

**PROJECT MANUAL**

**NORTH COUNTY ADMIN ROOF UPGRADE**

**GLENN COUNTY GENERAL SERVICES**

**Project located at**

**821 E. SOUTH ST.  
ORLAND, California 95963**

**OCTOBER 2023**

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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. Provide all labor, equipment and materials to remove and install a new roof system over a properly prepared substrate at 821 E. South St. Orland, CA 95963. Contractor will tear off existing roof, remove heating, ventilation, and air conditioning (HVAC) units and the structures they are currently installed, locate and repair/replace all areas of damaged substrate, build new curbs for HVAC units, install coverboard, 2-ply modified bitumen roofing system, installation of HPR Aqua Shield underlayment, installation of Composition Shingles, use Title 24 compliant roof coating and re-install HVAC units on new curbs. Specific details included in the bid package shall further define the description of work.

#### **1.2 GLENN COUNTY OCCUPANCY**

- A. Glenn County intends to occupy the Project 60 Days from the Notice to Proceed.
- B. The Contractor shall schedule the Work to accommodate Glenn 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 2019 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.
- 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

**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 or modified or where scope of Work is increased, all Work pertaining to that required

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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. Alternates:

NONE

PART 2 - ADDITIVE ALTERNATE 1: PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION 01 23 00

## **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 Owner.
  2. Documentation: Submit the information indicated below to provide the Owner 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.
    - 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. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Owner 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. Owner's Supplemental Instructions may be used for minor changes in the Work.
  - b. Use product specified if Owner 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, Owner 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: Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner 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. Owner 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 Owner.

#### **1.4 PROPOSAL REQUESTS**

- A. County-Initiated Proposal Requests: Owner 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 Owner 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 Owner.
- 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 Owner.

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 Owner.

#### **1.5 CHANGE ORDER PROCEDURES**

- A. On County's approval of a Proposal Request, Owner 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: Owner 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.

#### **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 30 00 Section "Submittal Procedures" for administrative requirements governing the preparation and submittal of the submittal schedule

#### **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 Owner 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 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 Owner.
    - 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.
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 Owner and paid for by County.

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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 Owner 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 Owner.
- D. Application for Payment Forms: Use forms acceptable to Owner 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. Owner 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.
  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 Owner 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.

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- 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.
  - 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.
- 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.



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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 Owner and/or others.

#### **1.2 RELATED SECTIONS**

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

### **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.
- 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. It is Contractor's responsibility to submit documents in PDF format.
- D. Paper document transmittals will not be reviewed (except Deferred Approvals and Close-Out Maintenance & Operations Manuals); emailed PDF documents will not be reviewed.
- E. All other specified submittal and document transmission procedures apply, except that electronic document requirements to not apply to samples or color selection charts.

#### **3.2 GENERAL REQUIREMENT AND PROCEDURES**

- A. Contractor shall package each submittal appropriately for transmittal and handling and will then send Construction Manager 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 Owner review, Owner shall transmit submittals to Contractor. Contractor shall further distribute to Subcontractor's and others as required. Work shall not commence, unless otherwise approved by Owner 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 Owner, (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 Owner, those Shop Drawings, Product Data, diagrams, materials lists, Samples and other submittals required by the Contract Documents.
  - 2. The Contractor shall submit within five (5) 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.
  - 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 Owner reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received by Owner.
  - 5. Contractor shall revise, update and submit submittal schedule to Owner 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 Owner review following Owner receipt of submittal. For mechanical, plumbing, electrical, structural, and other submittals requiring joint review with Owner's Consultants, and/or others, Contractor shall allow a minimum of eighteen (18) calendar days following Owner receipt of submittal. Submittals will be reviewed with reasonable promptness, but Owner 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 Owner 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 Owner 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. Owner, 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 Owner, 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 Owner, 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 Owner, 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.
  4. Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Owner, 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 Owner, or authorized agent, will return the submittal identified with legend “No Action Taken”.
- I. Review and Approval of Submittals by the Owner: 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 Owner review, and the action taken. Include the following information on the label for processing and recording action taken:
  - 1. Project name.
  - 2. Project number.
  - 3. Date.
  - 4. Name and address of Owner.
  - 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 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 Owner for review and selection by Owner.
  4. Required Copies and Distribution: Same as denoted in Section 3.02.

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- 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 Owner, 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 70 00 Section "Execution" for procedures for coordinating general installation and field-Engineering services, including establishment of benchmarks and control points.
  - 4. Division 01 78 00 Section "Closeout Procedures" for coordinating closeout of the Contract.

#### **1.3 DEFINITIONS**

- A. RFI: Request For Interpretation (RFI) from Owner 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.

#### **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: Owner 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 Owner determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Owner 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. Owner will return RFIs submitted to Owner 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.

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3. Date.
4. Name of Contractor.
5. Name of Owner
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 Owner.
  1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Owner's and Owner's Action: Owner and Construction Manager will review each RFI, determine action required, and respond. Allow ten (10) calendar days for Engineer's response for each RFI.
  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 Owner's actions on submittals.
    - g. Incomplete RFIs or inaccurately prepared RFIs.
  2. Owner's action may include a request for additional information, in which case Owner's time for response will date from time of receipt of additional information.
  3. Owner'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 Owner in writing within eight calendar days of receipt of the RFI response.
  4. Name and address of Owner.
  5. Date Owner's and Owner's response was received.
- E. On receipt of Owner's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Owner within eight calendar days if Contractor disagrees with response.

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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.

### **1.8 PROJECT MEETINGS**

- A. General: Owner 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: Owner shall schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner, but no later than fifteen calendar days after execution of the Agreement.
  1. Conduct the conference to review responsibilities and personnel assignments.
  2. Attendees: Owner and Owner'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. Designation of key personnel and their duties.
    - c. Lines of communications.
    - d. Procedures for processing field decisions and Change Orders.
    - e. Procedures for RFIs.
    - f. Procedures for testing and inspecting.
    - g. Procedures for processing Applications for Payment.
    - h. Distribution of the Contract Documents.
    - i. Submittal procedures.
    - j. Sustainable design requirements.
    - k. Use of the premises.
    - l. Work restrictions.
    - m. Working hours.
    - n. County's occupancy requirements.
    - o. Responsibility for temporary facilities and controls.
    - p. Procedures for moisture and mold control.
    - q. Procedures for disruptions and shutdowns.
    - r. Construction waste management and recycling.
    - s. Parking availability.
    - t. Office, Work, and storage areas.
    - u. Equipment deliveries and priorities.
    - v. First aid.

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- w. Security.
  - x. Progress cleaning.
  - y. Labor law, including payment and reporting requirements.
  - 4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. 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, Owner shall schedule and conduct a Project closeout conference, at a time convenient to Owner and Contractor, but no later than thirty calendar days prior to the scheduled date of Project Completion.
  - 2. Attendees: Authorized representatives of Owner, 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.
    - 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.
- D. Progress Meetings: Owner shall conduct progress meetings as needed.
- 1. Coordinate preparation of payment requests with dates of meetings.
  - 2. Attendees: In addition to representatives of Owner, 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.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

**END OF SECTION**

### REQUEST FOR INTERPRETATION

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



## **SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS**

### **PART 1 GENERAL**

#### **1.1 SECTION INCLUDES**

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

#### **1.2 RELATED REQUIREMENTS**

- A. N/A

#### **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 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.

#### **1.5 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.

#### **1.6 SECURITY**

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

#### **1.7 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 Construction Manager.
- C. Provide and maintain access to fire hydrants, free of obstructions.

**1.8 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.

**1.9 PROJECT TEMPORARY SIGNS - None**

**1.10 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 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. 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**

- 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.

## **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**

### **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**

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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.

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.
- 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**

## **SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS**

### **PART 1 GENERAL**

#### **1.1 SECTION INCLUDES**

- A. Examination, preparation, and general installation procedures.
- B. Cutting and patching.
- C. Surveying for laying out the Work.
- D. Cleaning and protection.
- E. Closeout procedures

#### **1.2 RELATED REQUIREMENTS**

- A. Section 01 74 19 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.
- B. 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 PROJECT CONDITIONS**

- A. Use of explosives is not permitted.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- D. 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.



- E. 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.

## **1.6 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 LAYING OUT THE WORK**

- A. Verify locations of survey control points prior to starting Work.
- B. Promptly notify Construction Manager 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 Construction Manager 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 Construction Manager.
- 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.

## **1.4 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.

### **1.5 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.
  - 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.
- 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 DEMONSTRATION AND INSTRUCTION (Not used)**

### **3.10 ADJUSTING (Not used)**

### **3.11 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.

### **3.12 CLOSEOUT PROCEDURES**

- A. Make submittals that are required by governing or other authorities.
  - 1. Provide copies to Construction Manager.
- A. Submit a written request for final review for acceptance. On receipt of request, Construction Manager will either proceed with review or notify Contractor of unfulfilled requirements. Construction Manager 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, Contactor shall prepare and submit a final Certificate for Payment.

**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 Construction Manager 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 Construction Manager.
  1. Before cutting into any portion of the structure, obtain written permission from the Construction Manager 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.

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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 Construction Manager in writing; do not proceed with work until Construction Manager 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 Construction Manager's decision will be final.
  - 5. Fit work to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

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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

## **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.

- 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 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.
- 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.

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- 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**

## **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

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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**

SECTION 07311  
COMPOSITION SHINGLES  
**NORTH COUNTY ADMIN ROOF UPGRADE**

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Provide all labor, equipment, and materials to install a composition shingle roof system over the properly prepared substrate. The scope of work includes but is not limited to:
1. Full removal and disposal of existing roofing materials.
  2. Locate and repair/replace all areas of damaged substrate.
  3. Installation of HPR Underlayment.
  4. Install new sheet metal components per details.
  5. Install new composition shingles per manufacturers specifications.

1.2 RELATED SECTION

- A. General Conditions

1.3 REFERENCES

- A. ASTM B209 - Aluminum-Alloy Sheet and Plate
- B. ASTM D226 - Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing. C.  
ASTM D228 - Method of Testing Asphalt Roll Roofing, Cap Sheets and Shingles. D.  
ASTM D4586 - Asphalt Roof Cement, Asbestos Free.
- E. ASTM D3161 - Wind Resistance of Asphalt Shingles
- F. ASTM D3018 - Class A Asphalt Shingles Surfaced with Mineral Granules.
- G. ASTM A361 - Sheet Steel, Zinc Coated (Galvanized) by the Hot-Dip Process for Roofing and Siding.
- H. ASTM B370 - Copper Sheet and Strip for Building Construction.
- I. NRCA - Steep Roofing Manual.
- J. ARMA - Residential Asphalt Roofing Manual.
- K. UL 790 - Tests for Fire Resistance of Roof Covering Materials.
- L. UL 997 - Wind Resistance of Prepared Roof Covering Materials.

1.4 SYSTEM DESCRIPTION

- A. It is the intent of this specification to install a long-term, quality roof system that meets or exceeds all current NRCA guidelines as stated in the most recent edition of the NRCA Roofing and Waterproofing Manual. Please discuss any concerns with the Architect and Roofing System Manufacturer.

## 1.5 SUBMITTALS

- A. Submit under provisions of Section 07311.
- B. Product Data: Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements.
- C. Samples: Submit two (2) samples of each product specified.
- D. Manufacturer's Installation Instructions: Submit installation instructions and recommendations indicating special precautions required.
- E. Submit one color board for color approval from the Owner.
- F. Submit a copy of an unexecuted manufacturer's warranty for review.

## 1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum 12 years documented experience.
- B. Installer: Company specializing in steep slope roofing installation with a minimum 5 years experience and authorized by roofing system manufacturer as qualified to install manufacturer's roofing materials.
- C. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work and at any time roofing work is in progress. Maintain proper supervision of workmen. Maintain a copy of the specifications in the possession of the Supervisor/Foremen and on the roof at all times.
- D. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner has the right to hire a qualified contractor and back charge the original contractor.

## 1.7 PRE-INSTALLATION CONFERENCE

- A. Pre-Roofing Conference: Convene a pre-roofing conference Scheduled commencement of roofing system installation and associated work.
- B. Require attendance of installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in and around roofing which must precede or follow roofing work (including mechanical work if any), Owner, roofing system manufacturer's representative.
- C. Objectives of conference to include:
  - 1. Review foreseeable methods and procedures related to roofing work.
  - 2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by others.
  - 3. Review roofing system requirements (drawings, specifications and other contract documents).

4. Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.

5. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).

#### 1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.

B. Store and handle roofing in a dry, well-ventilated, weather-tight place to ensure no possibility of significant moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene).

C. Do not leave unused materials on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.

D. It is the responsibility of the contractor to secure all material and equipment on the job site. If any material or equipment is stored on the roof, the contractor must make sure that the integrity of the deck is not compromised at any time. Damage to the deck caused by the contractor will be the sole responsibility of the contractor and will be repaired or replaced at his expense.

#### 1.9 MANUFACTURER'S INSPECTIONS

A. When the project is in progress, the roofing system manufacturer will provide the following at no charge:

1. Keep the Owner informed as to the progress and quality of the work as observed.

2. Provide job site inspections a minimum of two days a week with photo conformation and reported to the owner.

3. Report to the Owner in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.

4. Confirm after completion that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

#### 1.10 PROJECT CONDITIONS

A. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.

B. Do not apply roofing materials or membrane to damp deck surface.

C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

Marysville USD 07 31 11 -3 Composition Shingles

D. Nailing requirements of composition shingles must conform to all applicable local codes. 1.11

## SEQUENCING AND SCHEDULING

- A. Sequence installation of composition roofing with related units of work specified in other sections to ensure that roof assemblies including roof accessories, flashing, trim and joint sealers are protected against damage from effects of weather, corrosion and adjacent construction activity.
- B. Every stage of progress completed must be inspected by owner or owner's representative prior to moving forward to next stage of the installation.

### 1.12 WARRANTY

- A. Upon completion of roof installation, and acceptance Manufacturer will supply to the Owner a 50-year manufacturers' composition limited shingle warranty.
- B. Contractor will submit a minimum of a two year workmanship warranty to the Owner with a copy directly to membrane manufacturer.

### 1.13 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Any item or materials submitted as a substitution to the manufacturer specified must comply in all respects as to the quality and performance of the brand name specified. The Owner shall be the sole judge as to whether or not an item submitted as a substitute is truly equal. All items as listed under section 07311 1.5 submittals must be presented to the district a minimum of (10) days prior to the bid date for review.

## PART 2 PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS

- A. When a particular trade name or performance standard is specified it shall be indicative of a standard required.
- B. Provide products as manufactured by
  - The Garland Company – Rmer Seal.
  - PABCO Prestige dimensional shingle 300 lbs per 100 sq ft or equal.

### 2.2 DESCRIPTION

- A. Asphalt Shingles: UL Class A Rating and Wind Resistance Label, glass fiber mat base, mineral surface, color selected by Owner.

### 2.3 SHEET MATERIALS

- A. Underlayment: Rmer Seal by The Garland Company, Inc.

### 2.4 RELATED MATERIALS

- Marysville USD 07 31 11 -4 Composition Shingles
- A. Nails: Standard round wire shingle type, Zinc coated steel, 10-12 gauge, barbed or deformed shank, with heads 3/8" to 7/16" in diameter. Nails must be long enough to penetrate into solid wood deck at least 3/4" or just through plywood and oriented strand

board decks.

- B. Plastic Cement: ASTM D4586 Type I or Type II. Flashing Bond by The Garland Co.
- C. New, non-corrosive, metal step flashing, minimum 24 gauge (or equivalent) to be used as step flashing around chimneys, dormers, and side walls.
- D. New four pound lead roof jacks with factory tops to be used around all plumbing vents. Paint all pipes when completed.
- E. Urethane Sealant: One part, non-sag sealant as recommended and furnished by the membrane manufacturer for moving joints. Tuff Stuff by The Garland Company.
  - 1. Tensile Strength (ASTM D412) 250 psi
  - 2. Elongation (ASM D412) 950%
  - 3. Hardness, Shore A (ASTM C920) 35
  - 4. Adhesion-in-Peel (ASTM C920) 30 pli

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that deck surfaces and project conditions are ready to receive work of this section. B. Verify that deck is supported and secured to structural members.
- C. Verify that deck is clean and smooth, free of depressions, projections or ripples, and is properly sloped to drains.
- D. Verify that adjacent roof members do not vary more than 1/4 inch in height. E. Verify that deck surfaces are clean and dry.

### 3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Place one ply of Rmer Seal underlayment as manufactured by The Garland Company and have ends lapped a minimum of 4 inches over itself. Stagger end laps of each consecutive layer a minimum of 3 feet. In valleys, run Rmer Seal minimum 6 inches over valley protection. Nail in place per manufacturer's requirements.
- B. At all vent pipes, install a 2 square foot piece of Rmer Seal underlayment.
- C. At all vertical walls, install Rmer Seal so that it extends at least 6 inches up the vertical wall and 12 inches onto the horizontal roof.
- D. At all chimneys, install Rmer Seal around entire chimney extending up all vertical surfaces at least 6 inches and 12 inches onto the horizontal roof.
- E. Install shingles in accordance with manufacturer's instructions.
- F. Install 6 nails per shingle, as recommended by local building codes. Staples are not acceptable.
- G. Install Hip and Ridge shingles per manufacturer's instructions.

Marysville USD 07 31 11 -5 Composition Shingles



### 3.3 FIELD QUALITY CONTROL

A. Perform field inspection and testing as required under provisions of Section 07311. B.

Correct defects or irregularities discovered during field inspection.

C. Require attendance of roofing materials manufacturers' representative at site during installation of the roofing system.

### 3.4 CLEANING

A. In areas where finished surfaces are soiled by asphalt or any other sources of soiling caused by work of this section, consult manufacturer of surfaces for cleaning instructions and conform to their instructions.

B. Repair or replace defaced or disfigured finishes caused by work of this section.

C. Perform daily cleanup around building. Magnet on wheels to be used to pick up all metal shavings, staples, nails, etc.

### 3.5 FINAL INSPECTION

A. At completion of roofing installation and associated work, meet with Contractor, installer, installer of associated work, Owner, roofing system manufacturer's representative and other representatives directly concerned with performance of roofing system.

B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.

C. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

D. Notify the material manufacturer and the district upon completion of corrections.

E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

END OF SECTION

## SECTION 07500

### MODIFIED BITUMINOUS MEMBRANE ROOFING

#### NORTH COUNTY ADMIN ROOF UPGRADE

#### PART 1 — GENERAL

##### 1.1 SCOPE OF WORK

- A. Provide all labor, equipment and non-owner supplied materials to install the new roof system over the properly prepared substrate.
  - 1. Tear off existing roof system (s) to the structural deck.
  - 2. Locate and repair/replace all areas of damaged substrate prior to installing new roof system. Roofing manufacturer must have representative inspect structural deck prior to any materials being installed.
  - 3. Install ½” fiber board per specification.
  - 4. Install modified base sheet per specification.
  - 5. Install modified cap sheet per specification.
  - 6. Remove and replace existing sheet metal edge flashing from all roof sections.
  - 7. Remove and replace existing gutter system on all roof sections.
  - 8. Apply Title 24 compliant “Cool Roof” coating per specification.

##### 1.2 REFERENCES

- A. American Society of Civil Engineers (ASCE):
  - 1. ASCE 7-10, Minimum Design Loads for Buildings and Other Structures.
- B. American Society for Testing and Materials (ASTM):
  - 1. ASTM D41 Standard Specification for Asphalt Primer Used in Roofing, Dampproofing and Waterproofing.
  - 2. ASTM D312 Standard Specification for Asphalt Used in Roofing.
  - 3. ASTM D5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
  - 4. ASTM E108 Standard Test Methods for Fire Test of Roof Coverings.
- C. Factory Mutual Research (FM):

1. Roof Assembly Classifications.
- D. National Roofing Contractors Association (NRCA):
1. Roofing and Waterproofing Manual.
- E. Underwriters Laboratories, Inc. (UL):
1. Fire Hazard Classifications.
- F. Warnock Hersey (WH):
1. Fire Hazard Classifications.

### **1.3 SUBMITTALS FOR REVIEW**

- A. Product Data: Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements. Include data substantiating that materials comply with the minimum specified requirements including rubber content, low temperature flexibility, tensile strength, tear strength, and amount of recycled content (post consumer and post industrial).
- B. Samples: Submit samples of the following:
1. Cap Sheet
  2. SBS Modified Base Sheet
  3. Membrane wall and curb flashing with no hems
- C. Specimen Warranty: Provide an unexecuted copy of the 30 year No Dollar Limit water tight warranty covering every part of the Built Up Roofing system specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
- D. Any material submitted as equal to or better than the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the Design and Performance criteria in this specification. All items from 1.4 and 1.5 of this section must be provided in substitution request.
- E. Substitution requests submitted without licensed engineer approval will be rejected for non-conformance. Substitution requests will only be considered from prime contractors.
- F. Design Wind Loads: Submit copy of manufacturer's minimum design load calculations according to ASCE 7-10, Method 2 for Components and Cladding, sealed by a registered professional structural II engineer licensed in California and employed by the system manufacturer as a full-time staff engineer. In no case shall the design loads be taken to be less than those detailed in Design and Performance Criteria article of this specification.

#### **1.4 SUBMITTALS FOR INFORMATION**

- A. Manufacturer's Installation Instructions: Submit installation instructions and recommendations indicating special precautions required for installing the membrane.
- B. Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.
- C. Manufacturer's Certificate: Certify that the roof system furnished is approved or accepted by Factory Mutual Approval Standard 4470.
- D. Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate if available.
- E. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.
- F. Written certification from the roofing system manufacturer certifying the applicator is currently authorized for the installation of the specified roof system.

#### **1.5 CONTRACT CLOSEOUT SUBMITTALS**

- A. General: Comply with Requirements of Division 01 Section - Closeout Submittals.
- B. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- C. Roofing Maintenance Instructions. Provide a manual of manufacturer's recommendations for maintenance of installed roofing systems.
- D. Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.
- E. Demonstration and Training Schedule: Provide a schedule of proposed dates and times for instruction of Owner's personnel in the maintenance requirements for completed roofing work. Refer to Part 3 for additional requirements.

#### **1.6 QUALITY ASSURANCE**

- A. Installer Qualifications: Company specializing in modified bituminous roofing installation with not less than 3 years-experience.
- B. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress. Maintain proper supervision of workmen.

- C. Maintain a copy of the Contract Documents in the possession of the Supervisor/Foreman and on the roof at all times.
- D. Source Quality Control: Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001.
- E. Material Manufactures full time Representative to perform three times weekly field inspections and reports. The reports are to be updated every Friday on-line with photo's and job in progress written updates. Reports and inspections will be performed free of charge to the owner.

## **1.7 PRE-INSTALLATION CONFERENCE**

- A. Pre-Installation Roofing Conference: Convene a pre-roofing conference before scheduled commencement of modified bituminous roofing system installation and associated work.
- B. Require attendance of installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in and around roofing that must precede or follow roofing work (including mechanical work if any), Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work:
  - 1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
  - 2. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by others.
  - 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
  - 4. Review roofing system requirements specifications and other contract documents.
  - 5. Review required submittals both completed and yet to be completed.
  - 6. Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
  - 7. Review required inspection, testing, certifying and material usage accounting procedures.
  - 8. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).
  - 9. Record discussion of conference including decisions and agreements (or disagreements) reached and furnishes copy of record to each party attending. If

substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.

10. Review notification procedures for weather or non-working days.
- C. The Owner's Representative will designate one of the conference participants to record the proceedings and promptly distribute them to the participants for record.
- D. The intent of the conference is to resolve issues affecting the installation and performance of roofing work. Do not proceed with roofing work until such issues are resolved to the satisfaction of the Owner.

## **1.8 DELIVERY, STORAGE AND HANDLING**

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store and handle roofing sheets in a dry, well-ventilated, weather-tight place to prevent moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene).
- C. Do not leave unused materials on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.
- D. Secure all material and equipment on the job site. If any material or equipment is stored on the roof, assure that the integrity of the deck is not compromised at any time. Damage to the deck caused by the Contractor's actions will be the sole responsibility of the Contractor, and the deck will be repaired or replaced at his expense.

## **1.9 MANUFACTURER'S INSPECTIONS**

- A. When the Project is in progress, the roofing system manufacturer will provide the following services free of charge:
  1. Report progress and quality of the work as observed with weekly on-line reports. Reports are due every Monday on-line to the Owner; reports to include photos of work in progress and completed work.
  2. Report to the Owner in writing any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
  3. Confirm after completion that manufacturer has observed no application procedures in conflict with the specifications other than those that may have been previously reported and corrected.

## **1.10 PROJECT CONDITIONS**

- A. Proceed with roofing work only when existing and forecasted weather conditions will permit a unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- B. Do not apply roofing insulation or membrane to damp deck surface.
- C. Do not expose materials subject to water or solar damage in quantities greater than can be weatherproofed during same day.

## **1.11 SEQUENCING AND SCHEDULING**

- A. Sequence installation of roofing with related units of work specified in other Sections to ensure that roof assemblies, including roof accessories, flashing, trim and joint sealers, are protected against damage from effects of weather, corrosion and adjacent construction activity.
- B. Complete all roofing field assembly work each day. Phased construction will not be accepted.

## **1.12 WARRANTY**

- A. Upon completion of installation, and acceptance by the Owner the Manufacturer will supply to the Owner a 30 Year No Dollar Limit Warranty. One manufacturer to provide warranties for roofing membrane, edge metal, and drainage system
- B. Installer will submit a (2) two year warranty to the membrane manufacturer with a copy directly to Owner.

## **1.13 DESIGN AND PERFORMANCE CRITERIA**

- A. Uniform Wind Uplift Load Capacity
  - 1. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria. Attachment shall be installed exactly as given in Part 3. (To be included with bid documents)
    - a. Design Code: ASCE 7-10, Method 2 for Components and Cladding.
    - b. Category III Building with an Importance Factor of 1.15.
    - c. Safety Factor: 1.650 after any load reduction or material stress increase.
    - d. Wind Speed: 130 MPH
    - e. Ultimate Pullout Value: 730 lbs.
    - f. Exposure Category: C

- g. Design Roof Height: 20 feet.
- h. Minimum Building Width: 115 feet.
- i. Roof Pitch: 1/2 inches per foot.
- j. Topographic Factor: 1.00
  - 1) Roof Area Design Uplift Pressure:
  - 2) Zone 1 - Field of roof: 20.6
  - 3) Zone 2 - Eaves, ridges, hips and rakes
  - 4) Zone 3 - Corners

## **PART 2 — PRODUCTS**

### **2.1 PRODUCTS, GENERAL**

- A. Refer to Division 01 Section Common Product Requirements.
- B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- C. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
  - 1. Proposals shall be accompanied by a copy of the manufacturer's standard specification Section.
  - 2. Include a list of five (5) projects of similar type and extent, located within a one hundred mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Owner or Owner's Representative.
  - 3. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
  - 4. Substitution request must be submitted by prime bidding contractor a minimum of 7 business days before Bid Due Date.

### **2.2 DESIGN BASED UPON**

- A. The design is based upon roofing systems engineered and manufactured by The Garland Company.



## 2.3 DESCRIPTION

- A. Modified bituminous roofing work including but not limited to:
  - 1. One ply of Garland Stressbase 120 base sheet bonded to the prepared substrate with bitumen.
  - 2. Hot Bitumen: ASTM D312, Type III steep asphalt having the following characteristics:
    - a. Softening Point 185°F - 205°F
    - b. Flash Point 500°F
    - c. Penetration @ 77°F 15-35 units
    - d. Ductility @ 77°F 2.5 cm
  - 3. Base Flashing Ply: One (1) ply of SBS base flashing ply covered by an additional layer of modified bitumen membrane and set in bitumen.
  - 4. Modified Membrane: Stressply Plus FR MINERAL; 145 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing membrane with fiberglass reinforced scrim.
  - 5. Surfacing: Apply white acrylic coating ASTM G26

## 2.4 BITUMINOUS MATERIALS

- A. Asphalt Primer: V.O.C. compliant, ASTM D41.
- B. Asphalt Roofing Mastic: V.O.C. compliant, ASTM D2822, Type II.
- C. Interply Adhesive: ASTM D312, Type III.

## 2.5 SHEET MATERIALS

- A. Base Ply (Stressbase 120 Sheet): Fiberglass scrim with the following minimum performance requirements according to ASTM D5147. Properties (Finished Membrane):
  - 1. Tensile Strength (ASTM D5147)
    - a. 2 in/min. @ 73 ± 3.6°F MD 100 lbf/in CMD 100 lbf/in
  - 2. Tear Strength (ASTM D5147)
    - a. 2 in/min. @ 73 ± 3.6°F MD 110 lbf CMD 110 lbf
  - 3. Elongation at Maximum Tensile (ASTM D5147)
    - a. 2 in/min. @ 73 ± 3.6°F MD 2.5% CMD 2.5%

4. Low Temperature Flexibility (ASTM D5147): Passes -30°F (-34°C)

B. Base Flashing Ply (Stressbase 120 Sheet): Fiberglass scrim with the following minimum performance requirements according to ASTM D5147. Properties (Finished Membrane):

1. Tensile Strength (ASTM D5147)

a. 2 in/min. @ 73 ± 3.6°F MD 100 lbf/in CMD 100 lbf/in

2. Tear Strength (ASTM D5147)

a. 2 in/min. @ 73 ± 3.6°F MD 110 lbf CMD 110 lbf

3. Elongation at Maximum Tensile (ASTM D5147)

a. 2 in/min. @ 73 ± 3.6°F MD 2.5% CMD 2.5%

4. Modified Flashing Ply:

STRESSPLY PLUS FR MINERAL

C. Modified Membrane Properties (Finished Membranes): STRESSPLY PLUS FR MINERAL; ASTM D6163, Type III Grade G

1. Tensile Strength (ASTM D5147)

a. 2 in/min. @ 73 ± 3.6°F MD 310 lbf/in CMD 310 lbf/in

2. Tear Strength (ASTM D4073)

a. 2 in/min. @ 73 ± 3.6°F MD 500 lbf CMD 500 lbf

3. Elongation at Maximum Tensile (ASTM D2523)

a. 2 in/min. @ 73 ± 3.6°F MD 3.5 % CMD 3.5 %

4. Low Temperature Flexibility (ASTM D5147): Passes -30 °F

## 2.6 SURFACINGS

A. White Elastomeric Roof Coating: Pyramic Plus LO; Energy Star approved white acrylic roof coating:

1. Weight/Gallon 12 lbs./gal. (1.44 g/cm<sup>3</sup>)

2. Non-Volatile % (ASTM D 1644) 66 min

3. Reflectance 81%

- A. **RELATED** Roof Insulation Fasteners: Follow roof system manufacturer's wind uplift calculations.
- B. ½" wood fiber insulation roof board.
- C. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel. Fasteners shall be self-clinching type of penetrating type as recommended by the manufacturer of the deck material. Nails and fasteners shall be flush-driven through flat metal discs of not less than one (1) inch diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than one (1) inch diameter are used.
- D. All roof slopes greater than 2" in 12" all SBS Modified sheets must be back nailed or strapped.
  
- E. Urethane Sealant: One part, non-sag sealant as recommended and furnished by the membrane manufacturer for moving joints.
  - 1. Tensile Strength (ASTM D412) 250 psi
  - 2. Elongation (ASTM D412) 950%
  - 3. Hardness, Shore A (ASTM C920) 35
  - 4. Adhesion-in-Peel (ASTM C920) 30 pli
  
- D. Sealant: Single component, 100% solids structural adhesive as furnished and recommended by the membrane manufacturer.
  - 1. Elongation (ASTM D412) 300%
  - 2. Hardness, Shore A (ASTM C920) 50
  - 3. Shear Strength (ASTM D1002) 300 psi
  
- D. Glass Fiber Cant: Continuous triangular cross Section made of inorganic fibrous glass used as a cant strip as recommended and furnished by the membrane manufacturer.

## **PART 3 — EXECUTION**

### **3.1 EXECUTION, GENERAL**

- A. Comply with requirements of NRCA, Roofing and Waterproofing.

### **3.2 EXAMINATION**

- A. Verify that deck surfaces and project conditions are ready to receive work of this Section.
- B. Verify that deck is supported and secured to structural members.

- C. Verify that deck is clean and smooth, free of depressions, projections or ripples, and is properly sloped to drains, valleys, or eaves.
- D. Verify that adjacent roof substrate components do not vary more than [¼] inch in height.
- E. Verify that deck surfaces are dry and free of ice.
- F. Confirm that moisture content does not exceed twelve (12) percent by moisture meter tests. On concrete deck pour hot asphalt on to deck if it bubbles / foams and once cooled does not adhere to the substrate, the moisture levels are too high.
- G. Verify that openings, curbs, pipes, conduit, sleeves, ducts, and other items which penetrate the roof are set solidly, and that wood cant strips, wood nailing strips, and reglets are set in place.

### **3.3 DECK PREPARATION**

- A. Wood Deck
  - 1. Verify that wood decking is flat and has tight joints.

### **3.4 GENERAL INSTALLATION REQUIREMENTS**

- A. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- B. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
- C. Protect other work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore other work damaged by installation of the coal tar modified bituminous roofing system.
- D. Coordinate installation of roofing system components so that insulation and roofing plies are not exposed to precipitation or left exposed overnight. Provide cut-offs at end of each day's work to cover exposed ply sheets and insulation with two (2) plies of #15 organic roofing felt set in full moppings of bitumen and with joints and edges sealed with roofing cement. Remove cut-offs immediately before resuming work.
- E. Asphalt Bitumen Heating: Heat and apply bitumen in accordance with the Equiviscous Temperature (EVT) Method as recommended by National Roofing Contractors Association (NRCA). Do not raise temperature above minimum normal fluid-holding temperature necessary to attain EVT (plus 5°F at point of application) more than one (1) hour prior to time of application. Determine flash point, finished blowing temperature, EVT, and fire-safe handling temperature of bitumen either from information by manufacturer or by suitable test. Do not exceed recommended temperature limits during bitumen heating. Do not heat to a temperature higher than twenty five degrees (25°F) below flash point. Discard bitumen that has been held at temperature exceeding Finishing Blowing Temperature (FBT) for more than three (3) hours. Keep kettle lid closed except when adding bitumen.

- F. Asphalt Bitumen Mopping Rate:
  - 1. Modified Membrane Mopping: Apply bitumen at the rate of approximately thirty (30) lb. of bitumen per roof square.
- G. Substrate Joint Penetrations: Prevent bitumen from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
- H. Apply roofing materials as specified by manufacturer's instructions.
  - 1. Keep roofing materials dry before and during application.
  - 2. Do not permit phased construction.
  - 3. Complete application of roofing plies, modified sheet and flashing in a continuous operation.
  - 4. Begin and apply only as much roofing in one day as can be completed that same day.
- I. Cut-Offs (Waterstops): At end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and insulation. Provide temporary covering of two (2) plies of #15 organic roofing felt set in full moppings of bitumen with joints and edges sealed.
- J. Broadcast minerals into the bleed out of bitumen while bitumen is at its recommended EVT temperature to achieve uniform color throughout.

### **3.6 BASE PLY INSTALLATION**

- A. Base Ply: Install one (1) base ply sheet in thirty (30) lbs. per square of bitumen shingled uniformly to achieve one ply over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof.
- B. Lap ply sheet ends eight (8) inches. Stagger end laps twelve (12) inches (304mm) minimum.
- C. Lightly broom in base ply to assure complete adhesion.
- D. Extend ply two (2) inches beyond top edges of cants at wall and roof projections and equipment bases.
- E. Install base flashing ply to all perimeter and projection details after membrane application.

### **3.7 MODIFIED MEMBRANE APPLICATION**

- A. Solidly bond the modified membrane to the base layer with specified asphalt at the rate of twenty five (25) to thirty (30) lbs. per 100 square feet.

- B. The modified membrane roll must push a puddle of asphalt in front of it with asphalt slightly visible at all side laps. Exercise care during application to eliminate air entrapment under the membrane.
- C. Apply pressure to all seams to ensure that the laps are solidly bonded to substrate.
- D. Install subsequent rolls of modified membrane across the roof as above with a minimum of four (4) inch (101mm) side laps and eight (8) inch end laps. Stagger the end laps. Apply the modified membrane in the same direction as the previous layers but stagger the laps so they do not coincide with the laps of the base layers.
- E. Apply asphalt no more than five (5) feet ahead of each roll being embedded.
- F. Extend membrane two (2) inches beyond top edge of all cants in full moppings of the specified asphalt.

### **3.8 FLASHING MEMBRANE INSTALLATION**

- A. Seal all curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
- B. Prepare all walls, penetrations, expansion joints to be flashed with asphalt primer at the rate of one hundred (100) square feet per gallon. Allow primer to dry tack free.
- C. Use the modified membrane as the flashing membrane. Adhere to the underlying base flashing ply with specified asphalt unless otherwise noted in these specifications. Nail off at a minimum of eight (8) inches o.c. from the finished roof at all vertical surfaces.
- D. Solidly adhere the entire sheet of flashing membrane to the substrate.
- E. Seal all vertical laps of flashing membrane with a three-course application of trowel-grade mastic and fiberglass mesh.
- F. Coordinate counter flashing, cap flashings, expansion joints, and similar work with modified bitumen roofing work.
- G. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.

### **3.9 FLASHING'S**

- A. Three course all flashing's:
  - 1. Trowel grade asphalt based roofing mastic designed for use in repair and patching against leaks in asphalt based roofing systems. Product must contain plasticizing oils and resins which provide low temperature flexibility and ductility.

### **3.10 APPLICATION OF SURFACING**

- A. Prior to installation of surface, obtain approval from manufacturer as to work completed. 14 days are required prior to final surfacing.
- B. Reflective Coating Pyramic Plus LO
  - 1. Paint all exposed roofing with Pyramic Plus LO coating installed at a rate of two gallons (2) gallons per square per coat in a two coat application. Total of four gallons per 100 sq ft.

### **3.11 FIELD QUALITY CONTROL**

- A. Perform field inspection and as required by manufacturer.
- B. Correct defects or irregularities discovered during field inspection.
- C. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system. A copy of the specification should also be on site at all times.

### **3.12 CLEANING**

- A. Remove bitumen adhesive drippings from all walls, windows, floors, ladders and finished surfaces.
- B. In areas where finished surfaces are soiled by asphalt or any other sources of soiling caused by work of this Section, consult manufacturer of surfaces for cleaning instructions and conform to their instructions.
- C. Repair or replace defaced or disfigured finishes caused by work of this Section.

### **3.13 CONSTRUCTION WASTE MANAGEMENT**

- A. Remove and properly dispose of waste products generated during roofing procedures. Comply with requirements of authorities having jurisdiction.

### **3.14 FINAL INSPECTION**

- A. At completion of roofing installation and associated work, meet with Contractor, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the [Roofing] Contractor.
- D. If core cuts verify the presence of damp or wet materials, the Roofing Contractor shall be required to replace the damaged areas at his own expense.

- E. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- F. Notify the Contractor and Owner upon completion of corrections.
- G. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
  - H. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

### **3.15 OWNER SUPPLIED MATERIALS**

- A. Contractor must provide all labor to install owner supplied materials as part of their bid. All materials not specifically included in the owner supplied material section will be the responsibility of the contractor to provide and install in compliance with section 07500. Freight charges of Owner supplied materials will be the responsibility of the owner. Contractor must take delivery of materials, properly cover and store at jobsite. Contractor must be able to provide certification in writing from roof system manufacturer that the contractor is approved to install the specified roof system and provide all warranty requirements of section 07500.
- B. Materials

END OF SECTION 07500

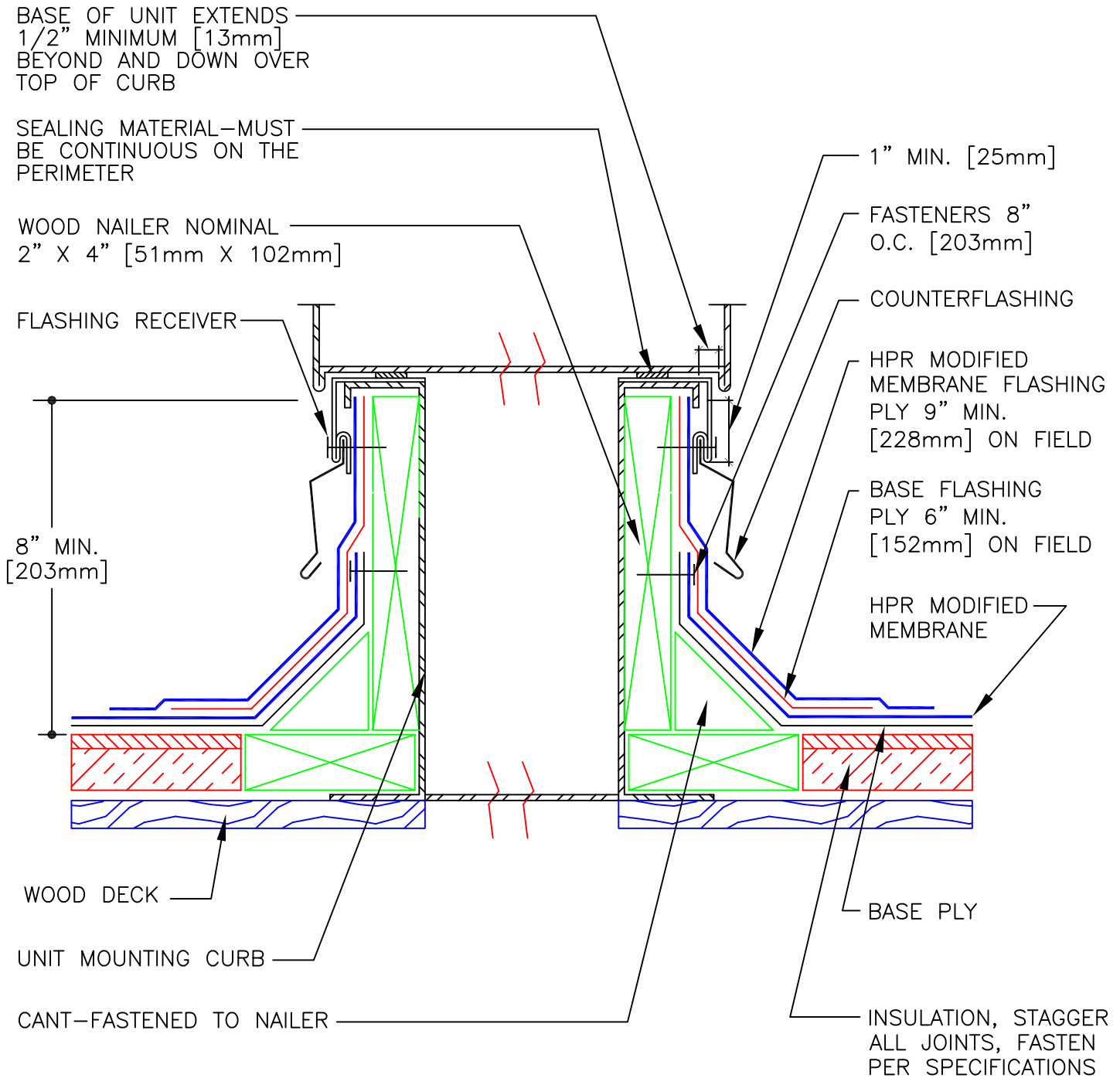
MODIFIED BITUMINOUS MEMBRANE ROOFING - HOT APPLIED



# Attachment 1

FILENAME: MB2CW-33

CURB DETAIL/AIR HANDLING STATION



ALL PLYS SET IN MODIFIED COLD ADHESIVE  
SEE SPECIFICATIONS FOR SURFACING



THE GARLAND COMPANY, INC.

GARLAND CANADA, INC.

THE GARLAND COMPANY UK, LTD

DETAIL:

CURB DETAIL/AIR HANDLING STATION

2 PLY-COLD APPLIED