensile Strength: 100 lb-f (450 N), minimum, in cross-machine direction; 124 lb-f (550 N), minimum, in machine direction; when tested in accordance with ASTM D4632.
 5. Elongation: 15 to 30 percent, when tested in accordance with ASTM D4632.
 6. Tear Strength: 55 lb-f (245 N), minimum, when tested in accordance with ASTM D4533.
 7. Color: Manufacturer's standard, with embedment and fastener lines preprinted.
- F. Silt Fence Posts: One of the following, minimum 5 feet (1500 mm) long:
1. Steel U- or T-section, with minimum mass of 1.33 lb per linear foot (1.98 kg per linear m).
- G. Comply with Section 01 57 23 - Storm Water Pollution Prevention

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 57 23 - Storm Water Pollution Prevention

3.2 PREPARATION

- A. Section 01 57 23 - Storm Water Pollution Prevention

3.3 MAINTENANCE

- A. Section 01 57 23 - Storm Water Pollution Prevention

3.4 CLEAN UP

- A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Engineer.
- B. Clean out temporary sediment control structures that are to remain as permanent measures.
- C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION

SECTION 01 57 23 STORM WATER POLLUTION PREVENTION

PART 1. GENERAL

Summary

This Work includes implementing a Storm Water Pollution Prevention Plan (SWPPP).

Project is assumed to be Risk Level 1 for bidding purposes. The Contractor is responsible for any assumptions made in calculating the risk level for the Project, including any adjustments made to the calculated risk level made during construction by the State Water Resource Control Board (SWRCB) or Regional Water Quality Control Board as a result of noncompliance issues pertaining to this Project.

Discharges of stormwater from the Project must comply with National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), including any subsequent amendments, referred to herein as "Permit."

Information on forms, reports, and other documents can be found in the following State manuals:

1. Field Guide for Construction Site Dewatering
2. Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual
3. Construction Site Best Management Practices (BMP) Manual

For the above-referenced manuals, go to the State's website for the Division of Construction, Storm Water and Water Pollution Control Information, or the State's Publication Distribution Unit.

Do not start job site activities until:

1. The SWPPP is approved.
2. The waste discharge identification number is issued.
3. SWPPP review requirements have been fulfilled. If the Regional Water Quality Control Board (RWQCB) requires time for review, allow 30 days for the review.

The following RWQCBs will review the approved SWPPP:

1. Central Valley Regional Water Quality Control Board

If you operate a Contractor-support facility, protect stormwater systems and receiving waters from the discharge of potential pollutants by using water pollution control practices.

Contractor-support facilities include:

1. Staging areas
2. Storage yards for equipment and materials
3. Mobile operations
4. Other facilities installed for your convenience, such as haul roads

If you obtain or dispose of material at a non-commercially operated borrow or disposal site, prevent water pollution due to erosion at the site during and after completion of your activities. Upon completion of your Work, leave the site in a condition such that water shall not collect or stand therein.

The County does not pay for water pollution control practices at Contractor-support facilities and non-commercially operated borrow or disposal sites.

Definitions

active area: Area where soil-disturbing Work activities have occurred at least once within 15 days.

construction phase: Includes (1) highway construction phase for building roads and structures, (2) plant establishment and maintenance phase for placing vegetation for final stabilization, and (3) suspension phase for suspension of Work activities or winter shutdown. The construction phase continues from the start of Work activities to Contract acceptance.

inactive area: Area where soil-disturbing Work activities have not occurred within 15 days.

normal working hours: Hours you normally work on the Project.

qualifying rain event: Storm that produces at least 0.5 inch of precipitation with a 48-hour or greater period between rain events.

storm event: Storm that produces or is forecasted to produce at least 0.10 inch of precipitation within a 24-hour period.

Submittals

Storm Water Pollution Prevention Plan

General

Provide the following twenty-one (21) calendar days of date prior to when SWPPP becomes responsibility of Contractor:

1. Submit 3 copies of your SWPPP Amendment for review. Allow 10 calendar days for the County's review. The Engineer provides comments and specifies the date when the review stopped if revisions are required. Submit user name of individual with State Water Resource Control Board Storm Water Multiple Application and Report Tracking System (SMARTS) account to upload documents.
2. Resubmit a revised SWPPP within 10 calendar days of receiving the Engineer's comments. The County's review resumes when a complete SWPPP has been resubmitted.
3. When the Engineer approves the SWPPP, submit an electronic copy and 4 printed copies of the approved SWPPP.
4. Upload the SWPPP documents to the State SMARTS website. County pays any fees.

5. If the Engineer requests changes to the SWPPP based on the RWQCB's comments, amend the SWPPP within 10 calendar days.

A qualified SWPPP developer (QSD) must develop the SWPPP.

The SWPPP must comply with the State's Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Plan (WPCP) Preparation Manual. Include the following in the SWPPP:

1. Description of the Work involved in the installation, maintenance, repair, and removal of temporary and permanent water pollution control practices.
2. Maps showing:
 - 2.1. Locations of disturbed soil areas
 - 2.2. Water bodies and conveyances
 - 2.3. Locations and types of water pollution control practices that will be used for each Contractor-support facility
 - 2.4. Locations and types of temporary water pollution control practices that will be used in the Work for each construction phase
 - 2.5. Locations and types of water pollution control practices that will be installed permanently under the Contract
 - 2.6. Pollutant sampling locations
 - 2.7. Locations planned for storage and use of potential nonvisible pollutants
 - 2.8. Receiving water sampling locations
3. Copy of permits obtained by the County and State, including US Army Corps of Engineers permits and RWQCB 401 certifications.

Include the following items in the SWPPP:

1. Schedule
2. Construction site monitoring program (CSMP)

Schedule

The SWPPP schedule must show when:

1. Work activities shall be performed that could cause the discharge of pollutants into stormwater
2. Water pollution control practices associated with each construction phase shall be implemented
3. Soil stabilization and sediment control practices for disturbed soil areas shall be implemented

Construction Site Monitoring Program

A QSD must prepare the CSMP. Change the program to reflect current job site activities as needed. The CSMP must include the following:

1. For all projects:
 - 1.1. Visual monitoring procedures
 - 1.2. Sampling and analysis plan (SAP) for nonvisible pollutants
 - 1.3. SAP for non-stormwater discharges
 - 1.4. SAP for monitoring required by RWQCB

Sampling and Analysis Plan

Include a SAP in the CSMP.

Describe the following water quality sampling procedures in the SAP:

1. Sampling equipment
2. Sample preparation
3. Collection
4. Field measurement methods
5. Analytical methods
6. Quality assurance and quality control
7. Sample preservation and labeling
8. Collection documentation
9. Sample shipping
10. Chain of custody
11. Data management and reporting
12. Precautions from the construction site health and safety plan
13. Laboratory selection and certifications

The SAP must identify the State-certified laboratory, sample containers, preservation requirements, holding times, and analytical method. For a list of State-certified laboratories go to the CDPH Web site.

The SAP must include procedures for sample collection during precipitation.

The SAP must list conditions when you shall not be required to physically collect samples such as:

1. Dangerous weather
2. Flooding or electrical storms
3. Times outside of normal working hours

Amend the SAP whenever discharges or sampling locations change because of changed Work activities or knowledge of site conditions.

The SAP for nonvisible pollutants must describe the sampling and analysis strategy for monitoring nonvisible pollutants.

The SAP for nonvisible pollutants must identify potential nonvisible pollutants present at the job site associated with any of the following:

1. Construction materials and wastes
2. Existing contamination due to historical site usage
3. Application of soil amendments, including soil stabilization materials, with the potential to change pH or contribute toxic pollutants to stormwater

The SAP for nonvisible pollutants must include sampling procedures for the following conditions when observed during a stormwater visual inspection. Include a procedure for collecting at least 1 sample for each storm event for:

1. Materials or wastes containing potential nonvisible pollutants not stored under watertight conditions
2. Materials or wastes containing potential nonvisible pollutants stored under watertight conditions at locations where a breach, leak, malfunction, or spill occurred and was not cleaned up before the precipitation
3. Chemical applications occurring within 24 hours before precipitation or during precipitation that could discharge pollutants to surface waters or drainage systems, including fertilizer, pesticide, herbicide, methyl methacrylate concrete sealant, or non-pigmented curing compound
4. Applied soil amendments, including soil stabilization materials that could change pH levels or contribute toxic pollutants to stormwater runoff and discharge pollutants to surface waters or drainage systems, unless independent test data is available to indicate acceptable concentrations of nonvisible pollutants in the material
5. Stormwater runoff from an area contaminated by historical usage of the site that could discharge pollutants to surface waters or drainage systems

The SAP for nonvisible pollutants must provide sampling procedures and a schedule for:

1. Sample collection during the first 2 hours of rain events that generate runoff
2. Sample collection during normal working hours
3. Each nonvisible pollutant source
4. Uncontaminated control sample

The SAP for nonvisible pollutants must identify locations for sampling downstream and control samples and the reasons for selecting those locations. Select locations for control samples where the sample does not come in contact with materials, wastes, or areas associated with potential nonvisible pollutants or disturbed soil areas.

Amendments

Amend and resubmit the SWPPP:

1. Changes in Work activities could affect the discharge of pollutants.
2. Water pollution control practices are added by Contract Change Order.
3. Water pollution control practices are added at your discretion.
4. Changes in the quantity of disturbed soil.
5. Objectives for reducing or eliminating pollutants in stormwater discharges have not been achieved.
6. You receive a written notice of a permit violation for the Project from the RWQCB or any other regulatory agency.

Allow the same review time for amendments to the SWPPP as for the original SWPPP.

Training Records

Submit water pollution control training records for all employees and subcontractors who will be working at the job site. Include the training subjects, training dates, ongoing training, and tailgate meetings with your submittal. Submit records for:

1. Existing employees within 5 business days of obtaining SWPPP approval
2. New employees within 5 business days of receiving the training
3. A subcontractor's employees at least 5 business days before the subcontractor starts Work

Contractor-Support Facility

At least 5 business days before operating any Contractor-support facility, submit:

1. A plan showing the location and quantity of water pollution control practices associated with the Contractor-support facility
2. A copy of the notice of intent approved by the RWQCB and the SWPPP approved by the RWQCB if you will be operating a batch plant or a crushing plant under the General Industrial Permit

Annual Certification

Submit an annual certification of compliance as described in the State's Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Plan (WPCP) Preparation Manual before July 15th of each year.

Site Inspection Reports

The water pollution control (WPC) manager must submit the following within 24 hours of completing a weekly inspection:

1. Completed Stormwater Site Inspection Report form.
2. Best management practices (BMP) status report. The WPC manager must oversee the preparation of the report. The report must include:

- 2.1. Location and quantity of installed water pollution control practices
- 2.2. Location and quantity of disturbed soil for active and inactive areas

Visual Monitoring Reports

Submit a visual monitoring report for:

1. Each storm event. Include:
 - 1.1. Date, time, and rain gauge reading
 - 1.2. Visual observations:
 - 1.2.1. Within 2 business days before the storm for:
 - 1.2.1.1. Spills, leaks, and uncontrolled pollutants in drainage areas
 - 1.2.1.2. Proper implementation of water pollution control practices
 - 1.2.1.3. Leaks and adequate freeboard in storage areas
 - 1.2.2. Every 24 hours during the storm for:
 - 1.2.2.1. Effective operation of water pollution control practices
 - 1.2.2.2. Water pollution control practices needing maintenance and repair
 - 1.2.3. Within 2 business days after a qualifying rain event for:
 - 1.2.3.1. Stormwater discharge locations
 - 1.2.3.2. Evaluation of design, implementation, effectiveness, and locations of water pollution control practices including locations where additional water pollution control practices may be needed
2. Non-Stormwater discharges during each of the following periods:
 - 2.1. January through March
 - 2.2. April through June
 - 2.3. July through September
 - 2.4. October through December

Use the Stormwater Site Inspection Report form to document visual monitoring. A visual monitoring report must include:

1. Name of personnel performing the inspection, inspection date, and date the inspection report is completed
2. Storm and weather conditions
3. Location of any:
 - 3.1. Floating and suspended material, sheen on the surface, discoloration, turbidity, odor, and source of observed pollutants for flowing and contained stormwater systems

3.2. Non-Stormwater discharges and their sources

4. Corrective action taken

Retain visual monitoring reports at the job site as part of the SWPPP.

Sampling and Analysis

Whenever sampling is required, submit a printed copy and electronic copy of water quality analysis results, and quality assurance and quality control reports within 48 hours of field sampling, and within 30 days of laboratory analysis. Electronic copies must be in one of the following formats: (1) xls, (2) .txt, (3) .cvs, (4) .dbs, or (5) .mdb. Include an evaluation of whether the downstream samples show levels of the tested parameter that are higher than the control sample. The evaluation must include:

1. Sample identification number
2. Contract number
3. Constituent
4. Reported value
5. Analytical method
6. Method detection limit
7. Reported limit

Storm Water Annual Report

Submit 2 copies of a storm water annual report that covers the preceeding period from July 1st to June 30th. The report must be submitted before July 15th if construction occurs from July 1st to June 30th or within 15 days after Contract acceptance if construction ends before June 30th. Allow 10 days for the Engineer's review. The Engineer provides comments and specifies the date when the review stopped if revisions are required.

Obtain approval for the format of the storm water annual report. The report must include:

1. Project information such as description and Work locations
2. Stormwater monitoring information, including:
 - 2.1. Summary and evaluation of sampling and analysis results and laboratory reports
 - 2.2. Analytical methods, reporting units, and detections limits for analytical parameters
 - 2.3. Summary of corrective actions taken
 - 2.4. Identification of corrective actions taken and compliance activities not implemented
 - 2.5. Summary of violations
 - 2.6. Names of individuals performing stormwater inspections and sampling
 - 2.7. Logistical information for inspections and sampling, including location, date, time, and precipitation

- 2.8. Visual observations and sample collection records
3. Documentation of training for individuals responsible for:
 - 3.1. Permit compliance
 - 3.2. BMP installation, inspection, maintenance, and repair
 - 3.3. Preparing, revising, and amending the SWPPP

Submit a revised storm water annual report within 5 business days of receiving the Engineer's comments. The Engineer's review resumes when a complete report has been resubmitted.

When the storm water annual report is approved, submit 1 electronic copy and 2 printed copies of the report signed by the WPC manager.

Information After Storm Event

Within 48 hours after the conclusion of a storm event resulting in a discharge, after a nonstormwater discharge, or after receiving a written notice or an order from the RWQCB or another regulatory agency, the WPC manager must submit the following information:

1. Date, time, location, and nature of the activity and the cause of the notice or order
2. Type and quantity of discharge
3. Water pollution control practices in use before the discharge or before receiving the notice or order
4. Description of water pollution control practices and corrective actions taken to manage the discharge or cause of the notice

Quality Control and Assurance

Training

Employees must receive initial water pollution control training before starting Work at the job site.

For your project managers, supervisory personnel, subcontractors, and employees involved in water pollution control Work:

1. Provide stormwater training in the following subjects:
 - 1.1. Water pollution control rules and regulations
 - 1.2. Implementation and maintenance for:
 - 1.2.1. Temporary soil stabilization
 - 1.2.2. Temporary sediment control
 - 1.2.3. Tracking control
 - 1.2.4. Wind erosion control
 - 1.2.5. Material pollution prevention and control
 - 1.2.6. Waste management

1.2.7. Nonstormwater management

2. Conduct weekly training meetings covering:
 - 2.1. Deficiencies and corrective actions for water pollution control practices
 - 2.2. Water pollution control practices required for Work activities during the week
 - 2.3. Spill prevention and control
 - 2.4. Material delivery, storage, usage, and disposal
 - 2.5. Waste management
 - 2.6. Nonstormwater management procedures

Training for personnel who collect water quality samples must include:

1. CSMP review
2. Health and safety review
3. Sampling simulations

Water Pollution Control Manager

General

The WPC manager must be a QSD. Assign 1 WPC manager to implement the SWPPP. You may assign a QSD other than the WPC manager to develop the SWPPP.

Qualifications

A QSD must:

1. Have completed stormwater management training described in the State's Web site for the Division of Construction, Storm Water and Water Pollution Control Information
2. Be one or more of the following:
 - 2.1. California registered civil engineer
 - 2.2. California registered professional geologist or engineering geologist
 - 2.3. California licensed landscape architect
 - 2.4. Professional hydrologist registered through the American Institute of Hydrology
 - 2.5. Certified Professional in Erosion and Sediment Control (CPESC)TM registered through Enviro Cert International, Inc.
 - 2.6. Certified Professional in Storm Water Quality (CPSWQ)TM registered through Enviro Cert International, Inc.
 - 2.7. Professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET)
3. Have completed SWRCB approved QSD training and passed the QSD exam

Responsibilities

The WPC manager must:

1. Be responsible for water pollution control Work
2. Be the primary contact for water pollution control Work
3. Oversee:
 - 3.1. Maintenance of water pollution control practices
 - 3.2. Inspections of water pollution control practices identified in the SWPPP
 - 3.3. Inspections and reports for visual monitoring
 - 3.4. Preparation and implementation of REAPs
 - 3.5. Sampling and analysis
 - 3.6. Preparation and submittal of:
 - 3.6.1. NAL exceedance reports
 - 3.6.2. NEL violation reports
 - 3.6.3. SWPPP annual certification
 - 3.6.4. Annual reports
 - 3.6.5. BMP status reports
4. Oversee and enforce hazardous waste management practices including spill prevention and control measures
5. Have authority to mobilize crews to make immediate repairs to water pollution control practices
6. Ensure that all employees have current water pollution control training
7. Implement the approved SWPPP
8. Amend the SWPPP if required
9. Be at the job site within 2 hours of being contacted
10. Have the authority to stop construction activities damaging water pollution control practices or causing water pollution

Sampling and Analysis

Assign trained personnel to collect water quality samples. Document the personnel and training in the SAP.

Samples taken by assigned field personnel must comply with the equipment manufacturer's instructions for collection, analytical methods, and equipment calibration.

Samples taken for laboratory analysis must comply with water quality sampling procedures and be analyzed by a State-certified laboratory under 40 CFR part 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants.

Whenever downstream samples show increased levels of pollutants, assess water pollution control practices, site conditions, and surrounding influences to determine the probable cause for the increase.

For multiple discharge points, obtain samples from a single upstream and a single downstream location.

PART 2 – PRODUCTS

General

Provide materials for execution of the Work.

PART 3 – EXECUTION

General

Manage Work activities to reduce the discharge of pollutants to surface waters, groundwater, and municipal separate storm sewer systems.

Retain a printed copy of the approved SWPPP at the job site.

Install facilities and devices used for water pollution control practices before performing Work activities. Install soil stabilization materials for water pollution control practices in all inactive areas or before storm events.

Repair or replace water pollution control practices within 24 hours of discovering any damage, unless a longer period is authorized.

The County does not pay for the cleanup, repair, removal, disposal, or replacement of water pollution control practices due to improper installation or from Contractor's negligence.

You may request changes to the water pollution control Work or the Engineer may order changes to water pollution control Work. Changes may include additional or new water pollution control practices. Additional water pollution control Work is paid for as extra Work under Section 4-1.03D, "Extra Work," of the State Standard Specifications.

You may request or the Engineer may order laboratory analysis of stormwater samples. If ordered, laboratory analysis of stormwater samples is paid for as extra Work under Section 4-1.03D, "Extra Work," of the State Standard Specifications.

Continue SWPPP implementation during any suspension of Work activities.

Monitoring

Monitor the National Weather Service's forecast on a daily basis. For the National Weather Service's forecast, go to the Web site for the National Weather Service.

Obtain, install, and maintain a rain gauge at the job site. Observe and record daily precipitation.

Inspections

Use the Stormwater Site Inspection Report form for documenting site inspections.

The WPC manager must oversee:

1. Inspections of water pollution control practices identified in SWPPP:
 - 1.1. Before a forecasted storm event
 - 1.2. After a qualifying rain event that produces site runoff
 - 1.3. At 24-hour intervals during extended storm events
 - 1.4. On a predetermined schedule of at least once a week
2. Daily inspections of:
 - 2.1. Storage areas for hazardous materials and waste
 - 2.2. Hazardous waste disposal and transporting activities
 - 2.3. Hazardous material delivery and storage activities
3. Inspections of:
 - 3.1. Vehicle and equipment cleaning facilities:
 - 3.1.1. Daily if vehicle and equipment cleaning occurs daily
 - 3.1.2. Weekly if vehicle and equipment cleaning does not occur daily
 - 3.2. Vehicle and equipment maintenance and fueling areas:
 - 3.2.1. Daily if vehicle and equipment maintenance and fueling occurs daily
 - 3.2.2. Weekly if vehicle and equipment maintenance and fueling does not occur daily
 - 3.3. Vehicles and equipment at the job site for leaks and spills on a daily schedule. Verify that operators are inspecting vehicles and equipment each day of use.
 - 3.4. Demolition sites within 50 feet of storm drain systems and receiving waters daily.
 - 3.5. Pile driving areas for leaks and spills:
 - 3.5.1. Daily if pile driving occurs daily
 - 3.5.2. Weekly if pile driving does not occur daily
 - 3.6. Temporary concrete washouts:
 - 3.6.1. Daily if concrete Work occurs daily
 - 3.6.2. Weekly if concrete Work does not occur daily
 - 3.7. Paved roads at job site access points for street sweeping:
 - 3.7.1. Daily if earthwork and other sediment or debris-generating activities occur daily
 - 3.7.2. Weekly if earthwork and other sediment or debris-generating activities do not occur daily
 - 3.7.3. Within 24 hours of precipitation forecasted by the National Weather Service
 - 3.8. Dewatering Work:

- 3.8.1. Daily if dewatering Work occurs daily
- 3.8.2. Weekly if dewatering Work does not occur daily
- 3.9. Temporary active treatment system:
 - 3.9.1. Daily if temporary active treatment system activities occur daily
 - 3.9.2. Weekly if temporary active treatment system activities do not occur daily
- 3.10. Work over water:
 - 3.10.1. Daily if Work over water occurs daily
 - 3.10.2. Weekly if Work over water does not occur daily

Deficiencies

Whenever you or the Engineer identify a deficiency in the implementation of the approved SWPPP, correct the deficiency:

1. Immediately, unless a later date is authorized
2. Before precipitation occurs

The County may correct the deficiency and deduct the cost of correcting the deficiency from payment if you fail to correct the deficiency by the agreed date or before the onset of precipitation.

Sampling and Analysis

Perform sample collection during:

1. Normal working hours
2. Each qualifying rain event
3. First 2 hours of each storm event

Do not physically collect samples during dangerous weather conditions, such as flooding or electrical storms.

Document sample collection during precipitation.

Whenever downstream samples show increased levels of pH, turbidity, and other constituents, assess water pollution control practices, site conditions, and surrounding influences to determine the probable cause for the increase.

Collect samples:

1. During a storm event for:
 - 1.1. Each nonvisible pollutant source and a corresponding uncontaminated control sample
 - 1.2. All locations identified on the Storm Event Sampling and Analyses Plan form
2. During a qualifying rain event for:

- 2.1. Each nonvisible pollutant source and a corresponding uncontaminated control sample
- 2.2. pH, turbidity, and other constituents as required
- 2.3. At least 3 samples for each day of a qualifying rain event
- 2.4. All locations identified on the Qualifying Rain Event Sampling and Analyses Plan form

Retain documentation of water quality sampling and analysis results with the SWPPP at the job site.

The County does not pay for the preparation, collection, laboratory analysis, and reporting of stormwater samples for nonvisible pollutants if water pollution control practices are not implemented before precipitation or if you fail to correct a water pollution control practice before precipitation.

Attention is directed to Specification Section 01 5713 Temporary Erosion and Sediment Control, found elsewhere in these technical specifications.

The Contractor shall not use any plastic, monofilament, jute or similar erosion control netting with mesh size larger than 0.25 inches that could entangle giant garter snakes at the project site. Tightly woven erosion control matting (mesh size larger than 0.25 inches) or similar material shall be used for erosion control.

TEMPORARY FENCE (TYPE ESA)

GENERAL

The Temporary Fence (Type ESA) is used to prevent wildlife from entering the Work area.

Summary

This Work includes constructing, maintaining, and removing temporary fence (Type ESA). Temporary fence (Type ESA) provides a visible boundary adjacent to protected areas such as an environmentally sensitive area. Signs are not required for temporary fence (Type ESA).

Submittals

Submit a Certificate of Compliance as specified in Section 6-1.07, "Certificates of Compliance" of the State Standard Specifications for:

1. High visibility fabric and netting
2. Safety cap for metal posts

MATERIALS

High Visibility Fabric

High visibility fabric and netting for temporary fence (Type ESA) must consist of one or more of the following:

1. Polyethylene
2. Polypropylene

3. Combined polyethylene and polypropylene

Fabric shall consist of a combination of open netting and mesh. The open netting shall be high visibility color and extend for the full height of the fence. The mesh shall have openings no greater than ¼” and may be a material commonly used as filter fabric. The mesh shall be placed along the lower 2’ of the fence and embedded to prevent ground crawling wildlife from crossing into the Work areas.

Sample under ASTM D 4354, Procedure C. Test under ASTM D 4759. All properties must be based on Minimum Average Roll Value. Identify, store, and handle under ASTM D 4873.

High visibility fabric must:

1. Contain ultraviolet inhibitors
2. Comply with the following:

Property	Specifications	Requirements
Width, inches, Min	Measured	48
Opening size inches (netting)	Measured	1" x 1" (Min) 2" x 2" (Max)
Opening size inches (mesh)	Measured	¼” maximum
Color (netting)	Observed	Orange
Color (mesh)	n/a	n/a
Grab breaking load 1-inch grip, lb, min. in each direction	ASTM D4632	260
Apparent elongation percent, min., in each direction	ASTM D4632	5
Ultraviolet degradation percent of original unexposed grab breaking load 500 hr, minimum	ASTM D4355	70

Posts

Posts must be wood or steel.

Wood posts must be:

1. Untreated fir, redwood, cedar, or pine and cut from sound timber
2. Straight and free of loose or unsound knots and other defects that would render the stakes unfit for use
3. Pointed on the end to be driven into the ground
4. At least 2" x 2" in size and 6 feet long

Steel posts must:

1. Have a "U," "T," "L," or other cross sectional shape that can resist failure from lateral loads.
2. Be pointed on the end to be driven into the ground.
3. Weigh at least 0.75-pound per foot.

4. Be at least 6 feet long.
5. Have a safety cap attached to the exposed end. The safety cap must be yellow, orange or red plastic and fit snugly to the metal post.

CONSTRUCTION

General

Install temporary fence (Type ESA):

1. With high visibility fabric, posts, and fasteners as follows:
 - 1.1. If wood posts are used, fasteners must be staples or nails
 - 1.2. If steel posts are used, fasteners must be tie wires or locking plastic fasteners
 - 1.3. Spacing of the fasteners must be no more than 8 inches apart
2. Before clearing and grubbing activities
3. From outside of the protected area
4. With posts spaced 8 feet apart and embedded at least 16 inches in the soil
5. Embed fabric netting 3 inches into existing ground

If trees and other plants need protection, install fence to:

1. Enclose the foliage canopy (drip line) of protected plants
2. Protect visible roots from encroachment

Maintenance

Maintain temporary fence (Type ESA) by:

1. Keeping posts in a vertical position
2. Reattaching fabric to posts
3. Replacing damaged sections of fabric
4. Replacing and securing signs

Removal

When the Engineer determines that temporary fence (Type ESA) is no longer required, remove and dispose of it under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the State Standard Specifications.

Backfill and repair ground disturbance caused by the installation and removal of temporary fence (Type ESA), including holes and depressions, under Section 15-1.02, "Preservation of Property," of the State Standard Specifications.

END OF SECTION

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SECTION 01 58 13 - TEMPORARY PROJECT SIGNAGE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Project identification sign.
- B. Project informational signs.

1.2 QUALITY ASSURANCE

- A. Design sign and structure to withstand 50 miles/hr (80 km/hr) wind velocity.
- B. Sign Painter: Experienced as a professional sign painter for minimum three years.
- C. Finishes, Painting: Adequate to withstand weathering, fading, and chipping for duration of construction.

1.3 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Shop Drawing: Project identification signage graphic layout provided by County in electronic media format. Contractor shall provide Project informational signage graphic layout.

PART 2 PRODUCTS

2.1 SIGN MATERIALS

- A. Structure and Framing: New, wood, structurally adequate.
- B. Sign Surfaces: Exterior grade plywood, minimum 3/4 inch (19 mm) thick, with an adhered PVC or similar material 1/4 inch thick overlay sheet, standard large sizes to minimize joints.
- C. Rough Hardware: Galvanized.
- D. Paint and Primers: Exterior quality, two coats; sign background of white color.
- E. Lettering: Pre-cut vinyl self-adhesive products, colors as indicated on drawings..
- F. Logo or Symbols: Pre-cut vinyl self-adhesive products, colors as indicated on drawings. Electronic file will be provided by Engineer in AutoCAD.

2.2 PROJECT IDENTIFICATION SIGN

- A. Provide one (1) printed sign of construction, design, and content as provided by County. Location to be determined by Engineer.
- B. Graphic Design, Colors, Style of Lettering: Designated by Engineer. See Project Identification Signage Example in Section 3.4. County will provide final signage design in PDF format.

2.3 PROJECT INFORMATIONAL SIGNS

- A. Provide at each field office, storage shed, and directional signs to direct traffic into and within site. Relocate as Work progress requires.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install Project identification sign within 20 calendar days after Notice to Proceed.
- B. Erect at location of high public visibility adjacent to main entrance to site as approved by County.
- C. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
- D. Install sign surface plumb and level, with butt joints. Anchor securely.
- E. Paint exposed surfaces of sign, supports, and framing.

3.2 MAINTENANCE

- A. Maintain signs and supports clean, repair deterioration and damage.

3.3 REMOVAL

- A. Remove signs, framing, supports, and foundations at completion of Project and restore the area.

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General product requirements.
- B. Sustainable design-related product requirements.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations and procedures.
- F. Procedures for County-supplied products.
- G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.
- B. Section 01 74 19 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting packaging and substitutions.

1.3 REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.4 SUBMITTALS

- A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
 - 1. Submit within 30 calendar days after date of Notice to Proceed.
 - 2. For products specified only by reference standards, list applicable reference standards.
- B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing Work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.1 NEW PRODUCTS

PRODUCT REQUIREMENTS

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- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. DO NOT USE products having any of the following characteristics:
 - 2. Made using or containing CFC's or HCFC's.
 - 3. Contain asbestos or lead-base paint:
 - a. No materials shall be used in this Project or in any tools, devices, clothing or equipment used to affect this construction that contain asbestos or lead-based paint. All Work or materials found to contain asbestos or lead-base paint, or material installed with asbestos containing equipment or lead-base paint will be immediately rejected and this Work shall be removed by a certified EPA hazard material Contractor under the supervision of a certified hazard material consultant at no additional cost to County.
 - b. Contractor and Subcontractors shall certify that no asbestos containing materials and no lead-base paint were used in this Project. Certification letter must be addressed to County, including Project and Contractors' information; to be notarized.
- C. Where all other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 01 61 16.
 - 2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.
 - 3. Are extracted, harvested, and/or manufactured closer to the location of the Project.
 - 4. Have longer documented life span under normal use.
 - 5. Result in less construction waste.
 - 6. Have a published Green Screen Chemical Hazard Analysis.

2.2 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed. Where Basis of Design product is identified, it shall establish the level of quality for proposed equal products.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.
- D. Equivalent Products: For products specified by name and accompanied by the term "approved equivalent," "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

2.3 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

PRODUCT REQUIREMENTS

NOVEMBER 2019

3.1 SUBSTITUTION PROCEDURES

- A. See Section 01 2500 Substitution Procedures.
- B. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in that section.

3.2 COUNTY-SUPPLIED PRODUCTS

- A. County's Responsibilities:
 - 1. Arrange for and deliver County reviewed shop drawings, product data, and samples, to Contractor.
 - 2. Arrange and pay for product delivery to site.
 - 3. On delivery, inspect products jointly with Contractor.
 - 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 - 5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
 - 1. Review County reviewed shop drawings, product data, and samples.
 - 2. Receive and unload products at site; inspect for completeness or damage jointly with County.
 - 3. Handle, store, install and finish products.
 - 4. Repair or replace items damaged after receipt.

3.3 TRANSPORTATION AND HANDLING

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.4 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to Work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Prevent contact with material that may cause corrosion, discoloration, or staining.

PRODUCT REQUIREMENTS

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- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 61 16 - VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

1.2 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittal procedures.
- B. Section 01 60 00 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

1.3 DEFINITIONS

- A. Interior of Building: Anywhere inside the exterior weather barrier.

1.4 REFERENCE STANDARDS

- A. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions From Indoor Sources Using Environmental Chambers; California Department of Public Health; v1.1, 2010.
- B. CRI (GLP) - Green Label Plus Testing Program - Certified Products; Carpet and Rug Institute; Current Edition.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: For each VOC-restricted product used in the Project, submit evidence of compliance.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All Products: Comply with the most stringent of Federal, State, and local requirements, or these specifications.

PART 3 EXECUTION

3.1 FIELD QUALITY CONTROL

- A. County reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to County.
- B. All additional costs to restore indoor air quality due to installation of non-compliant products shall be borne by Contractor.

END OF SECTION

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SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Pre-installation meetings.
- C. Cutting and patching.
- D. Surveying for laying out the Work.
- E. Cleaning and protection.
- F. Starting of systems and equipment.
- G. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- H. General requirements for maintenance service.

1.2 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.
- B. Section 01 74 19 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.
- C. Section 01 78 00 - Closeout Submittals 01 78 00: Project record documents, operation and maintenance data, warranties and bonds.

1.3 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Survey Work:
 - 1. Submit a copy of site drawing signed by the Land Surveyor, showing that the elevations and locations of the Work are in conformance with Contract Documents.
 - 2. Submit surveys and survey logs for the Project record.
- C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of County or separate Contractor.
- D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.5 QUALIFICATIONS

EXECUTION AND CLOSEOUT REQUIREMENTS

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- A. For survey Work, employ a land surveyor registered in the State in which the Project are located and acceptable to Engineer. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.
- B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of Work and licensed in the State in which the Project is located.

1.6 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. Dust Control: Execute Work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
- F. Erosion and Sediment Control: Plan and execute Work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- G. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various sections of the Specifications to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new 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.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical Work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of Work of separate sections.
- G. After County occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of County's activities.

PART 2 PRODUCTS

2.1 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and Work for patching and extending Work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing Work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Start of Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or miss-fabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations. Furnish information to local utility and County where necessary to adjust, move, or relocate existing utilities and appurtenances.
- F. Prior to Cutting: Examine existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching. After uncovering existing Work, assess conditions affecting performance of Work. Beginning of cutting or patching means acceptance of existing conditions.

1.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

1.3 PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a pre-installation meeting at the 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 Engineer seven calendar days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related Work.

EXECUTION AND CLOSEOUT REQUIREMENTS

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- E. Record minutes and distribute copies within four calendar days after meeting to participants, with two copies to Engineer, participants, and those affected by decisions made.

1.4 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting Work.
- B. Promptly notify Engineer of any discrepancies discovered.
- C. Contractor shall locate and protect survey control and reference points.
- D. Control datum for survey is that indicated on Drawings.
- E. Protect survey control points prior to starting site Work; preserve permanent reference points during construction.
- F. Promptly report to Engineer the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.
- H. Utilize recognized Engineering survey practices.
- I. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations.
- J. Periodically verify layouts by same means.
- K. Maintain a complete and accurate log of control and survey Work as it progresses.
- L. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

1.5 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

1.6 CUTTING AND PATCHING

- A. Whenever possible, execute the Work by methods that avoid cutting or patching.
- B. Perform whatever cutting and patching is necessary to:
 - 1. Complete the Work.
 - 2. Fit products together to integrate with other Work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.

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4. Match Work that has been cut to adjacent Work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new Work damaged by subsequent Work.
 7. Remove samples of installed Work for testing when requested.
 8. Remove and replace defective and non-conforming Work.
- C. Execute Work by methods that avoid damage to other Work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Patching:
1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 2. Match color, texture, and appearance.
 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching Work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.7 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.8 PROTECTION OF INSTALLED WORK

- A. Protect installed Work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

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- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.9 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- D. Verify that wiring and support components for equipment are complete and tested.
- E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.10 DEMONSTRATION AND INSTRUCTION (Not used)

3.11 ADJUSTING (Not used)

3.12 FINAL CLEANING

- A. Execute final cleaning prior to Substantial Completion.
- B. Use cleaning materials that are nonhazardous.
- C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Clean filters of operating equipment.
- G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and other drainage systems.
- H. Clean site; sweep paved areas, rake clean landscaped surfaces.
- I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.13 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Engineer.
- B. Substantial Completion
 - 1. Prepare and submit a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.

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- a. Advise County of pending insurance changeover requirements.
 - b. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - c. Submit data cable test reports.
 - d. Obtain and submit releases permitting County unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - e. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, and similar final record information.
 - f. Deliver tools, spare parts, extra materials, and similar items to location designated by County. Label with manufacturer's name and model number where applicable.
 - g. Make final changeover of permanent locks and deliver keys to County. Advise County's personnel of changeover in security provisions.
 - h. Submit changeover information related to County's occupancy, use, operation, and maintenance.
 - i. Complete final cleaning requirements, including touchup painting. Notify Engineer when Work is considered ready for Engineer's Substantial Completion review.
2. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's Substantial Completion review.
- C. Conduct Substantial Completion inspection and create Final Correction Punch List containing Engineer's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Engineer.
 - D. Correct items of Work listed in Final Correction Punch List and comply with requirements for access to County-occupied areas.

3.14 FINAL COMPLETION

- A. Notify Engineer when Work is considered finally complete and ready for Engineer's Substantial Completion final review.
- B. Complete items of Work determined by Engineer listed in executed Certificate of Substantial Completion.
- C. Before requesting final review for determining final completion, complete the following:
 1. Submit a final Application for Payment.
 2. Submit copy of Engineer's Substantial Completion review list of items to be completed or corrected (punch list), certified by the Contractor, stating that each item has been completed or otherwise resolved for acceptance. This review list will be reviewed and dated by Engineer.
 3. Submit notarized and signed evidence of final, continuing insurance coverage complying with insurance requirements.

EXECUTION AND CLOSEOUT REQUIREMENTS

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4. Submit pest-control final inspection report and signed warranty. Refer to specific warranty requirements elsewhere in Contract Documents.
 5. Instruct County's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- D. In accordance with General Conditions G-6, submit a written request for final review for acceptance. On receipt of request, Engineer will either proceed with review or notify Contractor of unfulfilled requirements. Engineer will notify Contractor of construction that must be completed or corrected.
1. Re-review: Request re-review when the Work identified in previous reviews as incomplete is completed or corrected.
 2. Following completion of all final review items, Contractor shall prepare and submit a final Certificate for Payment.

3.15 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is greater.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the County.

END OF SECTION

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

- A. Requirements and limitations for cutting and patching of Work.
- B. Contractor shall be responsible for cutting, fitting and patching required to complete the following work:
 - 1. Make its parts fit together properly.
 - 2. Uncover work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to Contract Documents.
 - 5. Remove samples of installed work as required for testing.
 - 6. Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit. In-fill and patch openings left by removal of piping, conduit, etc.
- C. Coordinate unanticipated cutting and demolition with the Architect prior to executing work.
- D. Provide special care to protect the areas of the building to be retained. Match surrounding materials and finishes.
- E. Contractor shall be responsible for patching of existing walls and ceilings to a reasonably smooth condition. This may require the removal and cutting of existing ceiling framing, hangers and brackets and patching of the remaining indents and holes.
 - 1. Contractor shall be responsible for cutting, fitting and patching required to complete Work.
 - 2. Coordinate unanticipated cutting and demolition with the Contracting Officer prior to execution of the work.
 - 3. Provide special care to protect the historic fabric of the buildings scheduled to be retained. Match surrounding materials and finishes.

1.3 RELATED SECTIONS

- A. Section 01 11 00 - Summary of Work: Work by County or by separate contractors.
- B. Section 01 25 13 – Product Substitution Procedures.
- C. Section 01 33 00 – Submittals Procedures.
- D. Individual Product Specification Sections:
 - 1. Cutting and patching incidental to work of the Section.

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2. Advance notification to other Sections of openings required in work of those Sections.
3. Limitations on cutting structural and other types of members.

1.4 SUBMITTALS

- A. Shop Drawings: Submit prior to cutting of any structurally or visually significant portion of the Work which is not specifically shown on the Drawings. Obtain written permission for exact location and size of openings from the Architect.
 1. Before cutting into any portion of the structure, obtain written permission from the Architect for each hole to be cut or enlarged. Submit shop drawings indicating exact location and size of detail of reinforcement of such openings.
- B. Submit written request in advance of cutting or alteration which affects:
 1. Structural integrity of any element of Project.
 2. Integrity of weather-exposed or moisture-resistant element.
 3. Efficiency, maintenance, or safety of any operational element.
 4. Visual qualities of sight exposed elements.
 5. Work of County or separate contractor.
- C. Include in request:
 1. Identification of Project.
 2. Location and description of affected work.
 3. Necessity for cutting or alteration.
 4. Description of proposed work, and products to be used.
 5. Alternatives to cutting and patching.
 6. Effect on work of County or separate contractor.
 7. Written permission of affected separate contractor.
 8. Date and time work will be executed.

1.5 QUALITY ASSURANCE

- A. Standards: Refer to Specification Sections.

1.6 WARRANTY

- A. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Primary Products: Identical to those required for original installation.
 1. For exposed surfaces, use materials that virtually match existing adjacent surfaces to fullest extent possible if identical materials are unavailable or cannot be used.
 2. Use materials whose installed performance will equal or surpass that of existing materials.

CUTTING AND PATCHING

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- B. Product Substitution: For any proposed change in materials, submit request for substitution under provisions of Section 01 25 13.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- B. After uncovering existing work, inspect conditions affecting performance of work.
- C. Report unsatisfactory or questionable conditions to Architect in writing; do not proceed with work until Architect has provided further instruction.
- D. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas which may be exposed by uncovering work.
- C. Maintain excavations free of water.
- D. Avoid cutting existing pipes, conduit, or ductwork serving building but scheduled to be removed or relocated until provisions have been made to bypass them.
- E. Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at earliest feasible time and complete.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and subsequent fitting and patching required to restore surfaces to original condition.

3.3 PERFORMANCE

- A. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- B. When warranty may be affected by alterations to original installation of weather exposed and moisture resistant elements, and sight-exposed surfaces, employ original installer to perform cutting and patching.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not allowed without prior approval.
- D. Restore work with new products in accordance with requirements of Contract Documents.
- E. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

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- F. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07_84_00, to full thickness of the penetrated element.

3.4 CUTTING AND PATCHING

- A. General: Execute cutting, fitting, and patching including excavation and fill to complete work.
1. Fit products together, to integrate with other work.
 2. Uncover work to install ill-timed work.
 3. Remove and replace defective or non-conforming work.
 4. Remove samples of installed work for testing when requested.
 5. Provide openings in the work for penetration of mechanical and electrical work.
- B. Cutting:
1. Perform cutting, associated structural reinforcing, and patching in a manner to prevent damage to other Work, and to provide proper surfaces for the installation of new materials, equipment and repairs. Adjust and fit products to provide a neat installation.
 2. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not allowed without prior written approval.
- C. Gypsum Board and Plaster: At the Contractor's option, on existing walls and ceilings designated for cutting and patching work, the Contractor may use any of the following methods, or combination thereof, to match adjacent wall plane and finish, and as required to meet the required fire ratings:
1. Patch gypsum board walls or ceilings with new gypsum board the same thickness as existing surface.
 2. Patch plaster walls or ceilings using plaster to match and align with the adjacent surface thickness.
 3. Remove entire gypsum board or plaster surface plane and replace with new gypsum board to the corner of the wall or ceiling plane.
- D. At partitions and ceilings indicated as "existing to remain", provide modification of finishes for new Work including, but not necessarily limited to, acoustical treatment, electrical, plumbing, etc. See Drawings for extent of work.
1. At Contractor's option, where modifications are required, finishes may be cut and patched, or removed and replaced on one or both sides.
- E. Patching:
1. Patch surfaces to match adjacent surfaces. Finish to nearest intersection. For an assembly, refinish entire unit.
 2. Patch to achieve security; strength; weather protection, as applicable; efficiency, operational life, maintenance, and safety of operational elements; and to preserve continuity of existing fire ratings.
 3. Patch surfaces to successfully duplicate undisturbed adjacent profiles, materials, textures, finishes and colors. Use materials which match existing construction.
 4. Where there is dispute as to whether duplication is successful or has been achieved to a reasonable degree, the Architect's decision will be final.
 5. Fit work to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

CUTTING AND PATCHING

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6. At penetrations of fire-rated walls, partitions, ceilings, and floor construction completely seal voids with fire-rated material in accordance with Section 07 8400, and U.L. specifications to full thickness of the penetrated element.

3.5 FINISHING

- A. Finish or refinish, as applicable, cut and patched surfaces to match adjacent finishes. Replace materials which are damaged or abused and cannot be neatly repaired as a result of cutting and patching operations.
- B. Refinish entire surfaces as necessary to provide even finish to match adjacent finishes:
 1. For continuous surfaces, refinish to nearest intersection or natural break.
 2. For an assembly, refinish entire unit.
- C. Painting: Paint over complete surface planes, unless otherwise indicated or directed. Over patched wall and ceiling surfaces, paint to nearest cutoff line for entire surface, such as the intersection with adjacent wall or ceiling, beam, or to nearest opening frame, unless otherwise indicated or directed. Painted surfaces shall not appear spotty or touched-up.

END OF SECTION

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SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 WASTE MANAGEMENT REQUIREMENTS

- A. The Contractor shall review, understand and apply the requirements of the County's Municipal Code Title 30.
- B. County requires that this Project generate the least amount of trash and waste possible.
- C. County requires that this Project use one of the commercial haulers authorized to collect waste and recycling in Hamilton City.
- D. Comply with Section 5.408 Construction Waste Reduction, Disposal and Recycling, and 5.408.3.1 Enhanced construction waste reduction – Tier 1, of the 2016 California Green Building Standards Code.
- E. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- F. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- G. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
 1. Aluminum and plastic containers.
 2. Corrugated cardboard and paper.
 3. Wood pallets.
 4. Clean dimensional wood.
 5. Bricks.
 6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
 7. Glass.
 8. Gypsum drywall and plaster.
 9. Plastic buckets.
 10. Paint, solvents, cleaners, lubricants, adhesives and all other waste considered to be hazardous under State or Federal Regulations.
 11. Plastic sheeting.
 12. Rigid foam insulation.
 13. Windows.
 14. Batteries
- H. Contractor shall submit Waste Disposal Reports along with every payment application; all landfill disposal, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.
- I. Methods of trash/waste disposal that are not acceptable are:
 1. Burning on the Project site.
 2. Burying on the Project site.
 3. Dumping or burying on other property, public or private.
 4. Other illegal dumping or burying.

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- J. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, State and local requirements.

1.2 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements 01 30 00: Additional requirements for Project meetings, reports, submittal procedures, and Project documentation.
- B. Section 01 50 00 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.
- C. Section 01 60 00 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.
- D. Section 01 70 00 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.3 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosively, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosively, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. Recycle: To remove a waste material from the Project site to another site for remanufacture into a new product for reuse by others.
- H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. Return: To give back reusable items or unused products to vendors for credit.
- J. Reuse: To reuse a construction waste material in some manner on the Project site.
- K. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.
- L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.4 SUBMITTALS

- A. Submit Waste Management Plan within 21 calendar days after receipt of NTP (Notice to Proceed), or prior to any trash or waste removal, whichever occurs sooner; submit projection of all trash and waste that will require disposal and alternatives to landfilling.
 1. Waste Management Plan must be approved by the local jurisdiction for the Project to be able to obtain building permit.
- B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
 1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
 2. Submit Report on a form acceptable to County.
 3. Landfill Disposal: Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the Project disposed of in landfills.
 - c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 2. Incinerator Disposal: Include the following information:
 - a. Identification of material.
 - b. Amount, in tons or cubic yards (cubic meters), of trash/waste material from the Project delivered to incinerators.
 - c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 3. Recycled and Salvaged Materials: Include the following information for each:
 - a. Identification of material, including those retrieved by installer for use on other Projects.
 - b. Amount, in tons or cubic yards (cubic meters), date removed from the Project site, and receiving party.
 - c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
 - d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
 - e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
 4. Material Reused on Project: Include the following information for each:
 - a. Identification of material and how it was used in the Project.
 - b. Amount, in tons or cubic yards (cubic meters).
 - c. Include weight tickets as evidence of quantity.

5. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS-NOT USED

PART 3 EXECUTION

3.1 WASTE MANAGEMENT PROCEDURES

- A. See Section 01 50 00 for additional requirements related to trash/waste collection and removal facilities and services.
- B. See Section 01 60 00 for waste prevention requirements related to delivery, storage, and handling.
- C. See Section 01 70 00 for trash/waste prevention procedures related to cutting and patching, installation, protection, and cleaning.

3.2 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Manager: Designate an on-site person or persons responsible for instructing Workers and overseeing and documenting results of the Waste Management Plan.
- B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each Subcontractor, and Engineer.
- C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- D. Meetings: Discuss trash/waste management goals and issues at project meetings.
 1. Pre-construction meeting.
 2. Regular job-site meetings.
- E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all Contractors and installers.
 1. As a minimum, provide:
 - a. Separate area for storage of materials to be reused on-site, such as wood cut-offs for blocking.
 - b. Separate dumpsters for each category of recyclable.
 - c. Recycling bins at Worker lunch area.
 2. Provide containers as required.
 3. Provide temporary enclosures around piles of separated materials to be recycled or salvaged.
 4. Provide materials for barriers and enclosures that are nonhazardous, recyclable, or reusable to the maximum extent possible; reuse Project construction waste materials if possible.
 5. Locate enclosures out of the way of construction traffic.
 6. Provide adequate space for pick-up and delivery and convenience to Subcontractors.
 7. If an enclosed area is not provided, clearly lay out and label a specific area on-site.
 8. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

- F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.
- G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

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SECTION 01 78 00 - CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties.

1.2 RELATED REQUIREMENTS

- A. General Conditions and Supplementary Conditions requirements.
- B. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

1.3 SUBMITTALS

- A. Project Record Documents: Submit documents to Engineer with Final Payment application. All documents will be in digital format noted below, except as otherwise noted.
- B. Operation and Maintenance Data:
 - 1. For equipment, or component parts of equipment put into service during construction and operated by County, submit completed documents within ten calendar days after acceptance.
 - 2. Submit one copy of completed documents 15 calendar days prior to final inspection. This copy will be reviewed and returned after final inspection, with Engineer comments. Revise content of all document sets as required prior to final submission.
 - 3. Submit two sets of revised final documents in final form within 10 calendar days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with County's permission, submit documents within 10 calendar days after acceptance.
 - 2. Make other submittals within 10 calendar days after Date of Substantial Completion, prior to final Application for Payment.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.

3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Inspection records.
7. Permits.
- B. Ensure entries are complete and accurate, enabling future reference by County.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each 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.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 1. Measured depths of foundations in relation to finish first floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 4. Field changes of dimension and detail.
 5. Details not on original Contract drawings.
- G. Provide two digital copies of all documents above (A through F) in high resolution PDF Format, with one digital copy on each USB thumb drive.

3.2 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Sub-Contractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- E. Provide two digital copies of all documents above (A through D) in high resolution PDF digital format, with one digital copy on each USB thumb drive. Hard copies are not required.

1.3 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 1. Product data, with catalog number, size, composition, and color and texture designations.

- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Additional information as specified in individual product specification sections.
- D. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- E. Provide two digital copies of all documents above (A through D) in high resolution PDF digital format, with one digital copy on each USB thumb drive. Hard copies are not required.

1.4 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into high resolution PDF digital format for County's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate digital tabbed divider for each system.
- C. Cover: Identify each document with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- D. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Engineer, Consultants, Contractor and subcontractors, with names of responsible parties.
- E. Tables of Contents: List every item separated by a digital divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- F. Dividers: Provide digital tabbed subfolders for each separate product and system; identify the contents on the subfolder tab; immediately following the subfolder tab include a brief description of product and major component parts of equipment.
- G. Text: Manufacturer's printed data, or typewritten data.
- H. Drawings: Provide in high resolution PDF digital format.
- I. Arrangement of Contents: Organize each volume in parts as follows:
 - 1. Project Directory.
 - 2. Table of Contents, of all volumes, and of this volume.
 - 3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Product data, shop drawings, and other submittals.
 - c. Operation and maintenance data.
 - d. Field quality control data.
 - e. Photocopies of warranties and bonds.
- J. Provide two digital copies of all documents above (A through I) in high resolution PDF Format, with one digital copy on each USB thumb drive. Hard copies are not required.

1.5 WARRANTIES

- A. Refer to each specification section for specific warranty requirements.
- B. Provide digital copies of warranties, executed in by responsible Subcontractors, suppliers, and manufacturers, within 10 calendar days after completion of the applicable item of Work. Except for items put into use with County's permission, leave date of beginning of time of warranty until the date of Project Acceptance by the County.
- C. Verify that documents are in proper format, contain full required information and terms, and are notarized.
- D. Co-execute submittals when required.
- E. Include in operation and maintenance manuals, indexed separately on Table of Contents.
- F. Provide two digital copies of all documents above (A through E) in high resolution PDF Format, with one digital copy on each USB thumb drive. Hard copies are not required except where required by manufacturer in order to honor warranty.

END OF SECTION