

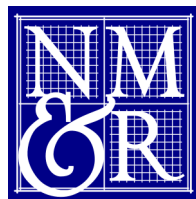
PROJECT MANUAL
INCLUDING SPECIFICATIONS & DRAWINGS
FOR CONSTRUCTION OF THE

**COLLEGE OF THE REDWOODS
RESIDENCE HALL RE-ROOF
AND ASBESTOS ABATEMENT**

7351 Tompkins Hill Road
Eureka, CA 95501

NMR Project No. 10-2529

COR Project No. 00050



NICHOLS MELBURG & ROSSETTO

300 Knollcrest Drive
Redding, CA 96002

530.222.3300
FAX 222.3538

JANUARY 2015

PROJECT SCOPE OF WORK SUMMARY

SCOPE OF WORK

This is a Roof Replacement project for the Residence Hall "Mendocino" on the College of the Redwoods Eureka campus. The project consists of a complete roofing material removal and replacement as indicated in the Drawings and Specifications including, but not limited to;

- the removal of existing roofing material down to the sheathing with asbestos abatement,
- the removal of rain gutters & downspouts,
- the repair & replacement of decking and framing members,
- the complete removal of stone fireplace and chimney as an Additive-Alternate,

and

- the installation of new roofing material including waterproofing, flashing, and detailing,
- the installation of new gutter & downspouts connected to new underground tightline collection piping,
- the installation of gravity-flow, non-pressurized storm drainage piping to connect the tightline piping to the existing campus storm drain system,
- provide infill roof, wall, and floor framing with complete interior and exterior finishes for the removal of stone fireplace and chimney as an Additive-Alternate.

Any and all items not specifically listed shall be included when deemed required as part the scope in order to complete the work. Contractors shall determine a comprehensive scope of work through review of the Drawings & Specifications and review of site conditions by attending the mandatory project site pre-bid conference walkthrough.

Work must be completed between May 25, 2015 and July 31, 2015 during which time the building will be vacant. There will be no restrictions on work hours during this time period.

END OF SECTION

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NOTICE INVITING BIDS**

1. Notice is hereby given that the Governing Board of the Redwoods Community College District ("District"), of the County of Humboldt, State of California, will receive sealed bids for the **Eureka Campus Residence hall "Mendocino" roof abatement and replacement maintenance Project** ("Project") up to, but not later than, **12 p.m., on Wednesday March 25, 2015**, and will thereafter publicly open and read aloud the bids. All bids shall be received at the office of **Steven Roper, Director of Facilities and Planning**, Eureka California.
2. Each bid shall be completed on the Bid Proposal Form included in the Contract Documents, and must conform and be fully responsive to this invitation, the plans and specifications and all other Contract Documents. Copies of the Contract Documents are available for examination at the office of **Steven Roper, Director of Facilities and Planning**, Eureka California County of Humboldt, California, and may be obtained by licensed contractors upon payment of a nonrefundable deposit of **Twenty five dollars (\$25)** per set.
3. Each bid shall be accompanied by cash, a cashier's or certified check, or a bidder's bond executed by a surety licensed to do business in the State of California as a surety, made payable to the District, in an amount not less than ten percent (10%) of the maximum amount of the bid. The check or bid bond shall be given as a guarantee that the bidder to whom the contract is awarded will execute the Contract Documents and will provide the required payment and performance bonds and insurance certificates within ten (10) days after the notification of the award of the contract.
4. The successful bidder shall comply with the provisions of the Labor Code pertaining to payment of the generally prevailing rate of wages and apprenticeships or other training programs. The Department of Industrial Relations has made available the general prevailing rate of per diem wages in the locality in which the work is to be performed for each craft, classification or type of worker needed to execute the contract, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes. Copies of these prevailing rates are available to any interested party upon request and are online at <http://www.dir.ca.gov/DLSR>. The Contractor and all Subcontractors shall pay not less than the specified rates to all workers employed by them in the execution of the Contract. It is the Contractor's responsibility to determine any rate change.
5. The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work shall be at least time and one half.
6. The substitution of appropriate securities in lieu of retention amounts from progress payments in accordance with Public Contract Code §22300 is permitted.
7. Pursuant to Public Contract Code §4104, each bid shall include the name and location of the place of business of each subcontractor who shall perform work or service or fabricate or install work for the contractor in excess of one-half of one percent (1/2 of 1%) of the bid price. The bid shall describe the type of the work to be performed by each listed subcontractor.
8. No bid may be withdrawn for a period of sixty (60) days after the date set for the opening for bids except as provided by Public Contract Code §§5100 *et seq.* The District reserves the right to reject any and all bids and to waive any informalities or irregularities in the bidding.
9. Pursuant to SB 854 - Department of Industrial Relations Registration:
No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 (with limited exceptions from this requirement for bid purposes only under Labor Code Section 1771.1(a)).

**SECTION 00 11 13
NOTICE INVITING BIDS**

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

- 10. **This Contract is** subject to a Labor Compliance Program as described in the Labor Code and Title 8 of the California Code of Regulations, Subchapters 4 and 4.5.
- 11. **This Contract is** subject to a Compliance Monitoring Unit program as described in the Labor Code and Title 8 of the California Code of Regulations, Subchapter 4 and 4.5 and SB 854 – Department of Industrial Relations.
- 12. Each bidder shall possess, at the time the bid is awarded, the following classification(s) of California State Contractor's license: **Class B General Building Contactor AND C39-Roofing Contractor and be CSLB certified and registered with the CAL/OSHA Asbestos Contractor Registration Unit for asbestos-related work. Licensed contractors that are not certified or registered for asbestos-related work may bid on the project as long as a contractor with proper CLSB certification and CAL/OSHA registration actually performs the asbestos-related work.**
- 13. The Governing Board has found that the Project is substantially complex and therefore requires a **retention amount of 5%.**
- 14. **Mandatory Bidders' Conference.** A mandatory bidders' conference will be held at **College of the Redwoods Community College campus, 7351 Tompkins Hill Road, Eureka, CA 95501 on Wednesday, March 4, 2015 at 10:30 a.m.** for the purpose of acquainting all prospective bidders with the Contract Documents and the Project site. This conference will be held at the Residence Hall "Mendocino". Failure to attend the conference **will** result in the disqualification of the bid of the non-attending bidder.

_____ DISTRICT

By: _____

DATED: _____, 20__

Publication Dates: 1) _____ 2) _____

**SECTION 00 21 13
INSTRUCTIONS TO BIDDERS**

Each bid submitted to the Redwoods Community College District ("District") for the **Eureka Campus Residence hall "Mendocino" roof abatement and replacement maintenance** Project ("Project") shall be in accordance with the following instructions and requirements, which are part of the Contract Documents for this Project.

1. Deadline For Receipt of Bids. Each bid shall be sealed and submitted to the District Superintendent or designee no later than **12 p.m., on Wednesday March 25, 2015**. The District suggests that bids be hand delivered in order to ensure their timely receipt. Any bids received after the time stated, regardless of the reason, shall be returned, unopened, to the bidder.
2. Bidders' Conference. A mandatory bidders' conference will be held **on Wednesday March 4, 2015 at 10:30 a.m** for the purpose of acquainting all prospective bidders with the Contract Documents and the Project site. It is imperative that all prospective bidders attend this conference. The failure to attend the conference may result in the disqualification of the bid of the non-attending bidder.
3. Requests for Information. A bidder's failure to request clarification or interpretation of an apparent error, inconsistency or ambiguity in the Contract Documents waives that bidder's right to thereafter claim entitlement to additional compensation based upon an ambiguity, inconsistency, or error, which should have been discovered by a reasonably prudent Contractor, subject to the limitations of Public Contract Code §1104. Any questions relating to the bid shall be in writing and directed to **the office of Steven Roper, Director of Facilities and Planning, Eureka California County of Humboldt, California**. These requests shall be submitted to the District at least five working days prior to the date the bid is due. INTERPRETATION OF DOCUMENTS: In all cases of conflict, the Specifications shall supersede the Drawings. Should a bidder find discrepancies and/or omissions or should he be in doubt as to their meaning, he shall at once notify **WIL TYRA**, Nichols, Melburg & Rossetto, 300 Knollcrest Drive, Redding, CA 96002, (530) 222-3300, **tyra@nmrdesign.com**, and should it be found necessary, a written addendum will be sent to all bidders. The Architect will not be responsible for any oral interpretations or instructions.

SEQUENCE OF THE CONSTRUCTION: The construction work must be accomplished with a minimum disruption of the existing school district's operation. See **Section 01 11 00** for access and working hour limitations.

4. Bid Proposal Forms. All bid proposals shall be made on the form provided by the District. All items on the form shall be filled out in ink. Numbers should be stated in figures, and the signatures of all individuals must be in long hand. The completed form should be without interlineations, alterations, or erasures
5. Execution of Forms. Each bid shall give the full business address of the bidder and must be signed by the bidder or bidder's authorized representative with his or her usual signature. Bids by partnerships must furnish the full names of all partners and must be signed in the partnership name by a general partner with authority to bind the partnership in such matters. Bids by corporations must be signed with the legal name of the corporation, followed by the signature and designation of the president, secretary, or other person authorized to bind the corporation in this matter. The name of each person signing shall also be typed or printed below the signature. When requested by the District, satisfactory evidence of the authority of the officer signing on behalf of the corporation or partnership shall be furnished. A bidder's failure to properly sign required forms may result in rejection of the bid. All bids must include the bidder's contractor license number(s) and expiration date(s).
6. Bid Security. **Bid proposals shall be accompanied by a certified or cashier's check or bid bond for an amount not less than ten percent (10%)** of the bid amount, payable to the District. A bid bond shall be secured from an admitted surety company, licensed in the State of California, and satisfactory to the

**SECTION 00 21 13
INSTRUCTIONS TO BIDDERS**

District. The bid security shall be given as a guarantee that the bidder will enter into the Contract if awarded the work, and in the case of refusal or failure to enter into the Contract within ten (10) calendar days after notification of the award of the Contract or failure to provide the payment and performance bonds and proof of insurance as required by the Contract Documents, the District shall have the right to award the Contract to another bidder and declare the bid security forfeited. The District reserves the right to pursue all other remedies in law or equity relating to such a breach including, but not limited to, seeking recovery of damages for breach of contract. Failure to provide bid security, or bid security in the proper amount, shall result in rejection of the bid.

7. Withdrawal of Bid Proposals. Bid proposals may be withdrawn by the bidders prior to the time fixed for the opening of bids, but may not be withdrawn for a period of sixty (60) days after the opening of bids, except as permitted pursuant to Public Contract Code §5103.
8. Addenda or Bulletins. The District reserves the right to issue addenda or bulletins prior to the opening of the bids subject to the limitations of Public Contract Code §4104.5. Any addenda or bulletins issued prior to bid time shall be considered a part of the Contract Documents.
9. Bonds. The successful bidder shall be required to submit payment and performance bonds as specified in and using the bond forms included with the Contract Documents. All required bonds shall be based on the maximum total contract price as awarded, including additive alternates, if applicable.
10. Rejection of Bids and Award of Contract. The District reserves the right to waive any irregularities in the bid and reserves the right to reject any and all bids. The Contract will be awarded, if at all, within sixty (60) calendar days after the opening of bids to the lowest responsible and responsive bidder, subject to Governing Board approval. The time for awarding the Contract may be extended by the District with the consent of the lowest responsible, responsive bidder.
11. Execution of Contract. The successful bidder shall, within ten (10) calendar days of the Notice of Award of the Contract, sign and deliver to the District the executed contract along with the bonds and certificates of insurance required by the Contract Documents. In the event the successful bidder fails or refuses to execute the Contract or fails to provide the bonds and certificates as required, the District may declare the bidder's bid deposit or bond forfeited as liquidated damages, and may award the work to the next lowest responsible, responsive bidder, or may reject all bids and, in its sole discretion, call for new bids. In all cases, the District reserves the right, without any liability, to cancel the award of Contract at any time prior to the full execution of the Contract.
12. Drawings and Specifications. All drawings, specifications and other documents used or prepared during the project shall be the exclusive property of the District.
13. Evidence of Responsibility. Upon the request of the District, a bidder shall submit promptly to the District satisfactory evidence showing the bidder's financial resources, the bidder's experience in the type of work being required by the District, the bidder's availability to perform the Contract and any other required evidence of the bidder's qualifications and responsibility to perform the Contract. The District may consider such evidence before making its decision to award the Contract. Failure to submit requested evidence may result in rejection of the bid.
14. Taxes. Applicable taxes shall be included in the bid prices.
15. Bid Exceptions. Bid exceptions are not allowed. If the Bidder has a comment regarding the bid documents or the scope of work, the Bidder shall submit those comments to the District for evaluation at least five working days prior to the opening of the bids. No oral or telephonic modification of any bid submitted will be considered and a sealed written modification may be considered only if received prior to the opening of bids. E-mailed or faxed bids or modifications will not be accepted.

**SECTION 00 21 13
INSTRUCTIONS TO BIDDERS**

16. Discounts. Any discounts which the bidder desires to provide the District must be stated clearly on the bid form itself so that the District can calculate the net cost of the bid proposal. Offers of discounts or additional services not delineated on the bid form will not be considered by the District in the determination of the lowest responsible responsive bidder.
17. Quantities. The quantities shown on the plans and specifications are approximate. The District reserves the right to increase or decrease quantities as desired.
18. Prices. Bidders must quote prices F.O.B. unless otherwise noted. Prices should be stated in the units specified and bidders should quote each item separately.
19. Samples. On request, samples of the products being bid shall be furnished to the District.
20. Special Brand Names/Substitutions. In describing any item, the use of a manufacturer or special brand does not restrict bidding to that manufacturer or special brand, but is intended only to indicate quality and type of item desired, except as provided in §3400 of the Public Contract Code. Substitute products will be considered either prior to or after the award of the Contract in accordance with §3400 and as set forth in either the Supplemental Conditions or the Specifications. All data substantiating the proposed substitute as an "equal" item shall be submitted with the written request for substitution. The District reserves the right to make all final decisions on product and vendor selection.
21. Container Costs and Delivery. All costs for containers shall be borne by the bidder. All products shall conform to the provisions set forth in the federal, county, state and city laws for their production, handling, processing and labeling. Packages shall be so constructed to ensure safe transportation to the point of delivery.
22. Bid Negotiations. A bid response to any specific item of the bid using terms such as "negotiable," "will negotiate," or similar phrases, will be considered non-responsive.
23. Prevailing Law. In the event of any conflict or ambiguity between these instructions and state or federal law or regulations, the latter shall prevail. All equipment to be supplied or services to be performed under the bid proposal shall conform to all applicable requirements of local, state and federal law, including, but not limited to, Labor Code §§1771, 1778 and 1779.
24. Allowances. An "allowance" means an amount included in the bid proposal for work that may or may not be included in the Project, depending on conditions that will become known only after the Project is underway.
25. Subcontractors. Pursuant to the Subletting and Subcontracting Fair Practices Act, Public Contract Code §§4100-4114, every bidder shall, on the enclosed Subcontractor List Form, set forth:
 - a. The name and location of the place of business of each Subcontractor who will perform work or labor or render service to the bidder in or about the work or fabricate and install work in an amount in excess of one-half (1/2) of the one percent (1%) of the bidder's total bid.
 - b. If the bidder fails to specify a Subcontractor for any portion of the work to be performed under the Contract in excess of one-half (1/2) of one percent (1%) of the bidder's total bid, bidder agrees that bidder is fully qualified to and shall perform that portion of the work. The successful bidder shall not, without the written consent of the District or compliance with Public Contract Code §§4100 - 4114, either:
 - 1) Substitute any person as Subcontractor in place of the Subcontractor designated in the original bid;

**SECTION 00 21 13
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- 2) Permit any subcontract to be voluntarily assigned or transferred or allow the work to be performed by anyone other than the original Subcontractor listed in the bid; or
 - 3) Sublet or subcontract any portion of the work in excess of one-half (1/2) of one percent (1%) of the total bid as to which the bidder's original bid did not designate a Subcontractor.
26. Examination of Contract Documents and Work Site. Before submitting a bid proposal, all bidders shall carefully examine the Contract Documents, including the plans and specifications, shall visit the site of the proposed work, and shall fully inform themselves of all conditions in and about the work site, as well as applicable federal, state and local laws and regulations that may affect the work. No bidder shall visit the site without prior authorization of the District. Bidders shall contact the District Superintendent or designee for coordination of site visits.
27. Form and Approval of Contract. The Contract Documents must be approved by the Governing Board of the District and its legal counsel. The bidder selected by the District shall execute the contract provided by the District.
28. Licenses and Permits. Each bidder shall at all times possess all appropriate and required licenses or other permits to perform the work as identified in the Contract Documents. Upon request, each bidder shall furnish the District with evidence demonstrating possession of the required licenses or permits.
29. Denial of Right to Bid. Contractors or Subcontractors who have violated state law governing public works shall be denied the right to bid on this public works contract pursuant to Labor Code §1777.7.
30. Bidders Interested in More Than One Bid. No person, firm, or corporation shall make, or file, or be interested in more than one bid. However, a person, firm, or corporation that has submitted a subproposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders or from submitting a prime proposal.
31. Contractor's State License Board. Contractors and Subcontractors are required by law to be licensed and regulated by the California Contractors' License Board.
32. Compliance with SB 854 – Department of Industrial Relations Registration. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 (with limited exceptions from this requirement for bid purposes only under Labor Code Section 1771.1(a)). No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
33. Labor Compliance Program. **This Contract is** subject to a Labor Compliance Program pursuant to §§1771.5 and 1771.7 of the Labor Code and Title 8 of the California Code of Regulation, Subchapters 4 and 4.5. If this Contract is subject to the Labor Compliance Program requirements, the District's Labor Compliance Program shall be a part of the Contract Documents and shall include, but not be limited to, the following requirements:
- a. A pre-job conference shall be conducted with the Contractor and Subcontractors to discuss federal and state labor law requirements applicable to the Contract.

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- b. Contractors and Subcontractors shall maintain and furnish, at a designated time, a certified copy of each weekly payroll containing a statement of compliance signed under penalty of perjury.
 - c. The District shall review, and, if appropriate, audit payroll records to verify compliance with Labor Code, Part 7, Chapter 1.
 - d. The District shall withhold contract payments when payroll records are delinquent or inadequate.
 - e. The District shall withhold contract payments equal to the amount of underpayment and applicable penalties when, after investigation, it is established that underpayment has occurred.
 - f. The District shall comply with any other prevailing wage monitoring and enforcement activities that are required to be conducted by Labor Compliance Programs by the Department of Industrial Relations.
34. Compliance Monitoring Unit. **This Contract is** subject to the Compliance Monitoring Unit pursuant to Division 2, Part 7, Chapter 1 of the Labor Code and Title 8 of the California Code of Regulations, Subchapters 4 and 4.5 and SB 854. If this Contract is subject to the Compliance Monitoring Unit requirements, the District's Compliance Monitoring Unit shall be a part of the Contract Documents and shall include, but not be limited to, the following requirements:
- 1) A pre-job conference shall be conducted with the Contractor and Subcontractors to discuss federal and state labor law requirements applicable to the Contract and furnish copies of suggested reporting forms. A checklist, in the format of Appendix A of Section 16454 of Title 8 of the California Code of Regulations, showing which federal and state labor law requirements were discussed, shall be kept for each conference.
 - 2) The District shall enter into an agreement with the Department of Industrial Relations for its costs of performing the service of monitoring and enforcing compliance with applicable prevailing wage requirements on the awarding bodies' projects.
 - 3) The District shall furnish certified payroll records directly to the Labor Commissioner in accordance with Title 8, of the California Code of Regulations, section 16461.
35. Additive and Deductive Items: Method of Determining Lowest Bid. Pursuant to Public Contract Code §20103.8, if the bid solicitation includes additive and/or deductive items, the checked [X] method shall be used to determine the lowest bid: *[check one]*
- _____ (a) The lowest bid shall be the lowest bid price on the base contract without consideration of the prices on the additive or deductive items.
- X (b) The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items that were specifically identified in the bid solicitation or Bid Proposal Form as being used for the purpose of determining the lowest bid price.
- _____ (c) The lowest bid shall be the lowest total of the bid prices on the base contract and those additive or deductive items taken in order from a specifically identified list of those items that, when in the solicitation, and added to, or subtracted from, the base contract, are less than, or equal to, a funding amount publicly disclosed by the District before the first bid is opened.
- _____ (d) The lowest bid shall be determined in a manner that prevents any information that would identify any of the bidders or the proposed Subcontractors or suppliers from being revealed to the public entity before the ranking of all bidders from lowest to highest has been determined.

**SECTION 00 21 13
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If no method is checked, sub-paragraph (a) shall be used to determine the lowest bid.

Notwithstanding the method used by the District to determine the lowest responsible bidder, the District retains the right to add to or deduct from the Contract any of the items included in the bid solicitation.

36. Bid Protest. Any bid protest must be in writing and received by the District Office before 5:00 p.m. no later than three (3) working days following bid opening and shall comply with the following requirements:
- a. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation.
 - b. The party filing the protest must have actually submitted a bid for the Project. A Subcontractor of a bidder submitting a bid for the Project may not submit a bid protest. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
 - c. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based.
 - d. The protest must include the name, address and telephone number of the person representing the protesting bidder.
 - e. The bidder filing the protest must concurrently transmit a copy of the bid protest and all supporting documentation to all other bidders with a direct financial interest which may be affected by the outcome of the protest, including all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - f. The bidder whose bid has been protested may submit a written response to the bid protest. Such response shall be submitted to the District before 5 p.m. no later than two (2) working days after the deadline for submission of the bid protest or receipt of the bid protest, whichever is sooner, and shall include all supporting documentation. Such response shall also be transmitted concurrently to the protesting bidder and to all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - g. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code claim or legal proceedings.
 - h. If the District determines that a protest is frivolous, the protesting bidder may be determined to be non-responsible and that bidder may be determined to be ineligible for future contract awards by the District.
 - i. A "working day" for purposes of this section means a weekday during which the District's office is open and conducting business, regardless of whether or not school is in session.

END OF SECTION

**SECTION 00 41 00
BID PROPOSAL FORM**

Governing Board _____ District

Dear Members of the Governing Board:

The undersigned, doing business under the name of _____, having carefully examined the location of the proposed work, the local conditions of the place where the work is to be done, the Notice Inviting Bids, the General Conditions, the Instructions to Bidders, the Plans and Specifications, and all other Contract Documents for the proposed _____ Project ("Project"), and having accurately completed the Bidder's Questionnaire, proposes to perform all work and activities in accordance with the Contract Documents, including all of its component parts, and to furnish all required labor, materials, equipment, transportation and services required for the construction of the Project in strict conformity with the Contract Documents, including the Plans and Specifications, as follows:

BASE BID:

For the sum of _____ Dollars
(\$ _____).

ADDITIVE/DEDUCTIVE ALTERNATE *[if applicable]*:

Additive/Deductive Alternate #1
Add/Subtract _____ Dollars
(\$ _____)

Additive/Deductive Alternate #2
Add/Subtract _____ Dollars
(\$ _____)

Additive/Deductive Alternate #3
Add/Subtract _____ Dollars
(\$ _____)

The undersigned has checked carefully all the above figures and understands that the District is not responsible for any errors or omissions on the part of the undersigned in making this bid.

Enclosed find certified or cashier's check no. _____ of the _____ Bank for _____ Dollars (\$ _____) or Bidder's Bond of the _____ surety company in an amount of not less than ten percent (10%) of the entire bid. The undersigned further agrees, on the acceptance of this proposal, to execute the Contract and provide the required bonds and insurance and that in case of default in executing these documents within the time fixed by the Contract Documents, the proceeds of the check or bond accompanying this bid shall be forfeited and shall become the property of the District.

Contractor agrees to commence the work within the time specified in the Notice to Proceed. It is understood that this bid is based upon completing the work within the number of calendar days specified in the Contract Documents.

**SECTION 00 41 00
BID PROPOSAL FORM**

ADDENDA:

Receipt of the following addenda is hereby acknowledged:

Addendum # _____	Dated: _____	Addendum # _____	Dated: _____
Addendum # _____	Dated: _____	Addendum # _____	Dated: _____
Addendum # _____	Dated: _____	Addendum # _____	Dated: _____

Respectfully submitted,

Company: _____

Address: _____

By: _____
(Please Print Or Type)

Signature: _____

Title: _____

Date: _____

Telephone: _____

Contractor's License No: _____ Expiration Date _____

Required Attachments: Subcontractor List Form
 Non-Collusion Declaration
 Bid Bond (or Cashier's or Certified Check)
 Bidders' Questionnaire

SECTION 00 52 00
CONTRACT

This Contract ("Contract") is made by and between the **Redwoods Community College District** ("District"), and _____ ("Contractor").

District and Contractor hereby agree as follows:

1. Description of Work

The Contractor agrees to furnish all labor, materials, equipment, tools, supervision, appurtenances, and services, including transportation and utilities, required to perform and satisfactorily complete all work required for the following project ("Project") in full conformance with the Contract Documents:

2. Contract Documents

The Contract Documents consist of the executed Contract and all Addenda, all approved change orders, the completed Bid Form, the required Bonds and the Insurance forms, the Notice Inviting Bids, the Instructions to Bidders, the Notice of Award, the Notice to Proceed, the General Conditions and any supplemental conditions, the Technical Specifications, the Drawings, the completed Bidder's Questionnaire, Labor Compliance Program (if applicable), Compliance Monitoring Unit (if applicable).

3. Compensation

As full compensation for the Contractor's complete and satisfactory performance of the work and activities described in the Contract Documents, the District agrees to pay Contractor, and Contractor agrees to accept the sum of _____ Dollars (\$ _____), which shall be paid to the Contractor according to the Contract Documents.

4. Prevailing Wages

This Project is subject to prevailing wage requirements and Contractor and its Subcontractors are required to pay all workers employed for the performance of this Contract no less than the applicable prevailing wage rate for each such worker.

5. Time for Completion

The starting date of the Contract shall be the day listed by the District in the Notice to Proceed and the **Contractor shall fully complete all the work between May 25, 2015 and July 31, 2015.** Time is of the essence in the performance of this Contract.

6. Liquidated Damages

Liquidated damages for the Contractor's failure to complete the Contract within the time fixed for completion are **established in the amount of \$250** per calendar day.

IN WITNESS WHEREOF, the parties agree to the terms of this Contract on the day and year written below.

District

Contractor

**SECTION 00 52 00
CONTRACT**

Resolution No. _____

Date

Contractor License No.
and Expiration Date

By: _____
Individual Signature

Title

Date

Approved As to Form
By: _____ Legal Counsel
_____ Date

For: _____
Corporation or Partnership

If Corporation, Seal Below.

PERFORMANCE BOND

WHEREAS, the Governing Board of the _____ District ("District"), at its meeting on _____, 20____, has awarded to _____ ("Principal"), the Contract for performance of the following project ("Project"):

WHEREAS, the Principal is required under the terms of the Contract to furnish a bond to the District as obligee ensuring its full and faithful performance of the Contract Documents, which are fully incorporated herein by this reference,

NOW, THEREFORE, we, the Principal and _____, as Surety, hereby guarantee the Principal's full, faithful and complete performance of the Contract Document requirements in the penal sum of _____ dollars (\$_____) for the payment of which sum will and truly be made, we bind ourselves, our heirs, executors, administrators and successors, jointly, severally, and firmly by this agreement to perform or have performed all of the work and activities required to complete the Project pursuant to the Contract Documents and to pay to the District all damages the District incurs as a result of the Principal's failure to fully perform in accordance with the Contract Documents.

The condition of the obligation is such that if the Principal, its heirs, executors, administrators, successors or assigns shall in all things abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any amendment thereof made as therein provided, on its or their parts to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall insure and indemnify and save harmless the District, its officers and agents, as therein stipulated, then this obligation shall become null and void. Otherwise, it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the Contract Documents shall in any way affect its obligations on this bond and it does hereby waive notice of any such change, extension of time, alteration or addition.

Principal and Surety further agree to pay all costs incurred by the District in connection with enforcement of this bond, including, but not limited to the District's reasonable attorney's fees and costs incurred, with or without suit, in addition to any other sum required by this bond. Surety further agrees that death, dissolution, or bankruptcy of the Principal shall not relieve the Surety of its obligations hereunder.

In witness whereof, five (5) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety on the _____ day of _____, 20____.

*To be signed by
Principal and Surety
and acknowledgment
and notarial seal to
be attached.*

PRINCIPAL

By: _____

TITLE _____

College of the Redwoods
Residence Hall Re-Roof
NMR Project No. 10-2529

**SECTION 00 61 13.13
PERFORMANCE BOND**

SURETY

By: _____

TITLE _____

The above bond is accepted and approved this _____ day of _____, 20__.

By: _____
Authorized District Signature

PAYMENT BOND

WHEREAS, _____ the
_____ District ("District") and the Contractor, _____ ("Principal") have entered into a contract
("Contract") for the furnishing of all materials, labor, services, equipment, tools, supervision and transportation
necessary, convenient and proper for the _____ project ("Project") which Contract dated _____, 2____,
and all of the Contract Documents made part thereof are fully incorporated herein by this reference; and

WHEREAS, Contractor/Principal is required by Division 4, Part 6, Title 3, Chapter 5 (commencing at Section 9550)
of the California Civil Code to furnish a bond in connection with the contract;

NOW, THEREFORE, we, the Contractor/Principal and _____ as Surety, are held firmly bound unto Owner in
the penal sum of \$ _____ Dollars (\$ _____), lawful money of the United States of America for the
payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Contractor/Principal, his/her or its heirs, executors,
administrators, successors, or assigns, or a subcontractor, shall fail to pay any person or persons named in Civil
Code Section 9100 or fail to pay for any materials or other supplies used in, upon, for, or about the performance of
the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the
Unemployment Insurance Code with respect to work or labor thereon of any kind, or shall fail to deduct, withhold,
and pay over to the Employment Development Department any amounts required to be deducted, withheld, and
paid over by Section 13020 of the Unemployment Insurance Code with respect to work and labor thereon of any
kind, then said Surety will pay for the same, in or to an amount not exceeding the amount set forth above, and in
case suit is brought upon this bond Surety will also pay such reasonable attorney's fees as shall be fixed by the
court, awarded and taxed as provided in Division 4, Part 6, Title 3, Chapter 5 (commencing at Section 9550) of the
California Civil Code.

This bond shall inure to the benefit of any of the persons named in Section 9100 of the California Civil Code so as to
give a right of action to such person or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation
of the bond by any change, extension of time for performance, addition, alteration, or modification in, to, or of any
contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement described
above or pertaining or relating to the furnishing of labor, materials, or equipment therefor, nor by any change or
modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme
or work of improvement described above, nor by any rescission or attempted rescission of the contract, agreement,
or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of
claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud
practiced by any person other than the claimant seeking to recover on the bond, and that this bond be construed
most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no
circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by
reason of any breach of contract between the Owner and original contractor or on the part of any obligee named in
such bond, but the sole conditions of recovery shall be that claimant is a person described in Section 8400 and
8402 of the California Civil Code and has not been paid the full amount of his/her or its claim and that Surety does
hereby waive notice of any such change, extension of time, addition, alteration, or modification.

In witness whereof, this instrument has been duly executed by the Principal and Surety this _____ day of
_____, 20__.

**SECTION 00 61 13.15
PAYMENT BOND**

*To be signed by
Principal and Surety
and acknowledgment
and notarial seal to
be attached.*

PRINCIPAL

By: _____

Title

SURETY

By: _____

Title

The above bond is accepted and approved this _____ day of _____, 20__.

By: _____
Authorized District Signature

**SECTION 00 61 13.17
BID BOND**

We, the Contractor, _____ as principal ("Principal"), and _____, as surety ("Surety"), are firmly bound unto the _____ District ("District") in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the District for the work described below for the payment of which sum in lawful money of the United States, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by this agreement.

Whereas, the Principal has submitted the accompanying bid ("Bid") dated _____, for the following project ("Project"):

Eureka Campus Residence hall "Mendocino" roof replacement maintenance Project.

Now, therefore, if the Principal does not withdraw its Bid within the period specified, and if the Principal is awarded the Contract and within the period specified fails to enter into a written contract with District, in accordance with the Bid as accepted, or fails to provide the proof of required insurance, the performance bond and/or the payment bond by an admitted surety within the time required, or in the event of unauthorized withdrawal of the Bid, if the Principal pays the District the difference between the amount specified in the Bid and the amount for which District may otherwise procure the required work and/or supplies, if the latter amount is in excess of the former, together with all related costs incurred by District, then the above obligation shall be void and of no effect. Otherwise, the Principal and Surety shall pay to the District the penal sum described above as liquidated damages.

Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the term of the Contract or the call for bids, or to the work to be performed thereunder, or the Specifications accompanying the same, shall in any way affect its obligation under this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition.

In witness whereof the above-bound parties have executed this instrument under their several seals this _____ day of _____, 20__, the name and corporate seal of each corporate Party being hereunder affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

(Corporate Seal)

Principal/Contractor

By _____

Title: _____

(Corporate Seal)

Surety

Attach Attorney-In-Fact Certificate

**SECTION 00 61 13.17
BID BOND**

By _____

Title

To be signed by Principal and Surety and Acknowledgment and Notary Seal to be attached.

END OF SECTION

BIDDER'S QUESTIONNAIRE

for

Eureka Campus Residence hall "Mendocino" roof replacement maintenance Project
TO THE BIDDER:

In making its award, the Governing Board will take into consideration the Bidder's experience, financial responsibility and capability. The following questionnaire is a part of the bid. Any bid received without this completed questionnaire may be rejected as nonresponsive. The Board will use, but will not be limited to, the information provided herein for evaluating the qualifications and responsibility of the bidder and the bidder's organization to carry out satisfactorily the terms of the Contract Document. The questionnaire must be filled out accurately and completely and submitted with the bid. Any errors, omissions or misrepresentation of information may be considered as a basis for the rejection of the bid and may be grounds for the termination of any contract executed as a result of the bid.

A. Description of Bidder's Organization

1. Firm Name _____

2. Address _____

3. Telephone Number _____

4. Type of Organization

a. Corporation? Yes ____ No ____

If yes, list the officers and positions, and the State in which incorporated.

If the Bidder corporation is a subsidiary, give name and address of parent corporation.

b. Partnership? Yes ____ No ____

If yes, list partner names and addresses

General Partners:

Limited Partners:

**SECTION 00 61 13.18
BIDDER'S QUESTIONNAIRE**

c. Individual Proprietorship? Yes ____ No ____

If yes, list name and address of proprietor:

B. Nature of Operations

1. How long have you been engaged in the contracting business under your present business name? _____

2. How many years of experience does your business have in construction work similar to that called for under this bid? _____

3. Have you now contracts, or have you ever contracted, to provide construction for any school district, community college district or county office of education in the State of California?
Yes ____ No ____

a. If "yes," on a separate attached sheet, provide the following information for all construction projects you have had with school districts, community college districts and county offices of education during the last four (4) years:

1. Year contract awarded
2. Type of work
3. Contract completion time called for/actual completion time
4. Contract price
5. For whom performed, including person to call for a reference and telephone number
6. Location of work
7. Number of stop notices filed
8. For each contract, list any lawsuits filed relating to that contract in which you were a defendant or plaintiff
9. Amount of liquidated damages assessed.

b. On a separate attached sheet, provide the following information for all construction contracts of a similar nature as called for in this bid that you have had with entities other than school districts, community college districts and county offices of education during the last four (4) years:

1. Year contract awarded
2. Type of work
3. Contract completion time called for/actual completion time
4. Contract price

**SECTION 00 61 13.18
BIDDER'S QUESTIONNAIRE**

- 5. For whom performed, including person to call for reference and phone number
- 6. Location of work
- 7. Number of stop notices filed
- 8. For each contract list any lawsuits filed relating to that contract in which you were a defendant or plaintiff
- 9. Amount of liquidated damages assessed.

c. For each construction contract that you have failed to complete within the contract time in the last four years please state the reasons for the untimely performance.

C. Financial and Credit Data

- 1. If your bid is considered for award, and if requested by the District, will you supply the following data? Yes ____ No ____
 - a. Names and addresses of any banks where you regularly do business.
 - b. The names and addresses of any banks, finance companies, dealers, suppliers, or others where you have notes or loans.
 - c. Give credit references, including at least three trade or industry suppliers with whom you regularly deal.

2. Will you submit on request a balance sheet for the past three (3) years? Yes ____
No ____

3. Where have you engaged in the construction business, or any other type of business, in the last five years?

<u>Name of Business</u>	<u>Location</u>	<u>Type of Business</u>	<u>Years in Business</u>
-------------------------	-----------------	-------------------------	--------------------------

If any of the business endeavors referred to above are no longer operating, or you are no longer associated with them, please give brief details:

4. The following surety companies may be contacted as references as to the financial responsibility and general reliability of the bidder:

<u>Surety Name</u>	<u>Contact Person</u>	<u>Phone Number</u>
--------------------	-----------------------	---------------------

**SECTION 00 61 13.18
BIDDER'S QUESTIONNAIRE**

I certify under penalty of perjury that the foregoing is true and correct. Executed at _____, California, on _____, 20__.

Signature of Bidder _____

Name (*print*) _____

END OF SECTION

**SECTION 00 62 00
NON COLLUSION DECLARATION**

To be executed by the bidder and submitted with the bid.

_____, declares that he or she is _____
of _____, the party making the foregoing bid, and affirms that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true and correct; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Date: _____
Signature

END OF SECTION

**SECTION 00 62 16
WORKER'S COMPENSTATION CERTIFICATE**

Labor Code §3700 in relevant part provides:

"Every employer except the State shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees."

I am aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract and will require all Subcontractors to do the same.

Contractor

By: _____

In accordance with Article 5 (commencing at §1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any work under this Contract.

END OF SECTION

**SECTION 00 65 36
GUARANTY FORM**

(SUBMIT IN DUPLICATE)

PROJECT _____

LOCATION _____

GUARANTEE FOR _____

We hereby guarantee that the _____
_____ work which we have installed in the above project for a period of
_____ year(s) in accordance with the guarantee period required in the specifications.

We agree to repair or replace any or all such work, together with any other work which may be displaced in so doing that may prove defective in workmanship or materials, within the period of _____ year(s) from date of filing of the Notice of Completion, without expense whatsoever to the Owner, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of our failure to comply with the above-mentioned conditions within fifteen (15) days after being notified in writing, we collectively or separately do hereby authorize said Owner to proceed to have the defects repaired and made good at our expense and will pay the costs and charges therefrom immediately upon demand. We also agree to pay all costs related to litigation if we do not pay the costs you demand.

DATE: _____

SUBCONTRACTOR'S SIGNATURE: _____

CONTRACTOR'S SIGNATURE: _____

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**SECTION 00 72 00
GENERAL CONDITIONS**

1. DEFINITIONS

Addendum: A written change or revision to the Contract Documents issued to the prospective bidders prior to the time of receiving bids.

Alternate: The sum to be added to or deducted from the base Bid if the change in scope of work as described in Alternates is accepted by the District.

Approved: Approved by the District or the District's authorized representative unless otherwise indicated in the Contract Documents.

Architect: The person or firm holding a valid license to practice architecture or engineering which has been designated (if any designated) to provide architectural or engineering design services on this Project. When Architect is referred to within the Contract Documents and no architect or engineer has in fact been designated, then the matter shall be referred to the District Superintendent or designee.

As Directed: As directed by the District or its Architect, unless otherwise indicated in the Contract Documents.

As Selected: As selected by the District or its Architect, unless otherwise indicated in the Contract Documents.

Bid: The properly completed and signed proposal to perform the construction work for the Project as described in the Contract Documents.

Construction Manager: The individual or entity named as such by the District. If no Construction Manager is designated for the Project, all references to the Construction Manager in these Contract Documents shall mean the District and/or its designee.

Contract: The legally binding agreement between the District and the Contractor wherein the Contractor agrees to furnish the labor, materials, equipment, and appurtenances required to perform the work described in the Contract Documents and the District agrees to pay the Contractor for such work.

Contract Documents: The Contract Documents are described in the Contract for this Project.

Contractor: The person or entity holding a valid license in the State of California required for performing this Project and who has contracted with the District to perform the construction work described in the Contract Documents. The term Contractor shall be construed to mean all of the officers, employees, Subcontractors, suppliers, or other persons engaged by the Contractor for the work of this Project.

District and/or Owner: The District, its Governing Board, authorized officers and employees, and authorized representatives.

DSA: The State of California Division of the State Architect which has the authority to review, approve and inspect the design, alteration and construction of school buildings.

Final Completion: Final Completion is achieved when the Contractor has fully completed all Contract Document requirements, including, but not limited to, all final punch list items, to the District's satisfaction.

Inspector: The person engaged by the District to conduct the inspections required by the Education Code and Title 24.

Furnish: Purchase and deliver to the site of installation.

**SECTION 00 72 00
GENERAL CONDITIONS**

Governing Board: The Governing Board of the District.

Indicated or As Shown: Shown on drawings and/or as specified.

Install: Fix in place, for materials; and fix in place and connect, for equipment.

Modification: An authorized change to the Contract Documents which may or may not include a change in contract price and/or time.

Project: The total construction work and activities described in these Contract Documents.

Secure: Obtain.

Subcontractor: A person, firm, or corporation, duly licensed by the State of California, who has a contract with the Contractor to furnish labor, materials and equipment, and/or to install materials and equipment for work in this Contract.

2. ARCHITECT

The Architect is responsible for the overall design of the Project. The working drawings, technical Specifications, sketches and other information necessary to define the work covered by these Contract Documents have been prepared by the Architect. The Architect shall visit, inspect and observe the construction to determine general compliance with the Contract Documents, and interpret the drawings and Specifications consistent with their intent. The Architect shall evaluate the samples and other submittals required in the technical Specifications, and maintain an up-to-date log of all such items processed. The Architect will consult with the District, Contractor, and any state, county or city agency having jurisdiction over the work whenever necessary to further the best interests of the Project.

3. CONTRACT DOCUMENTS

a. Contents and Precedence

The Contract Documents consist of the executed Contract and all Addenda, all approved change orders, the completed Bid Form, the required Bonds and the Insurance forms, the Notice Inviting Bids, the Instructions to Bidders, the Notice of Award, the Notice to Proceed, the General Conditions, any supplemental Conditions, the Technical Specifications, the Drawings and the completed Bidder's Questionnaire. The Contract Documents are complementary and anything required by one shall be as binding as if required by all. In case of conflicts within the Contract Documents, the order of precedence of interpretation shall be as listed above, with the executed Contract and any change order thereto having priority, and subsequent Addenda having priority over prior Addenda only to the extent modified by the subsequent Addenda. In case of conflict within the drawings, larger scale drawings shall govern smaller scale drawings, and written dimensions shall govern over scaled dimensions.

b. Ambiguities, Errors, and Inconsistencies

If, in the opinion of the Contractor, the construction details indicated on the drawings or otherwise specified are in conflict with accepted industry standards for quality construction and therefore might interfere with its full guarantee of the work involved, the Contractor shall promptly bring this information to the attention of the Architect for appropriate action before submittal of the bid.

**SECTION 00 72 00
GENERAL CONDITIONS**

Contractor's failure to request clarification or interpretation of an apparent ambiguity, error or inconsistency waives that Contractor's right to thereafter claim any entitlement to additional compensation based upon an ambiguity, inconsistency, or error, which should have been discovered by a reasonably prudent Contractor, subject to the limitations of Public Contract Code §1104. During the Project, should any discrepancy appear or any misunderstanding arise as to the import of anything contained in the Contract Documents, the matter shall be promptly referred to the Architect, who will issue instructions or corrections.

c. Lines and Planes

All lines and planes appearing on Contract drawings to be horizontal or vertical and not explicitly indicated otherwise shall be constructed true and plumb. All lines and planes appearing on Contract drawings to intersect at right angles and not explicitly indicated otherwise shall be constructed at true right angles. Where details are indicated covering specific conditions, such details also apply to all similar conditions not specifically indicated.

d. Standards

The specification standards of the various sections of the Specifications shall be the procedural, performance, and material standards of the applicable association publications identified and shall be the required level of installation, materials, workmanship, and performance for the applicable work. Except where a specific date of issue is mentioned hereinafter, references to specification standards shall mean the edition, including amendments and supplements, in effect on the date of the Notice Inviting Bids. Where no standard is identified and a manufacturer is specified, the manufacturer's specifications are the standards. All standards shall be subordinate to the requirements of the applicable codes and regulations.

e. Reference to the Singular

Wherever in the Specifications an article, device or piece of equipment is referred to in the singular number, such reference shall include as many such items as are shown on drawings or required to complete the installation.

4. INTENT OF DRAWINGS AND SPECIFICATIONS

- a. Drawings and Specifications are to be read as an integrated document. The Contractor shall promptly report to the Architect any ambiguities, discrepancies, or errors which come to the Contractor's attention.
- b. Figured dimensions shall be followed in preference to scaled dimensions, and the Contractor shall make all additional measurements necessary for the work and shall be responsible for their accuracy. Before ordering any material or doing any work, the Contractor shall verify all measurements at the Project site and shall be responsible for the correctness of same.
- c. It is the intent of the drawings and Specifications to show and describe complete installations. Items shown but not specified, or specified but not shown, shall be included unless specifically omitted.
 - 1) The Specifications shall be deemed to include and require everything necessary and reasonably incidental to the completion of all work described and indicated on the drawings, whether particularly mentioned or shown, or not.

5. TRADE DIVISIONS

Segregation of the Specifications into the designated trade divisions is only for the purpose of facilitating descriptions and shall not be considered as limiting the work of any subcontract or trade. Subject to other necessary provisions set forth in the Specifications, the terms and conditions of such limitations or inclusions shall lie solely between the Contractor and its Subcontractors. "Scope" as indicated in each section of the Specifications shall serve only as a general guide to what is included in that section. Neither the stated description nor the division of the plans and Specifications to various sections, which is done solely for convenience, shall be deemed to limit the work required, divide or indicate it by labor jurisdiction or trade practice, or set up any bidding barriers to the various sub-contractors or suppliers.

- a. The Contractor shall be responsible for the proper execution of all work required by the Contract Documents and for allocating such portions as the Contractor sees fit to the various Subcontractors, subject to applicable law. The Contractor is cautioned that the various individual sections may not contain all work that the Contractor may wish to allocate to a particular Subcontractor or everything bearing on the work of a particular trade, some of which may appear in other portions of the plans or Specifications.
- b. If the Contractor elects to enter into any subcontract for any section of the work the Contractor assumes all responsibility for ascertaining that the Subcontractor for the work is competent, licensed, solvent, thoroughly acquainted with all conditions and legal requirements of the work, has included all materials and appurtenances in connection therewith in the subcontract, and has performed its work in strict compliance with the Contract Documents.
- c. It shall be the responsibility of the Contractor to notify each prospective Subcontractor at the time of request for bids of all portions of the Contract Documents, including the General Conditions, Supplementary Conditions and any parts of sections of Specifications or plans that the Contractor intends to include as part of the subcontract.

6. MASTER MANDATORY PROVISIONS

- a. Any material, item, or piece of equipment mentioned, listed or indicated without definition of quality, shall be consistent with the quality of adjacent or related materials, items, or pieces of equipment on the Project.
- b. Any method of installation, finish, or workmanship of an operation called for, without definition of standard of workmanship, shall be followed or performed and finished in accordance with best practices and consistent with adjacent or related installations on the Project.
- c. Any necessary material, item, piece of equipment or operation not called for but reasonably implied as necessary for proper completion of the work shall be furnished, installed or performed and finished; and shall be consistent with adjacent or related materials, items, or pieces of equipment on the Project, and in accordance with best practices.
- d. Names or numbered products are to be used according to the manufacturers' directions or recommendations unless otherwise specified.

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7. CONTRACTOR

- a. The Contractor shall perform all the work and activities required by the Contract Documents and furnish all labor, materials, equipment, tools and appurtenances necessary to perform the work and complete it to the District's satisfaction within the time specified. The Contractor shall at all times perform the work of this Contract in a competent and workmanlike manner and, if not specifically stated, accomplish the work according to the best standards of construction practice. The Contractor in no way is relieved of any responsibility by the activities of the architect, engineer, inspector or DSA in the performance of such duties.
- b. The Contractor shall employ a full-time competent superintendent and necessary assistants who shall have complete authority to act for the Contractor on all matters pertaining to the work. The superintendent shall be satisfactory to the District and, if not satisfactory, shall be replaced by the Contractor with one that is acceptable. Also, the superintendent shall not be changed without the written consent of the District unless the superintendent ceases to be employed by the Contractor.
- c. Contractor shall make the layout of lines and elevations and shall be responsible for the accuracy of both the Contractor's and the Subcontractors' work resulting therefrom. All dimensions affecting proper fabrication and installation of all Contract work must be verified by the Contractor prior to fabrication and installation by taking field measurements of the true conditions. The Contractor shall take, and assist Subcontractors in taking, all field dimensions required in performance of the work, and shall verify all dimensions and conditions on the site. If there are any discrepancies between dimensions in drawings and existing conditions which will affect the work, the Contractor shall promptly bring such discrepancies to the attention of the Architect for adjustment before proceeding with the work. Contractor shall be responsible for the proper fitting of all work and for the coordination of all trades, Subcontractors and persons engaged upon this Contract.
- d. Contractor shall do all cutting, fitting, or patching of Contractor's work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors as shown, or reasonably implied by, the drawings and Specifications for the completed work. Any cost incurred by the District due to defective or ill-timed work shall be borne by the Contractor.

8. RESPONSIBILITY OF CONTRACTOR

- a. Contractor shall be held strictly responsible for the proper performance of all work covered by the Contract Documents, including all work performed by Subcontractors. All work performed under this Contract shall comply in every respect to the rules and regulations of all agencies having jurisdiction over the Project or any part thereof.
- b. Contractor shall submit Verified Reports as defined in §§4-336 and 4-343 (c), Group 1, Chapter 4, Part I, Title 24, California Code of Regulations ("CCR"). The duties of the Contractor are as defined in §4-343, Group 1, Chapter 4, Part I, Title 24, of the CCR. Contractor shall keep and make available a copy of Title 24 of the CCR at the job site at all times.
- c. Where, because of short supply, any item of fabricated materials and/or equipment, indicated on drawings or specified is unobtainable and it becomes necessary, with the consent of the Architect, to substitute equivalent items differing in details or design, the Contractor shall promptly submit complete drawings and details indicating the necessary modifications of the work. This provision shall be governed by the terms of the General Conditions regarding Submittals: Shop Drawings, Cuts and Samples.

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- d. With respect to work performed at and near a school site, Contractor shall at all times take all appropriate measures to ensure the security and safety of students and staff, including, but not limited to, ensuring that all of Contractor's employees, Subcontractors, and suppliers entering school property strictly adhere to all applicable District policies and procedures, e.g., sign-in requirements, visitor badges, and access limitations.

9. SUBCONTRACTORS

- a. Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the District. The District shall be deemed to be the third party beneficiary of the contract between the Contractor and each Subcontractor. If the Contractor does not specify a Subcontractor for any portion of the work to be performed under this Contract, as required by law, Contractor shall perform that portion of the work with its own forces. The Contractor shall not substitute any other person or firm as a Subcontractor for those listed in the bid submitted by the Contractor, without the written approval of the District and in conformance with the requirements of the Public Contract Code. The District reserves the right of approval of all Subcontractors proposed for use on this Project, and to this end, may require financial, performance, and such additional information as is needed to secure this approval. If a Subcontractor is not approved, the Contractor shall promptly submit another firm of the same trade for approval.
- b. The Contractor shall insert appropriate provisions in all subcontracts pertaining to work on this Project requiring the Subcontractors to be bound by all applicable terms of the Contract Documents. The Contractor shall be as fully responsible for the acts and omissions of the Subcontractors, and of persons either directly or indirectly employed by them, as the Contractor is for the acts and omissions of persons directly employed by the Contractor.

10. PERFORMANCE AND PAYMENT BONDS

- a. As directed in the Notice of Award, the Contractor shall file with the District the following bonds, using the bond forms provided with these Contract Documents:
 - 1) A corporate surety bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the faithful performance of the Contract.
 - 2) A corporate surety bond, in a sum not less than 100 percent of the amount of the Contract, to guarantee the payment of wages for services engaged and of bills contracted for materials, supplies, and equipment used in the performance of the Contract.
- b. Corporate sureties on these bonds and on bonds accompanying bids must be admitted sureties as defined by law, legally authorized to engage in the business of furnishing surety bonds in the State of California. All sureties and bond forms must be satisfactory to the District. Failure to submit the required bonds within the time specified by the Notice of Award, using the forms provided by the District, may result in cancellation of the award of Contract and forfeiture of the Bid Bond.
- c. The amount of the Contract, as used to determine the amounts of the bonds, shall be the total amount fixed in the Contractor's proposal for the performance of the required work.

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- d. During the period covered by the Contract, if any of the sureties upon the bonds shall become insolvent or unable, in the opinion of the District, to pay promptly the amount of such bonds to the extent to which surety might be liable, the Contractor, within thirty (30) days after notice given by the District to the Contractor, shall provide supplemental bonds or otherwise substitute another and sufficient surety approved by the District in place of the surety becoming insolvent or unable to pay. If the Contractor fails within such thirty (30) day period to substitute another and sufficient surety, the Contractor shall, if the District so elects, be deemed to be in default in the performance of its obligations hereunder and upon the bid bond, and the District, in addition to any and all other remedies, may terminate the Contract or bring any proper suit or other proceedings against the Contractor and the sureties or any of them, or may deduct from any monies then due or which thereafter may become due to the Contractor under the Contract, the amount for which the surety, insolvent or unable to pay, shall have been liable on the bonds, and the monies so deducted shall be held by the District as collateral security for the performance of the conditions of the bonds.

11. INSURANCE

- a. Contractor shall obtain the following insurance from a company or companies acceptable to the District. All required insurance must be written by a company licensed to do business in the State of California at the time the policy is issued. All required insurance shall be equal to or exceed an A VIII rating as listed in Best's Insurance Guides' latest edition. On a case-by-case basis, the District may accept insurance written by a company listed on the State of California Department of Insurance List of Eligible Surplus Lines ("LESLI List") with a rating of A VIII or above as listed in Best's Insurance Guides' latest edition. Required documentation of such insurance shall be furnished to the District within the time stated in the Notice of Award. Contractor shall not commence work nor shall it allow its employees or Subcontractors or anyone to commence work until all insurance required hereunder has been submitted and approved in writing by the District and a notice to proceed has been issued.
- b. Contractor shall take out and maintain at all times during the life of this Contract, up to the date of acceptance of the work by the District, the following policies of insurance:
- 1) Public Liability Insurance: Personal injury and replacement value property damage insurance for all activities of the Contractor and its Subcontractors arising out of or in connection with this Contract, written on a comprehensive general liability form including contractor's protected coverage, blanket contractual, completed operations, vehicle coverage and employer's non-ownership liability coverage, in an amount no less than \$2,000,000 combined single limit personal injury and property damage for each occurrence, and a general aggregate limit which applies either separately or specifically to this Contract and is twice the required occurrence limit, i.e., \$4,000,000.
 - 2) Builders' Risk Insurance: Contractor shall procure and maintain builders' risk insurance (all-risk coverage) for an amount equal to one hundred percent of the Contract sum for the benefit of the District, and the Contractor and Subcontractors as their interest may appear. In projects involving no structural change or building construction, this requirement may be waived in writing, at the District's sole option.
 - 3) Automobile Insurance. Automobile liability insurance covering bodily injury and property damage in an amount no less than \$1,000,000 combined single limit for each occurrence. Such insurance shall include coverage for owned, hired, and nonowned vehicles

These policies shall include the following coverage:

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- 1) The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured and the coverages afforded shall apply as though separate policies have been issued to each insured.
- 2) This policy does not exclude explosion, collapse, underground excavation hazard, or removal of lateral support.

c. Endorsements:

- 1) The policies specified above shall be endorsed with the following specific language:

“The District is named as an additional insured for all liability arising out of the operations by or on behalf of the named insured, and this policy protects the additional insured, its officers, agents and employees against liability for bodily injuries, death or property damage or destruction arising in any respect directly or indirectly in the performance of the Contract.”

- 2) The certificates must state that the insurance is under an occurrence based, and not a claims-made policy (policies). The policies specified above shall be endorsed with the following specific language:

i. The insurance provided herein is primary and no insurance held or owned by the District shall be called upon to contribute to a loss.

ii. Coverage provided by this policy shall not be reduced or canceled without thirty (30) days written notice given to the District by certified mail.

d. Documentation:

Within ten (10) calendar days following issuance of the Notice of Award of the Contract, the following documentation of insurance shall be submitted to the District for approval prior to issuance of the Notice to Proceed: signed certificates of insurance showing the limits of insurance provided and copies of the specified endorsements for each policy. Certified copies of all policies shall be provided to the District upon request. If Contractor fails to submit the required documentation for all coverage required by this Contract within ten (10) calendar days following issuance of the Notice of Award, the District may, acting in its sole discretion, rescind the Notice of Award and the Contract, and the Contractor shall forfeit its bid security.

- e. If the Contractor fails to maintain such insurance, the District may take out such insurance to cover any damages for which the District might be held liable on account of the Contractor's failure to pay such damages, and deduct and retain the amount of the premiums from any sums due the Contractor under the Contract.

f. Workers' Compensation Insurance:

- 1) Within ten (10) calendar days following issuance of the Notice of Award of the Contract, the Contractor shall furnish to the District satisfactory proof that the Contractor and all Subcontractors it intends to employ have procured, for the period covered by the Contract, full Workers' Compensation insurance and employer's liability with limits of at least \$1,000,000 with an insurance carrier satisfactory to the District for all persons whom the Contractor may employ in carrying out the work contemplated under this Contract in

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accordance with the Workers' Compensation Insurance and Safety Act, approved May 26, 1913, and all acts amendatory or supplemental thereto (the "Act"). Such insurance shall be maintained in full force and effect during the period covered by the Contract. In the event the Contractor is self-insured, Contractor shall furnish a Certificate of Permission to Self-Insure, signed by the Department of Industrial Relations Administration of Self-Insurance, Sacramento, California.

- 2) If the Contractor fails to maintain such insurance, the District may take out worker's compensation insurance to cover any compensation which the District might be liable to pay under the provisions of the Act, by reason of any employee of the Contractor being injured or killed, and deduct and retain the amount of the premiums for such insurance from any sums due the Contractor under the Contract, or otherwise recover that amount from the Contractor or the Surety.
- 3) If an injury occurs to any employee of the Contractor for which the employee, or the employee's dependents in the event of the employee's death, is entitled to compensation under the provisions of the Act, or for which compensation is claimed from the District, the District may retain from the sums due the Contractor under this Contract an amount sufficient to cover such compensation, as fixed by the Act, until such compensation is paid, or until it is determined that no compensation is due, and if the District is compelled to pay such compensation, it will deduct and retain from such sums the amount so paid, or otherwise recover this sum from the Contractor or its Surety.
- 4) The policies represented by the certificates must contain the provision (and the certificates must so state) that the insurance cannot be canceled until thirty (30) days after written notice of intended cancellation has been given to the District by certified mail.

12. CODES AND REGULATIONS

- a. The Contractor shall be knowledgeable regarding and shall comply with applicable portions of California Code of Regulations Title 24, the applicable Building Code, and all other codes, ordinances, regulations or orders of properly constituted authority having jurisdiction over the work of this Project. The Contractor shall examine the Contract Documents for compliance with these codes and regulations and shall promptly notify the Architect of any discrepancies.
- b. All work and materials shall be in full accordance with the latest rules and regulations of the Safety Orders of the Division of Industrial Safety and the applicable State laws and/or regulations. Nothing in the Project plans or Specifications is to be construed to permit work not conforming to the applicable Codes. Buildings and/or all other construction covered by this Contract shall meet all the regulations for access by the physically handicapped as administered by the Division of the State Architect and as may be required by federal or state law.
- c. If the work under this Contract is for the construction of a school building as defined by the Education Code, then the following provisions shall apply to the Contract:
 - 1) All work shall be executed in accordance with the current requirements of the Education Code and California Code of Regulations: Title 24 and Title 19. No deviations from the DSA approved plans and Specifications will be permitted except upon a Change Order or Addenda, signed by the District and Architect and approved by the Division of the State Architect and the State Fire Marshal, if applicable.

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- 2) The Division of the State Architect shall be notified 48 hours in advance of the first pour of concrete.

13. PERMITS AND TAXES

- a. The Contractor shall obtain and pay for all permits, fees and licenses that are required in order to perform the work under this Contract. The District shall pay connection charges and meter costs for new permanent utilities required by these Contract Documents. The Contractor shall notify the District sufficiently in advance to submit requests for service to the appropriate utility companies so as to insure connections or installation of utility services in accordance with the Project schedule.
- b. The Contractor shall pay for all taxes on materials and equipment. The District is exempt from Federal Excise Tax. Contractor shall not pay Federal Excise Tax on any item in this Contract.

14. PATENTS AND ROYALTIES

All fees or claims for patents, royalties or licenses on materials, equipment or processes used in the performance of work on this Project shall be included in the amount of the Bid. The Contractor shall indemnify, defend, and hold harmless the District, its Governing Board, the Architect, and their officers and employees, from all claims or liability, including costs and expenses, which may arise from the use on this Project of any patented or copyrighted materials, equipment, or processes.

15. SAFETY AND FIRE PREVENTION

- a. The Contractor, Subcontractors and all of their agents and employees shall fully comply with all of the provisions and requirements of CAL/OSHA, Title 8, California Code of Regulations and all other safety codes applicable to the Project. The Contractor shall take thorough precautions at all times for the protection of persons and property, and shall be liable for all damages to persons or property, either on or off the site, which occur as a result of Contractor's prosecution of the work. The Contractor shall obtain permits for, install and maintain in safe condition barricades, walkways, fences, railings, and whatever other safeguards that may be necessary to protect persons and property from damage as a result of the construction under this Contract.
- b. Contractor is required to ensure Material Safety Data Sheets ("MSDS") are available in a readily accessible place at the work site for any material requiring a MSDS pursuant to the federal "Hazard Communication" standard or employee "right to know" laws. Contractor is also required to ensure proper labeling on materials brought on the job site such that any person working with the material or within the general area of the material is informed of the hazards of the material and follows proper handling and protection procedures. A copy of the MSDS shall also be promptly submitted directly to the District.
- c. Contractor shall not endanger any work by cutting, excavating, or otherwise altering the work and shall not cut or alter the work of any other contractor except with the written consent of the Architect, nor overload any new or existing structures by the placing or storage of materials, equipment, or other items thereon, and, if necessary, shall provide calculations proving the safety in so doing.
- d. If it is necessary to work at night, or where daylight is obscured, the Contractor shall provide and maintain lighting of an adequate level to properly prosecute the work, to permit the thorough inspection of same, and to ensure the safety to workers and others.

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- e. Contractor shall take extraordinary care to prevent fires and keep all flammable materials and oily rags in tightly closed metal containers. Contractor shall exercise particular care when welding or cutting, and with regard to the disposition of waste materials, the nature and quantity of which might create or increase a fire hazard.

16. HAZARDOUS MATERIALS

Unless otherwise specified, this Contract does not include the removal, handling, or disturbance of any hazardous substances or materials encountered in the new construction or on the Project grounds. If such substances or materials are encountered, work shall cease in that area and the District shall be promptly notified to take appropriate action for removal or otherwise abating the condition in accordance with current regulations applicable to the District.

a. General

- 1) No asbestos, asbestos-containing products or other hazardous materials shall be used in this construction or in any tools, devices, clothing or equipment used to further this construction.
- 2) Asbestos and/or asbestos containing products shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremo-lite or actinolite.
- 3) Any or all material containing greater than one tenth of one percent (>.1%) asbestos shall be defined as asbestos-containing material.
- 4) Any disputes involving the question of whether or not material contains asbestos shall be settled by electron microscopy; the cost of any such tests shall be paid by the Contractor.
- 5) All work or materials found to contain asbestos or work or material installed with asbestos containing equipment will be immediately rejected and this work shall be removed by the Contractor at no additional cost to the District.

b. Decontamination and Removal of hazardous material from prior work

- 1) Decontamination and removal of work found to contain asbestos or work installed with asbestos containing equipment shall be done only under the supervision of a qualified consultant, knowledgeable in the field of asbestos abatement and accredited by the Environmental Protection Agency ("EPA").
- 2) The asbestos removal contractor shall be an EPA-accredited contractor qualified in the removal of asbestos subject to the approval of the District.
- 3) The asbestos consultant shall be chosen and approved by the District which shall have sole discretion and final determination in this matter.
- 4) The work will not be accepted until asbestos contamination is reduced to levels deemed acceptable by the asbestos consultant.

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c. Hold Harmless

- 1) Interface of work under this Contract with work containing asbestos shall be executed by the Contractor at Contractor's risk and at Contractor's discretion with full knowledge of the currently accepted standards, hazards, risks and liabilities associated with asbestos work and asbestos containing products. By execution of this Contract the Contractor acknowledges the above and agrees to hold harmless, as set forth in the indemnity provisions of this Contract, the Owner, its employees, agents and assigns for all asbestos liability which may be associated with this work and agrees to instruct Contractor's employees and agents with respect to the above-mentioned standards, hazards, risks and liabilities.
- 2) The Contractor shall, prior to commencement of this work, provide a duly signed and notarized affidavit that Contractor has instructed Contractor's employees and agents with respect to the above mentioned standards, hazards, risks and liabilities and the contents and requirements of this portion of the Contract Documents.

d. Certification

The Contractor agrees that materials containing asbestos or other hazardous materials as defined in Federal and State law shall not be used in construction.

17. TEMPORARY FACILITIES

- a. The Contractor shall obtain permits for, install and maintain in safe condition all scaffolds, hoisting equipment, barricades, walkways, or other temporary structures that may be required to accomplish the work. Such structures shall be adequate for the intended use and capable of safely accepting all loads that may be imposed upon them. They shall be installed and maintained in accordance with all applicable codes and regulations.
- b. The Contractor shall provide and maintain temporary heat from an approved source whenever in the course of the work it may become necessary for curing, drying or warming spaces as may be required for the proper installation of materials or finishes. The Contractor shall provide and maintain any and all facilities that may be required for dewatering in order that work may proceed on the Project. If it is necessary for dewatering to occur continually, the Contractor shall have on hand whatever spare parts or equipment that may be required to avoid interruption of service or work.
- c. The Contractor shall promptly remove all such temporary facilities when they are no longer needed for the work or on completion of the Project. The Contractor shall repair any damage to premises or property which resulted from the construction, use, or removal of temporary facilities and shall restore the premises and property to their original condition.
- d. See the Supplemental General Conditions and/or specifications for requirements concerning temporary sanitary facilities and utilities.

18. SIGNS

No signs may be displayed on or about the District's property (except those which may be required by law) without the District's prior written approval of size, content and location. Any signs required by the District will be designated in the Supplemental General Conditions.

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19. TIME

- a. The Contractor shall commence the work on the date indicated in the Notice to Proceed. Time is of the essence regarding the Contract work, and the Contractor shall prosecute the work diligently and regularly at such a rate of progress as to ensure completion of this Project within, or sooner than, the time specified.
- b. The Contractors and Subcontractors shall investigate and become aware of the amount of time required for the delivery of all equipment and materials required to perform the work under this Contract, and no extension of time shall be granted due to failure to order the equipment and materials sufficiently before their incorporation into the work so as to avoid delay to the Project.
- c. The Contractor and Subcontractors shall provide and maintain enough manpower, materials and equipment to ensure a rate of construction progress that will complete the Project within or sooner than the time specified and according to the schedule of work. If, in the District's opinion, the Contractor and/or Subcontractors are not prosecuting the work at a sufficient rate of progress to meet the Project schedule, the District may direct the Contractor to provide additional manpower, materials or equipment, or to work additional hours, holidays or weekends without additional cost to the District until the work is progressing in a manner satisfactory to the District. Failure to prosecute the work in a timely manner according to the Project schedule is considered a breach of Contract and shall be cause for termination of the Contract.

20. CONSTRUCTION SCHEDULE

- a. Within fifteen (15) calendar days after the award of the Contract, the Contractor shall prepare and submit to the Architect and District an as-planned construction schedule showing in detail how the Contractor plans to prosecute the work within the time set for Final Completion. The schedule shall include the work of all trades necessary for construction of the Project, and shall be sufficiently complete and comprehensive to enable progress to be monitored on a day-by-day basis. The information for each activity shall include at a minimum the activity description, duration, start date and completion date.
- b. The Contractor shall take care in the preparation of the schedule to ensure that it represents an accurate and efficient plan for accomplishing the work. If the Project is more than one week behind schedule, it must be promptly revised showing how the Contractor plans to complete the work, but in no case shall it show a completion date later than that required by the Contract, unless a time extension has been granted. The current schedule shall be kept posted in the Contractor's project office on site.
- c. The Contractor shall be responsible for the coordination of all work necessary and pertaining to the construction whether actually a part of this Contract or attendant thereto. The Contractor shall notify the District and various utility companies, as far as possible in advance of their required work, in order that work schedules may be developed for all concerned, which will permit the most effective and timely accomplishment of the entire Project.

21. DELAYS AND TIME EXTENSIONS

- a. The Contractor may be granted a time extension if the Contractor encounters an unavoidable delay of the work due to causes completely beyond the Contractor's control and which the Contractor could not have avoided by the exercise of reasonable care, prudence, foresight and diligence. Causes for which a claim for extension of time may be made include: acts of the public enemy, acts of another contractor in the performance of another contract with the District, priority of a governmental agency for materials or equipment, fire, flood, violent wind storm, epidemic, quarantine restriction, strike, freight embargo, or weather of an unusually severe nature. The Contractor will not be granted time extensions for weather conditions which are normal for the location of the Project, according to the U. S. Weather Bureau Records.
- b. A request for extension of time and compensation related thereto shall be made in writing to the Architect and District within ten (10) calendar days of the date the delay is encountered, or shall be deemed waived. The request shall include a detailed description of the reasons for the delay and corrective measures by the Contractor. The request shall be accompanied by evidence that the insurance policies required by the Contract shall be in effect during the requested additional period of time. In order for the Architect to consider a request for time extension, the Contractor must prove that the reasons stated for the delay actually caused a delay in portions of the work which will result in completion beyond the date specified in the Contract. The Contractor may also be granted a time extension for a significant change in the scope of work which request for extension of time shall be included in a Contract modification proposal.
- c. No damages or compensation or any kind shall be paid to a Contractor because of delays in the progress of work, whether such delays be avoidable or unavoidable, that are not the responsibility of District. District's liability to Contractor for delays for which District is responsible shall be limited to an extension of time unless such delays were unreasonable under the circumstances involved and were not within the contemplation of the parties when the Contract was awarded. The Contractor shall provide to the District the actual, substantiated costs to Contractor for which the Contractor may claim damages from District. Such costs, if any, shall be directly related to the Project, and shall not include costs that would be borne by the Contractor in the regular course of business, including, but not limited to, office overhead and ongoing insurance costs. Delay damages shall not include Contractor or Subcontractor markup for overhead and profit, but only actual, documented, and direct actual costs. The District shall not be liable for any damages which the Contractor could have avoided by any reasonable means including, but not limited to, the more judicious handling of forces or equipment.
- d. The granting of an extension of time because of unavoidable delays shall in no way operate as a waiver on the part of the District of the right to collect liquidated damages for other delays or of any other rights to which the District is entitled.

22. LIQUIDATED DAMAGES

- a. The parties understand and agree that the goodwill, educational process, and other business of District will be damaged if the Project is not completed within the time limits required. The parties have further agreed that the exact amount of damages for failure to complete the Work within the time specified is, in some cases, extremely difficult, impractical, or impossible to determine. As to those damages that are difficult, impractical, or impossible to determine, Should the Contractor fail to achieve Final Completion of this Contract within the time fixed for Final Completion, together with extensions granted by the District for unavoidable delays, Contractor shall become liable to the District in the amount specified in the Contract per calendar day for each day the Contract remains

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incomplete beyond the time for Final Completion, as liquidated damages and not as a penalty. Contractor shall not be charged with liquidated damages when the delay in completion of the work beyond the time for Final Completion is due to acts of the District.

- b. In addition to any liquidated damages which may be assessed, if Contractor fails to achieve Final Completion of this Contract within the time fixed for Final Completion, together with extensions granted by the District for unavoidable delays, and if as a result District finds it necessary to incur any costs and/or expenses, or if District receives any claims by other contractors, subcontractors, or third parties claiming time or other compensation by reason of Contractor's failure to complete work on time, Contractor shall pay all those costs and expenses incurred by District. These costs and expenses may include but are not limited to such items as rental payments, inspection fees, and additional architectural fees, whether related to the acquisition of facilities or caused by the delay in completion.
- c. Any money due or to become due the Contractor may be retained to cover liquidated and other delay damages. Should such money not be sufficient to cover those damages, the District shall have the right to recover the balance from the Contractor or Contractor's sureties.
- d. Should the District authorize suspension of the work for any cause, the time work is suspended will be added to the time for completion. Suspension of the work by the District shall not be a waiver of the right to claim liquidated or other delay damages as set forth in this section.

23. DISTRICT'S RIGHT TO STOP WORK; TERMINATION OR SUSPENSION OF THE CONTRACT

a. District's Right to Stop Work:

In addition to or as an alternative to any and all other remedies available to the District, if the Contractor fails to correct work which is not performed in accordance with the Contract Documents, or if the Contractor persistently fails to perform the work in accordance with the Contract Documents, the District may by written order direct the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated to the satisfaction of the District. However, the right of the District to stop the work shall not give rise to a duty on the part of the District to exercise this right for the benefit of the Contractor or any other person or entity, and the failure of the District to do so shall not be raised as a defense to the Contractor's failure to perform the work in accordance with the Contract Documents.

b. Termination for Cause:

- 1) If the Contractor refuses or fails to furnish sufficient materials, work force, equipment, and appurtenances to properly prosecute the work in a timely manner, or if Contractor refuses or fails to comply with any provisions of the Contract Documents, or if Contractor should file a bankruptcy petition or make a general assignment for the benefit of Contractor's creditors or if a receiver should be appointed on account of Contractor's insolvency, then the District may give the Contractor and Contractor's Surety written notice of intention to terminate the Contract. Unless within seven (7) calendar days after the serving of such notice upon the Contractor and Contractor's Surety such violation shall cease and arrangements for correction of such conditions shall be made satisfactory to the District, the Contract shall cease and terminate. In the event of such termination, the District shall immediately serve written notice thereof upon the Contractor and Contractor's Surety.

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- 2) In the event of termination for cause, in addition to all remedies available to the District, the Contractor's Surety shall have the right to take over and perform the Contract; provided, however, that if the Surety does not commence performance within five (5) calendar days from the date of the issuance of such notice of termination, the District may take over the work and prosecute the same to completion by letting another Contract, or by any other method that the District deems advisable. The Contractor and Contractor's Surety shall be liable for any excess cost incurred by the District thereby, and in any such event the District may take possession of such materials, equipment, and other property belonging to the Contractor as may be on the site and use same in completing the work.

c. Termination or Suspension for Convenience:

The District reserves the right, in its sole discretion, to terminate or suspend all or part of the Contract for convenience following three (3) days written notice to the Contractor. In the event of termination or suspension for convenience, Contractor shall have no claims against the District, except:

- 1) The actual cost of labor, materials and services provided pursuant to the Contract, and which have not yet been paid for, as documented by timesheets, invoices, receipts and the like; and
- 2) Five percent (5%) of the total cost of the work performed as of the date of notice of termination or suspension or five percent (5%) of the value of the work yet to be completed, whichever is less. The parties agree that this amount shall constitute full and fair compensation for all Contractor's lost profits and other damages resulting from the termination or suspension for convenience.

24. ASSIGNMENT OF CONTRACT

The Contractor may not assign or delegate all or any portion of this Contract without the written consent of the District and no such consent shall be given which would relieve the Contractor or its Surety of their responsibilities under the Contract. The Contractor may assign, without liability to the District, monies due the Contractor under the Contract to banks, trust companies or other financial institutions provided written notice thereof is promptly delivered to the District. Assignment of monies earned by the Contractor shall be subject to the same retention as other payments made to Contractor, and shall also be subject to setoffs and back charges as provided by this Contract.

25. COORDINATION WITH OTHER CONTRACTS

- a. The District reserves the right to do other work or award other contracts in connection with this Project. By entering into this Contract, Contractor acknowledges that there may be other contractors on or adjacent to the Project site whose work must be coordinated with that of its own. Contractor expressly warrants and agrees that it will cooperate with other contractors and will do nothing to delay, hinder, or interfere with the work of other contractors, or that of the District, its Architect and Construction Manager. Contractor also expressly agrees that in the event its work is hindered, delayed, interfered with, or otherwise affected by a separate contractor, its sole remedy will be a direct action against the separate contractor. To the extent allowed by law, the Contractor expressly waives any remedy against the District, its Architect and Construction Manager on account of delay, hindrance, interference or other such events caused by a separate contractor.

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- b. If any part of Contractor's work depends upon the work of a separate contractor, Contractor shall inspect such other work and promptly report in writing to the District and Architect any defects in such other work that render it unsuitable to receive the work of Contractor. Failure of the Contractor to so inspect and report shall constitute an acceptance of the other contractor's work, except as to defects which the Contractor could not have detected through the reasonable inspection of the other contractor's work prior to the execution of Contractor's work.
- c. If Contractor is aware of a current or potential conflict between Contractor's work and the work of another contractor on the site, and is unable to informally resolve the conflict directly with the other contractor, Contractor shall promptly provide written notice to the District, with a copy to the Architect and the other contractor, specifying the nature of the conflict, the date upon which the conflict arose, and the steps taken to attempt to resolve the conflict. The District may issue written instructions to address the conflict.
- d. If, through Contractor's negligence, any other contractor or subcontractor shall suffer loss or damage to the work, Contractor shall make a reasonable effort to settle with such other contractor and subcontractor by agreement or arbitration. If such other contractor or subcontractor shall assert any claim against the District or Architect, on account of any damage alleged to have been so sustained, the District or Architect shall notify the Contractor, who shall defend such proceedings at Contractor's own expense and save harmless and indemnify the District and the Architect from any such claim.

26. SUBMITTALS: SHOP DRAWINGS, CUTS AND SAMPLES

- a. Five (5) copies of shop drawings, brochures and cuts and samples in quantities specified by the Architect shall be submitted to the Architect for all items for which they are required by the plans and Specifications. Prior to transmittal, the Contractor shall examine all submittals for accuracy and completeness in order to verify their suitability for the work and compliance with the Contract Documents and shall sign and date each submittal. Submittals shall be made sufficiently before the items are required for the work so as to cause no delay and shall be in accordance with the Project construction schedule.
- b. In addition to information furnished as common practice, submittals shall contain the Project name and location, Contractor's name and address, Subcontractor's or supplier's name and address, date of submittal and any revisions, and reference to appropriate specification section, and/or drawing and detail numbers. The Contractor and/or the Subcontractors shall verify in the field all dimensions and relationships to adjacent work necessary to ensure the proper fit of the items submitted. If necessary, the Contractor shall make any corrections required and resubmit with all due haste in the same number as initially required.
- c. Review of submittals, shop drawings, cuts or samples by the District or Architect shall not relieve the Contractor from complying with the requirements of the Contract Documents.
- d. Any materials or equipment installed without approval shall be at the Contractor's own risk, and Contractor may be required to remove any such materials or equipment and install the specified items at Contractor's own cost, including repairs to adjacent work.

27. PAYMENTS

a. Cost Breakdown:

Prior to submitting Contractor's first request for payment, the Contractor shall prepare and submit to the Architect and District a cost breakdown (schedule of values) showing the major work items for each trade or operation required in construction of the Project. The work items shall be sufficiently detailed to enable the Architect to accurately evaluate the completion percentages requested by the Contractor. The cost for each work item shall include overhead and profit. The total of all work item costs shall equal the amount of the Contract.

b. Scope of Payment:

Payment to the Contractor at the unit price or other price fixed in the Contract for performing the work required under any item or at the lump sum price fixed in the Contract for performing all the work required under the Contract shall be full compensation for furnishing all labor, materials, equipment and tools necessary to the work, and for performing and completing, in accordance with the Specifications, all work required under the item or under the Contract, and for all expense incurred by the Contractor for any purpose in connection with the performance and completion of the work.

c. Progress Payments:

The Contractor will, on or about the last day of each month, make an estimate of the value of the work completed by Contractor in the performance of the Contract. These estimates shall be subject to the review and approval of the Architect. The first such estimate will be of the value of the work completed after the Contractor commenced the performance of the Contract, and every subsequent estimate, except the final estimate, will be of the value of the work completed since the immediately preceding estimate. Such estimates will be based on labor, materials and equipment incorporated into the work, and items of materials and equipment delivered to the Project. The Contractor shall be responsible for the security and protection of such materials and equipment delivered to the Project and not incorporated in the work. Within thirty (30) calendar days after the approval of each estimate for progress payment, the District will pay to the Contractor an amount equal to ninety five (95) percent of the approved estimate, unless a different retention percentage is stated in the Notice Inviting Bids, in which case that percentage applies. Payments may at any time be withheld if in the judgment of the District the work is not proceeding in accordance with the Contract Documents, the Contractor is not complying with the requirements of the Contract, stop notices have been timely filed, the estimate contains an error, or the District has incurred costs or requests reasonable financial assurances regarding defective work by the Contractor.

d. Final Payment:

Within thirty (30) days after all required work is fully completed in accordance with the Contract Documents, the Contractor shall submit a final invoice for the total value of the work completed in accordance with the Contract, which shall be subject to review and approval by the District. As required by law, District shall pay Contractor the unpaid balance of the Contract price of the work, or the whole Contract price of the work if no progress payment has been made, determined in accordance with the terms of the Contract, less such sums as may be lawfully retained under any provision of the Contract, including, but not limited to, amounts retained as liquidated damages, for stop notices, for third-party claims for which the Contractor is required to indemnify the District, for defective work and costs incurred by the District in connection therewith, or for other such claims and damages attributable to the Contractor ("Final Payment"). Prior progress estimates and

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payments are subject to correction in the Final Payment. Tender of the Final Payment shall constitute denial by the District of any unresolved claim. Contractor's acceptance of the Final Payment shall operate as a full and final release to the District and its agents from any and all unasserted claims Contractor has, or may have, related to this Contract.

e. Payments Do Not Imply Acceptance of Work:

The granting of any progress payment or payments by the District or the receipt thereof by the Contractor shall not constitute acceptance of the work or of any portion thereof, and shall in no way lessen the liability of the Contractor to replace unsatisfactory work or material, whether or not the unsatisfactory character of such work or material was apparent or detected at the time such payment was made.

f. Retention of Sums Charged Against Contractor:

It is mutually understood and agreed that when under any provision of this Contract the District shall charge any sums of money against the Contractor, the amount of such charge shall be deducted and retained by the District from the amount of the next succeeding progress estimate, or from any other monies due or that may become due the Contractor on account of the Contract. If on completion or termination of the Contract such monies due the Contractor are found insufficient to cover the District's charges against the Contractor, the District shall have the right to recover the balance from the Contractor or the Contractor's Sureties.

g. Release:

The Contractor and each assignee under an assignment in effect at the time of Final Payment shall, if required by the District, execute and deliver at the time of Final Payment and as a condition precedent to Final Payment, a release in form and substance satisfactory to and containing such exemptions as may be found appropriate by the District, discharging the District, its officers, agents and employees of and from liabilities, obligations and claims arising under this Contract.

h. Payment to Subcontractors and Suppliers:

The Contractor shall pay each Subcontractor and supplier promptly on receipt of each progress payment from the District for the materials, labor and equipment delivered to the site or incorporated in the work by each Subcontractor during the period for which the progress payment is made, less any retention as provided above.

i. Stop Notice Costs:

The District reserves the right to charge the Contractor or Surety, or to withhold from release of retention, all costs incurred by the District, including attorney's fees, for processing and defending stop notice claims.

28. MODIFICATIONS OF CONTRACT

a. Changes In The Work:

- 1) The District, before the date of acceptance of the work, may, without notice to the Sureties, order changes in the work ("Modifications"), may order extra materials and extra work in connection with the performance of the Contract, and the Contractor shall promptly comply

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with such orders. All Modifications must be approved by DSA and the State Fire Marshall, if applicable, as required by law.

- 2) If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the cost of any part of the work, the price fixed in the Contract shall be increased or decreased by such amount as represents the reasonable and proper allowance for the increase or decrease in the cost of the work in accordance with the provisions of this Article, and any other applicable terms of the Contract, including, but not limited to, the Contractor's schedule of values and the price for allowances, if any. Except as provided by law, the total cost of all Modifications shall not exceed ten (10) percent of the original Contract price.
- 3) In the case of a disputed work item, the District may direct the Contractor to perform the disputed work at no additional cost to the District on the grounds that the work is adequately indicated in the Contract Documents, and therefore already included in the Contract price. If the Contractor maintains that the disputed work represents a modification to the Contract, Contractor may submit a claim in accordance with Article 50, Resolution of Construction Claims. Notwithstanding any dispute regarding the requirements of the Contract Documents, Contractor shall promptly and fully comply with the District's directive. Contractor's failure to do so shall be deemed a material breach of this Contract, and in addition to all other remedies, District may, at its sole discretion, hire another contractor and/or use its own forces to complete the disputed work at Contractor's sole expense, and may deduct the cost of such work from the Contract price.

b. Cost Breakdown:

When the Modification is proposed, the Contractor shall furnish a complete breakdown of actual costs of both credits and extras, itemizing materials, labor, taxes, overhead and profit. Subcontract work shall be so indicated. All costs must be fully documented. The following limitations shall apply:

- 1) Limitations Where Contract Price Changes are Involved:
 - (a) Overhead and Profit for the Contractor. The Contractor's overhead and profit on the cost of subcontracts shall be a sum not exceeding ten percent (10%) of such costs. The Contractor's overhead and profit on the costs of work performed by the Contractor shall be a sum not exceeding fifteen percent (15%) of such costs. Overhead and profit shall not be applied to the cost of taxes and insurance by Contractor or Subcontractors or to credits. No processing or similar fees may be charged by the Contractor in connection with the Modification. "Overhead and profit" shall include all plant, equipment rental and repair, project management, field coordination, job site project supervision and indirect labor and materials.
 - (b) Bond Premiums. The actual rate of bond premiums as paid on the total cost (including taxes) will be allowed, but with no markup for profit and overhead.
 - (c) Taxes. State and city sales taxes should be indicated. Federal excise tax shall not be included. (District will issue an exemption on request.)

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2) Change Order Certification:

All change orders and requests for proposed change orders shall be deemed to include the following certification by the Contractor:

"The undersigned Contractor approves the foregoing as to the changes in work, if any, and as to the Contract price specified for each item and as to the extension of time allowed, if any, for completion of the Project as stated herein, and agrees to furnish all labor, materials, and service and to perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of claims which have no basis in fact or which Contractor knows are false are made at the sole risk of the Contractor and may be a violation of the False Claims Act, as set forth in Government Code §§12650 *et seq.* It is understood that the changes to the Contract Documents set forth herein shall only be effective upon approval by the Governing Board of the District.

"It is expressly understood that the value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, both direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project. Any costs, expenses, damages, or time extensions not included herein are deemed waived."

c. Unit Prices, Schedule of Values, or Allowances:

Where Unit Prices, a Schedule of Values, and/or Allowances are required by the Contract Documents, that pricing shall govern in computing any additions to or deductions from the Contract price on account of any added or omitted work. Unit Prices listed in the original bid include all costs and no addition of any description will be allowed.

d. Time and Materials:

If it is impractical, because of the nature of the work, or for any other reason, to fix an increase in price in advance, the Change Order may fix a maximum price which shall not under any circumstances be exceeded, and subject to such limitation, such alteration, modification or extra shall be paid for at the actual necessary cost as determined by the sum of the following items (1) to (5) inclusive:

- 1) Labor, including premium on compensation insurance and charge for Social Security taxes, and other taxes pertaining to labor.
- 2) Material, including sales taxes and other taxes pertaining to materials.
- 3) Plant and equipment rental, to be agreed upon in writing before the work is begun. No charge for the cost of repairs to plant or equipment will be allowed.
- 4) Overhead and profit computed at fifteen percent (15%) of the total of Items (1) to (3) inclusive.
- 5) The proportionate cost of premiums on bonds computed at one and one-half percent (1-1/2%) of the total of items (1) to (4) inclusive.

If the Time and Materials work is done by a Subcontractor, the amount shall be determined as set forth above under items (1) to (5) inclusive. The Contractor's overhead and profit on the costs of subcontracts (exclusive of taxes and insurance) shall not exceed ten percent (10%) of such costs.

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The District reserves the right to furnish such materials as it may deem expedient, and no allowance will be made for profit thereon. The above-described methods of determining the payment for work and materials shall not apply to the performance of any work or the furnishing of any material which, in the judgment of the District, may properly be classified under items for which prices are established in the Contract.

e. Oral Modifications:

No oral statements of any person shall in any manner or degree modify or otherwise affect the terms of the Contract.

29. INDEMNITY

Contractor shall defend with counsel acceptable to the District, indemnify and hold harmless to the full extent permitted by law, the District and its Board of Trustees, officers, agents, Architect, construction manager, employees, students, and volunteers from and against any and all liability, loss, damage, claims, expenses, fines, judgments and costs (including, without limitation, attorney's fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the Project or its failure to comply with any of its obligations contained in these Contract Documents, except such Liability caused by the active negligence, sole negligence or willful misconduct of the District. Such indemnification shall extend to all claims, demands, or liabilities occurring after completion of the project as well as during the progress of the work. Pursuant to Public Contract Code §9201, District shall timely notify Contractor of receipt of any third-party claim relating to this Project.

30. WARRANTY OF TITLE

Contractor warrants that title to all work, materials or equipment included in a request for payment shall pass and transfer to the District whether or not they are installed or incorporated in the Project, free from any claims, liens or encumbrances, when such payment is made to the Contractor. Contractor further warrants that no such work, materials or equipment have been purchased for work under the Contract subject to an agreement by which an interest therein or an encumbrance thereon is retained by the seller or supplier.

31. USE OF COMPLETED PARTS OF THE WORK BEFORE ACCEPTANCE

Whenever the work or any part thereof is in a condition suitable for use, and the best interest of the District requires such use, as determined by the District, the District may take possession of, connect to, open for public use, or use the work or a part thereof. When so used, maintenance and repairs due to ordinary wear and tear or vandalism will be made at District's expense. The use by the District of the work or part thereof as contemplated in this section shall in no case be construed as constituting acceptance of the work or any part thereof, including, but not limited to, the right to assess liquidated damages. Such use shall neither relieve the Contractor of any of Contractor's responsibilities under the Contract nor act as a waiver by the District of any of the conditions thereof. Contractor shall continue to maintain all insurance, including Builder's Risk insurance, on the entire Project, and diligently pursue full completion of the work.

32. GUARANTEE AND WARRANTY

- a. By signing this Contract, Contractor agrees to the following guarantee and warranty:

Guarantee & Warranty

Contractor hereby guarantees and warrants its work on the Project for a period of two (2) years from the date of the filing of the Notice of Completion as follows.

Contractor shall promptly repair or replace to the satisfaction of the District any or all work that appears defective in workmanship, equipment and/or materials for whatever reason, ordinary wear and tear and unusual abuse or neglect excepted, together with any other work which may be damaged or displaced in so doing.

Contractor agrees to promptly correct and remedy any failure by the Contractor to conform its work, activities and services to the requirements of the Contract Documents.

In the event of the Contractor's failure to comply with the above-mentioned obligations within the ten (10) calendar days of notice, or sooner if required by an emergency, Contractor hereby authorizes the District to have the defects or deficiencies repaired, remedied, corrected and made good at Contractor's expense, and Contractor shall pay the costs and charges therefore upon demand. The Surety agrees to be responsible for these costs and charges as well.

33. PROTECTION OF WORK AND PROPERTY

- a. The Contractor shall be responsible for each operation and all work on the Project, both permanent and temporary. The Contractor shall protect the work and materials from damage due to negligence, the action of the elements, the carelessness of third parties, vandalism, or any other cause whatsoever, until the final completion and acceptance of the Project. Should improper work by the Contractor be covered by another contractor and damage or defects result, the whole work affected shall be made good by the Contractor to the satisfaction of the Architect and District without expense to the District. The Contractor shall take reasonable care to avoid damage to existing facilities or utilities, whether on the Project or adjacent to it, and Contractor shall be liable for any damage thereto or interruption of service due to Contractor's operations. If the Contractor encounters any facilities or utilities not shown on the drawings or not reasonably inferable therefrom, Contractor shall promptly notify the Architect about them, and shall do no further work which may cause damage to same. If it is determined that some action needs to be taken regarding facilities not shown, the Contractor will be given directives on what action to take, and any additional cost to the Contractor incurred thereby will be handled by Change Order.
- b. The property limits of the area of the Project are indicated on the drawings. Except for work specifically shown or noted, Contractor shall confine Contractor's operations within the indicated property limits. The Contractor shall provide, install, and maintain all shoring, bracing and

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underpinning necessary to support adjacent property, streets, buildings and structures, that may be affected by building operations for this work; shall serve or cause to be served all legal notices to adjoining property owners that may be necessary for their protection; and shall protect from damage all adjacent buildings, fences, landscaping, and repair or replace any such property damaged in the course of work under the Contract.

34. USE OF ROADWAYS AND WALKWAYS

The Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic by any party entitled to use it. Wherever such interference becomes necessary for the proper and convenient performance of the work and no satisfactory detour route exists, the Contractor shall, before beginning the interference, provide a satisfactory detour, temporary bridge, or other proper facility for traffic to pass around or over the interference and shall maintain it in satisfactory condition as long as the interference continues, all without extra payment unless otherwise expressly stipulated in the Contract Documents.

35. MATERIALS

- a. Unless explicitly stated otherwise, all specified equipment and material comprising the work of this Contract, as being provided or furnished or installed, shall imply the inclusion of all components, hardware and accessories, required for complete installation and satisfactory operation as intended by the manufacturer. Wherever the method of installation of any material is not explicitly specified, the installation shall be as recommended by manufacturer.
- b. Wherever in the Contract Documents it is provided that the Contractor shall furnish materials or equipment for which no detailed specifications are set forth, such materials or equipment shall be new and of the best grade for the purpose for which they will be used when incorporated in the work. Materials specified by reference to a number or symbol of a specific standard, such as A.S.M., Federal Specification, State Standard, Trade Association, or similar standards, shall comply with requirements in the latest revision thereof and any amendment or supplement in effect on the date of the notice inviting bids.
- c. None of the materials to be provided furnished or installed on this project shall contain asbestos or any other "hazardous substance" as that term is defined by federal or state law.

36. SUBSTITUTIONS

- a. Wherever in the drawings or Specifications a material or product is called for by trade or brand names or manufacturer and model number, alternative items of equal quality and purpose may be proposed for use by the Contractor. The burden of proof of equality is on the Contractor, and Contractor shall furnish all information and supplies necessary for the Architect to make a thorough evaluation of the proposed substitution. The Architect's decision about the equality of the proposed substitution is final, and if the proposed substitution is not approved, the Contractor shall install the item called for. Proposed substitutions and any changes in adjacent work caused by them shall be made by the Contractor at no additional cost to the District.
- b. Proposed substitutions shall be submitted sufficiently before actual need to allow time for thorough evaluation. Substitutions shall not be proposed for the reason that submittals were not made early

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enough to avoid delay. Architect's review of substitutions shall not relieve the Contractor from complying with the requirements of the drawings and Specifications.

- c. In the event Contractor makes substitutions in materials, equipment, or designs, with or without the District's approval, other than those authorized herein, the Contractor shall then assume full responsibility for the effects of such substitutions on the entire Project, including the design, and shall reimburse the District for any charges resulting from such substitutions, including any charges for modifications in the work of other trades, and including any charges for additional design and review, plus reasonable and customary mark-ups.

37. TESTING

- a. Materials, equipment, or other work requiring tests may be specified in the Contract Documents, and they shall be adequately identified and delivered to the site in ample time before intended use to allow for testing. If such materials, equipment or other work should be covered without required testing and approval, they shall be uncovered at the Contractor's expense, including any repairs or replacement resulting therefrom. The Contractor shall notify the District and Architect when and where such materials, equipment or other work are ready for testing, and Contractor shall bear the cost of making them available for testing. The Contractor shall notify the District and Architect sufficiently before the need for testing so as to cause no delay in the work and, in any case, at least forty-eight (48) hours prior to the need for testing.
- b. The cost of initial tests called for will be paid by the District and will be performed by independent testing consultants retained by the District. All other tests and inspections specified or otherwise required to substantiate compliance with specified requirements for quality of material or performance of operation shall be paid for by the Contractor. If retesting or additional testing is necessary because of substandard initial test results, the costs thereof shall be paid by the Contractor, including any repairs or replacement resulting therefrom.

38. INSPECTION

- a. All materials, equipment and workmanship used in the work of the Project shall be subject to inspection or testing at all times and locations during construction and/or manufacture. The District's and Architect's authorized representatives and representatives of other agencies having authority over the work shall have access to the work for the above purposes at all reasonable times and locations. Any material or work found to be unsatisfactory or not according to the Contract Documents shall be replaced with the correct material or work and the defective items promptly removed, all at the Contractor's expense, when directed to do so by any of the above-named persons having authority over the work. The cost of review time and analysis by the Architect or other District consultants necessitated by incomplete or defective work by the Contractor shall be charged to the Contractor.
- b. Inspection and testing by the District or its representatives shall not relieve the Contractor from complying with the requirements of the Contract Documents. The Contractor is responsible for its own quality control.
- c. Whenever required by the District or Architect, the Contractor shall furnish all tools, labor and materials necessary to make an examination of work in place by uncovering the same. Should such work be found unsatisfactory, the cost of examination and reconstruction shall be paid by the Contractor. Should such work be found satisfactory, the cost of examination and reconstruction of

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the work shall be paid by Change Order unless the Contractor improperly covered the work before it could be inspected or tested. If the Contractor considers it necessary or desirable to work on Saturday, Sunday or a holiday, Contractor shall seek written approval from the District at least forty-eight (48) hours before the commencement of such work.

39. CLEANUP

- a. The Contractor shall maintain the premises and area of the work in a neat and clean condition. No burning of rubbish on site shall be allowed. The Contractor shall control dust on the site by sprinkling at whatever intervals are necessary to keep it laid down and shall take measures to prevent dust and debris from being accidentally transported outside the area of the work.
- b. Final cleaning, such as sweeping, dusting, vacuuming, dry and wet mopping, polishing, sealing, waxing and other finish operations normally required on newly installed work shall be taken to indicate the finished conditions of the various new and existing surfaces at the time of acceptance. Prior to the time of acceptance, all marks, stains, fingerprints, dust, dirt, splattered paint and blemishes resulting from the various operations shall be removed throughout the Project. Stair treads and risers shall be wet-mopped. Glass shall be left clean and polished both inside and outside. Plumbing fixtures and light fixtures shall be washed clean. Hardware and other unpainted metals shall be cleaned and all building papers and other temporary protections shall be removed throughout the building, or portion of the building where Contractor was involved, all to the satisfaction of the Architect and District. The exterior of the buildings, playfields, exterior improvements, and planting spaces and other work areas shall be similarly clean and in good order.

40. CONSTRUCTION WASTE MANAGEMENT REQUIREMENTS

- a. Scope
 - 1) This Article includes requirements for the diversion by the Contractor of construction and demolition debris from landfills. The Contractor shall develop and implement a Waste Management Plan as specified herein. The Contractor shall take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort.
 - 2) The District has established that this Project shall generate the least amount of waste practicable and that processes shall be utilized that ensure the generation of as little waste as possible due to over-packaging, error, poor planning, breakage, mishandling, contamination or other factors.
 - 3) As much of the waste materials as economically feasible shall be reused, salvaged or recycled. Waste disposal in landfills shall be minimized.
 - 4) The Contractor is encouraged to use waste hauling companies that separate recyclable materials. The Contractor shall work with its waste haulers in providing other recycling methods as appropriate.
 - 5) The Contractor is responsible for implementation of any special programs involving rebates or similar incentives related to the recycling of waste. Revenues or other savings obtained for salvage or recycling accrue to the Contractor.

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b. References

- 1) "Builders' Guide to Reuse and Recycling, A Directory for Construction and Demolition Materials."
- 2) "Construction Site Recycling, a Guide for Building Contractors ". For a copy of the guide call 1-888-442-2666 or go to www.recycleworks.org.
- 3) "Where to Recycle Construction and Demolition Debris." For a copy of the guide call 1-888-442-2666 or go to www.recycleworks.org.

c. Definitions

- 1) General: Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work.
- 2) Divert" means to use material for any lawful purpose other than disposal in a landfill or transfer facility for disposal
- 3) "Recycling Service" means an off-site service that provides processing of material and diversion from a landfill.
- 4) "Hauler" means the entity that transports construction and demolition debris to either a landfill or a recycling service.

d. Compliance with regulatory requirements:

- 1) The Contractor shall perform all handling, storage, transportation and disposal of construction debris in compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinance, codes and standards.
- 2) Nothing stated on the drawings, in this Article 40 or in any other provision of the Contract Documents shall be construed as allowing work that is not in strict compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinances, codes and standards.

e. Performance Requirement

- 1) The Contractor shall divert a minimum of 50 percent (50%) of the total Project construction and demolition waste from landfills.

f. Quality Control

- 1) General:
 - i) The Contractor shall not permit materials designated for diversion to become contaminated or to contaminate the site or surrounding areas.
- 2) Training and Coordination:

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- i) The Contractor shall designate an on-site party [or parties] who will be responsible for instructing workers and subcontractors, and overseeing and documenting the results of the Waste Management Plan for the Project.
 - ii) The Contractor shall furnish copies of the Waste Management Plan to all on-site supervisors, each subcontractor, and the District's representative.
 - iii) The Contractor shall include construction waste management as an item on the agenda of all progress meetings.
- 3) The Waste Management Plan:
- i) The Contractor shall prepare a Waste Management Plan for diverting the specified percentage of construction debris from landfills, including written and graphic information indicating how the waste will be diverted.
 - ii) Include in the plan both on-site recycling of construction debris and off-site diversion from landfills.
 - iii) Identify the means and methods for collecting and separating each type of debris deemed reusable or recyclable.
 - iv) List the off-site recycling service and hauler of each designated debris item who has agreed to accept and divert that item from the landfill in the proposed quantities anticipated. List the service and hauler company name, address, telephone number, and persons contacted.
 - v) List the name of individuals on the Contractor's staff responsible for waste prevention and management.
 - vi) List the actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.
 - vii) Describe the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of wastes.
 - viii) Characterize the waste to be generated, including estimated types and quantities. Name the landfills and/or incinerator to be used.
 - ix) List the specific waste materials that will be salvaged for resale, salvaged and reused on the Project, salvaged and stored for reuse on a future project, or recycled. Recycling facilities that will be used shall be identified by name, location, and phone number.
 - x) Identify the materials that cannot be recycled or reused with an explanation or justification, to be approved by the Architect.

The Contractor shall submit the Plan to the Architect within 10 calendar days after receipt of the Notice to Proceed, or prior to any waste removal, whichever occurs first. The Contractor shall promptly revise and resubmit the Plan as required by the Architect. Review of the Contractor's Waste Management Plan

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will not relieve the Contractor of responsibility for compliance with applicable environmental regulations or meeting Project diversion requirements.

g. Plan Implementation

- 1) The Contractor shall implement the approved Waste Management Plan.
- 2) The Contractor shall maintain a log of each load and of each category of waste that is diverted from the landfill. The Contractor shall separately log the debris sent to a Class III landfill and materials sent to recycling facilities.
- 3) The Contractor shall include in the log the type of load, load weight, name of the hauling service, recycling service or landfill, and the date accepted by the recycling service or by the landfill.
- 4) The Contractor shall retain and make available all weight tickets and copies of receipts and invoices relating to the implementation of the Plan.
- 5) The District reserves the right to audit the log at any time.

h. Material Handling

- 1) Designate a specific area or areas on site to facilitate the separation of materials for potential reuse, salvage, recycling, and return. Clearly mark bins for each category of waste.
- 2) Keep waste bins and pile areas neat and clean. Do not contaminate non-recyclable waste with materials designated for reuse or recycling.

i. Contractor's Responsibilities

- 1) Provide on-site instruction of the appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- 2) Separate, store, protect, and handle at the site identified recyclable and salvageable waste products in a manner that maximizes recyclability and salvagability of identified materials. Provide the necessary containers, bins and storage areas to facilitate effective waste management. Provide barriers and enclosures around recyclable material storage areas which are non hazardous and recyclable or reusable and which shall be located away from construction traffic. Provide adequate space for pick-up and delivery. Use cleaning materials that are non hazardous and biodegradable.

41. INSTRUCTIONS AND MANUALS

Three copies of the maintenance instructions, application/installation instructions and service manuals called for in the Specifications shall be provided by the Contractor. These shall be complete as to drawings, details, parts lists, performance data and other information that may be required for the District to easily maintain and service the materials and equipment installed under this Contract. All manufacturer's application/installation instructions shall be given to the Architect at least ten (10) days prior to first material application or installation of the item. The maintenance instructions and manuals, along with any specified

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guarantees, shall be delivered to the Architect for review prior to submitting to District, and the Contractor or appropriate Subcontractors shall instruct District's personnel in the operation and maintenance of the equipment prior to final acceptance of the Project.

42. AS-BUILT DRAWINGS

The Contractor and all Subcontractors shall maintain on the work site a separate complete set of contract drawings which will be used solely for the purpose of recording changes made in any portion of the work during the course of construction, regardless of the reason for the change. As changes occur, there will be included or marked on this record set on a daily basis if necessary to keep them up to date at all times. Actual locations to scale shall be identified on the drawings for all runs of mechanical and electrical work, including all site utilities installed underground, in walls, floors, and furred spaces, or otherwise concealed. Deviations from the drawings shall be shown in detail. All main runs, whether piping, conduit, duct work, drain lines, etc., shall be located in addition by dimension and elevation. Progress payments may be delayed or withheld until such time as the record set is brought up to date to the satisfaction of the Architect. The Contractor shall verify that all changes in the work are included in the "AS-BUILT" drawings and deliver the complete set thereof to the Architect for review and approval within thirty (30) calendar days after District's notice of completion. District's acceptance and approval of the "AS-BUILT" drawings are a necessary condition precedent to the release of the final retention.

43. SUBSTITUTION OF SECURITIES

- a. Pursuant to Public Contract Code §22300, Contractor may request in writing that it be allowed at its own expense to substitute securities for moneys withheld by District to ensure performance under this Contract. Only securities listed in Government Code §16430 and bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and District shall qualify under this Article. Securities equivalent to the amount withheld shall be deposited with the District or with a state or federally chartered bank in California as the escrow agent. Upon satisfactory completion of the Contract and on written authorization by the District, the securities shall be returned to Contractor. Contractor shall be the beneficial owner of the securities and shall receive any interest thereon. The Contractor may alternatively request District to make payment of retentions earned directly to the escrow agent at the expense of the Contractor.
- b. At the expense of the Contractor, the Contractor may direct the investment of the payments into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for above for securities deposited by Contractor. Upon satisfactory completion of the Contract, Contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the District. The Contractor shall pay to each Subcontractor, not later than 20 days of receipt of payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention.
- c. Any escrow agreement entered into pursuant to this Article shall comply with Public Contract Code §22300 and shall be subject to approval by District's counsel.

44. NO DISCRIMINATION

It is the policy of the District that, in connection with all work performed under this public works contract, there shall be no discrimination against any prospective or active employee or any other person engaged in

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the work because of actual or perceived race, color, ancestry, national origin, ethnic group identification, religion, sex, gender, sexual orientation, age, physical or mental disability, or marital status. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practice Act, beginning with Government Code §12900, Government Code §11135, and Labor Code §§ 1735, 1777.5, 1777.6 and 3077.5. In addition, the Contractor agrees to require like compliance by all Subcontractors and suppliers.

45. LABOR STANDARDS

a. Work Hours:

In accordance with Labor Code §1810, eight (8) hours of labor shall constitute a legal day's work under this Contract. Contractor and any Subcontractor shall pay workers overtime pay as required by Labor Code §1815. The Contractor shall pay each worker, laborer, mechanic or persons performing work under this Contract at a rate not less than the prevailing wage for each craft or classification covering the work actually performed.

b. Employment of Apprentices:

Contractor shall comply with Labor Code §§1773.3, 1777.5 and 1777.6, and 3077 *et. seq.*, each of which is incorporated by reference into this Contract. These sections require that contractors and subcontractors employ apprentices in apprenticeable occupations in a ratio of not less than one (1) hour of apprentice work for every five (5) hours of labor performed by a journeyman, unless an exception is granted and that Contractors and Subcontractors shall not discriminate against otherwise qualified employees as apprentices on any public works solely on the ground of actual or perceived race, religion, color, national origin, ethnic group identification, sex, gender, sexual orientation, age, or physical or mental disability. Only apprentices who are in training under written apprenticeship occupations shall be employed. The responsibility for compliance with these provisions for all apprenticeable occupations rests with Contractor.

c. The Contractor shall be knowledgeable of and comply with Labor Code §§1727, 1773.5, 1775, 1777, 1777.5, 1810, 1813, 1860, including all amendments thereto; each of these sections is incorporated by reference into this Contract.

46. GENERAL RATE OF PER DIEM WAGES

a. On File:

As required by Labor Code §1773.2, the District has available copies of the general prevailing rate of per diem wages for workers employed on public work as determined by the Director of the Department of Industrial Relations, which shall be available to any interested party on request. Contractor shall post a copy of the document at each job site.

b. Prevailing Wage Rate:

The Contractor and each Subcontractor shall pay each worker performing work under this Contract at a rate not less than the prevailing wage as defined in Labor Code §1771 and 1774 and §16000(a) of Title 8, California Code of Regulations.

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c. Penalty:

In accordance with §1775 of the Labor Code, the Contractor shall forfeit to the District as penalty, the sum of fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates, as determined by the Director of the California Department of Industrial Relations, for any work done under this Contract by Contractor or by any Subcontractor. Contractor shall also pay each worker the difference between the stipulated prevailing wages rates and the amount actually paid to such worker.

47. RECORD KEEPING

- a. The Contractor agrees to comply with the provisions of §§1776 and 1812 of the Labor Code. The Contractor and each Subcontractor shall keep or cause to be kept an accurate record showing the names, addresses, social security numbers, work classifications, straight time and overtime hours worked each day and week of all workers employed by Contractor in connection with the execution of this Contract or any subcontract thereunder and showing the actual per diem wages paid to each of such workers. These records shall be certified and shall be open at all reasonable hours to the inspection of the District awarding the Contract, its officers and agents, and to the Chief of the Division of Labor Statistics and Law Enforcement of the State Department of Industrial Law Enforcement of the State Department of Industrial Relations, and his or her other deputies and agents.
- b. In addition, copies of the above records shall be available as follows:
- 1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request;
 - 2) A certified copy of all payroll records shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations;
 - 3) A certified copy of all payroll records shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been previously provided, the requesting party shall, prior to being provided the records, reimburse the costs of the Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the Contractor.
- c. The Contractor shall file a certified copy of the records with the entity requesting the records within ten days after receipt of a written request. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the Contractor awarded the Contract or performing the Contract shall not be marked or obliterated.
- d. The Contractor shall inform the Owner of the location of the records, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.

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- e. In the event of noncompliance with the requirements of this section, the Contractor shall have ten days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with this section. Should noncompliance still be evident after the ten day period, the Contractor shall, as a penalty to the District, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.
- f. Responsibility for compliance with this provision shall be with the Contractor.

48. PROJECT COMPLETION

- a. When all of the work to be performed under this Contract has been fully completed, the Contractor shall notify the Architect and District, in writing, setting a date for inspection. The Contractor and Subcontractor representatives shall attend the inspection. As a result of this inspection, the Architect will prepare a list of items ("punch list") that are incomplete or not installed according to the Contract Documents. Failure to include items on this list does not relieve the Contractor from fulfilling all requirements of the Contract Documents.
- b. The Architect will promptly deliver the punch list to the Contractor and it will include a period of time by which the Contractor shall complete all items listed thereon. On completion of all items on the punch list, verified by a final inspection, and all other Contract requirements, so that Final Completion has been achieved to the District's satisfaction, the District will file a Notice of Completion with the County Recorder. Payment of retention from the Contract, less any sums withheld pursuant to the terms of this Contract or applicable law, shall not be made sooner than thirty-five (35) calendar days after the date of filing of Notice of Completion.
- c. The District reserves the right to occupy buildings and/or portions of the site at any time before Completion, and occupancy shall not constitute final acceptance of any part of the Work covered by the Contract Documents, nor shall such occupancy extend the date specified for completion of the Work. Beneficial occupancy of building(s) does not commence any warranty period or entitle Contractor to any additional compensation due to such occupancy, or affect in any way or amount Contractor's obligation to pay liquidated damages for failure to complete the Project on time.

49. TRENCHING OR OTHER EXCAVATIONS

- a. Excavations or Trenches Deeper than Four Feet:

If the Project involves digging trenches or other excavations that extend deeper than four feet, the following provisions shall be a part of this Contract:

- 1) The Contractor shall promptly, and before the following conditions are disturbed, provide written notice to the District if the Contractor finds any of the following conditions:
 - (a) Material that the Contractor believes may be a hazardous waste, as defined in §25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law.

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- (b) Subsurface or latent physical conditions at the site which are different from those indicated or expected.
 - (c) Unknown physical conditions at the site of any unusual nature or which are materially different from those ordinarily encountered and generally recognized as inherent in work which the Contractor generally performs.
- 2) In the event that the Contractor notifies the District that Contractor has found any of the conditions specified in subparagraphs (a), (b) or (c), above, the District shall promptly investigate the condition(s). If the District finds that the conditions are materially different or that a hazardous waste is present at the site which will affect the Contractor's cost of, or the time required for, performance of the Contract, the District shall issue a change order in accordance with the procedures set forth in this Contract.
- 3) In the event that a dispute arises between the District and the Contractor regarding any of the matters specified in Paragraph (2), above, the Contractor shall proceed with all work to be performed under the Contract and the Contractor shall not be excused from completing the Project as provided in the Contract. In performing the work pursuant to this Paragraph, the Contractor retains all rights provided by Article 50 which pertains to the resolution of disputes between the contracting parties.

b. Regional Notification Center:

The Contractor, except in an emergency, shall contact the appropriate regional notification center at least two (2) days prior to commencing any excavation if the excavation will be conducted in an area that is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. No excavation shall be commenced and/or carried out by the Contractor unless an inquiry identification number has been assigned to the Contractor or any Subcontractor and the Contractor has given the District the identification number. Any damages or delays arising from Contractor's failure to make appropriate notification shall be at the sole risk and expense of the Contractor and shall not be considered for an extension of the Contract time.

c. Existing Utility Lines:

- 1) Pursuant to Government Code §4215, the District assumes the responsibility for removal, relocation, and protection of main or trunk utility lines and facilities located on the construction site at the time of commencement of construction under this Contract with respect to any such utility facilities that are not identified in the plans and Specifications. Contractor shall not be assessed liquidated damages for delay in completion of the Project caused by the failure of the District or the owner of a utility to provide for removal or relocation of such utility facilities.
- 2) Locations of existing utilities provided by the District shall not be considered exact, but approximate within reasonable margin and shall not relieve Contractor of responsibilities to exercise reasonable care nor costs of repair due to Contractor's failure to do so. The District shall compensate Contractor for the costs of locating and repairing damage not due to the failure of Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and Specifications with reasonable accuracy.
- 3) No provision herein shall be construed to preclude assessment against Contractor for any other delays in completion of the Project. Nothing in this section shall be deemed to

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require the District to indicate the presence of existing service laterals, appurtenances, or other utility lines, with the exception of main or trunklines, whenever the presence of such utilities on the site of the construction Project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the construction.

- 4) If Contractor, while performing work under this Contract, discovers utility facilities not identified by the District in the Project plans and Specifications, Contractor shall immediately notify the District and the utility in writing. The cost of repair for damage to above-mentioned visible facilities without prior written notification to the District shall be borne by the Contractor.

d. Prompt Notification:

Contractor understands, acknowledges and agrees that the purpose for prompt notification to the District pursuant to these provisions is to allow the District to investigate the condition(s) so that the District shall have the opportunity to decide how the District desires to proceed as a result of the conditions. Accordingly, failure of Contractor to promptly notify the District in writing, pursuant to these provisions, shall constitute Contractor's waiver of any claim for damages incurred as a result of the conditions.

e. Trenches Five Feet and Deeper:

Pursuant to Labor Code §6705, if the Contract price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall, in advance of excavation, promptly submit to the District and/or a registered civil or structural engineer employed by the District or Architect, a detailed plan showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

50. RESOLUTION OF CONSTRUCTION CLAIMS

- a. Public work claims of \$375,000 or less between the Contractor and the District are subject to the provisions of Article 1.5 (commencing with §20104) of Chapter 1 of Part 2 of the Public Contract Code ("Article 1.5 claim"). For purposes of Article 1.5, "public work" has the same meaning as set forth in §§3100 and 3106 of the Civil Code; "claims" means a separate demand by Contractor for a time extension or payment of money or damages arising from work done by or on behalf of Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to or the amount of the payment which is disputed by the District.
- b. All claims shall be submitted on or before the date of the Final Payment and shall include all documents necessary to substantiate the claim. District shall respond in writing within 45 days of receipt of claim if the claim is less than or equal to \$50,000 ("\$50,000 claim") or within 60 days if the claim is over \$50,000 but less than or equal to \$375,000 ("50,000 - \$375,000 claim"). In either case, District may request in writing within 30 days of receipt of claim any additional documentation supporting the claim or relating to any defenses to the claim which the District may have against the Contractor. Any additional information shall be requested and provided upon mutual agreement of the District and the Contractor. District's written response to the claim shall be submitted to Contractor within 15 days after receipt of the further documentation for \$50,000 claims or within 30 days after receipt of the further documentation for \$50,000 - \$375,000 claims or within

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a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

- c. Within 15 days of receipt of the District's response, if Contractor disputes the District's written response, or within 15 days of the District's failure to respond within the time prescribed, the Contractor shall provide written notification to District demanding an informal conference to meet and confer ("conference") to be scheduled by District within 30 days. Following the conference, if any claim or portion remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the period of time within which a claim must be filed is tolled from the time the claimant submits a written claim pursuant to this section until the time that claim is denied as a result of the conference process, including any period of time utilized by the meet and confer process.
- d. Pursuant to Public Contract Code §20104.2(f), this section does not apply to tort claims and does not change the period for filing claims or actions specified by Chapter 1 (commencing with §900) and Chapter 2 (commencing with §910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
- e. If a civil action is filed, within 60 days, but no earlier than 30 days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide that both parties select a disinterested third person mediator within 15 days, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days of the commencement of the mediation unless time is extended upon a good cause showing to the court or by stipulation of the parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
- f. If the matter remains in dispute, the case shall be submitted to judicial arbitration as set forth in Public Contract Code §§20104.4 (b)(1) through (b)(3).
- g. For any claim in excess of \$375,000, the Contractor and the District shall follow the same process as for an Article 1.5 claim. The District will forward a response within 60 days of submittal of any such claim. Judicial arbitration is not required for claims in excess of \$375,000.
- h. In addition, for all unresolved claims that the Contractor wishes to pursue, the Contractor shall file a timely claim pursuant to the Government Claims Act and shall otherwise comply with the procedures set forth in that Act prior to commencing any litigation against the District. The accrual date for any such claim is the date the dispute or controversy first arose regarding the issues raised in the claim.
- i. "The date of Final Payment," as used in this Article 50, means the date the public entity is required to release retention proceeds in accordance with Public Contract Code §7107 regardless of whether any payment is made to the Contractor at that time.
- j. The claims required by this Article are jurisdictional and conditions precedent to the commencement of any further legal proceedings. Strict compliance with all filing deadlines is mandatory.

51. LABOR COMPLIANCE PROGRAM

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A Labor Compliance Program is required if the Project will be funded by either the Kindergarten-University Public Education Facilities Bond Act of 2002 or the Kindergarten-University Public Education Facilities Bond Act of 2004 and the contract is awarded prior to January 1, 2012; the Project is subject to a statutory requirement; or the District has elected to enforce such a program and the program has been approved by the Department of Industrial Relations. **A determination regarding whether a Labor Compliance Program is required is contained in the Instructions to Bidders.** If a Labor Compliance Program is required, the following applies to this Contract:

- a. This Contract is subject to a Labor Compliance Program, pursuant to §1771.5 and §1771.7 of the Labor Code and Title 8 of the California Code of Regulations, Subchapters 4 and 4.5. The Labor Compliance Program ("LCP") is incorporated by reference into the Contract and it will be enforced as required by state law and regulations and the Director of the Department of Industrial Relations. The Contractor shall comply with all requirements identified in that LCP.
- b. Contractor and its Subcontractors agree that submission of Certified Payroll Records as well as all related or subsequent requests for supporting documents made by the District or its LCP shall be a condition precedent to receipt of a progress, final, or retention payment. The District shall withhold any portion of the progress payment up to and including the entire progress payment until the Certified Payroll Records requirement is met by the Contractor or Subcontractor. If the Contractor or Subcontractor is determined to have failed to pay workers in compliance with the applicable prevailing wage sections of the Labor Code, the District shall continue to withhold progress, final, or retention payments until sufficient funds have been withheld for payment of wages to workers and all applicable penalties imposed by the LCP.
- c. The Contractor or Subcontractor shall have 10 calendar days in which to comply subsequent to receipt of a written notice requesting Certified Payroll Records or supporting documents. In the event that the Contractor or Subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the District or its LCP, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.

52. COMPLIANCE MONITORING UNIT

A Compliance Monitoring Unit is required if the Project will be funded in whole or in part from any bond issued by the state to fund public works projects; the Project is subject to a statutory requirement to pay the fee to the Department of Industrial Relations for the monitoring and enforcement of prevailing wage requirements on the Project; or the District has elected to enforce such a program. **A determination regarding whether a Compliance Monitoring Unit is required is contained in the Instructions to Bidders.** If a Compliance Monitoring Unit is required, the following applies to this Contract:

- a. This Contract is subject to a Compliance Monitoring Unit, pursuant to Division 2, Part 7, Chapter 1 of the Labor Code and Title 8 of the California Code of Regulations, Subchapters 4 and 4.5. The Compliance Monitoring Unit ("CMU") is incorporated by reference into the Contract and it will be enforced as required by state law and regulations and the Director of the Department of Industrial Relations. The Contractor shall comply with all requirements identified in that CMU.
- b. Contractor and its Subcontractors agree that submission of Certified Payroll Records as well as all related or subsequent requests for supporting documents made by the District or its CMU, in compliance with section 16461 of Title 8 of the California Code of Regulations, shall be a condition precedent to receipt of a progress, final, or retention payment. The District shall

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withhold any portion of the progress payment up to and including the entire progress payment until the Certified Payroll Records requirement is met by the Contractor or Subcontractor. If the Contractor or Subcontractor is determined to have failed to pay workers in compliance with the applicable prevailing wage sections of the Labor Code, the District shall continue to withhold progress, final, or retention payments until sufficient funds have been withheld for payment of wages to workers and all applicable penalties imposed by the CMU.

- c. The Contractor or Subcontractor shall have 10 calendar days in which to comply subsequent to receipt of a written notice requesting Certified Payroll Records or supporting documents. In the event that the Contractor or Subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the District or its CMU, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.
- d. On each job site that is subject to a CMU, the Contractor shall post a Notice containing the following language:

“This public works project is subject to monitoring and investigative activities by the Compliance Monitoring Unit (CMU) of the Division of Labor Standards Enforcement, Department of Industrial Relations, State of California. This Notice is intended to provide information to all workers employed in the execution of the contract for public work and to all contractors and other persons having access to the job site to enable the CMU to ensure compliance with and enforcement of prevailing wage laws on public works projects.

“The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate job site posting of minimum prevailing rates required to be maintained by the public entity which awarded the public works contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the CMU at any office of the Division of Labor Standards Enforcement (DLSE).

Local Office Telephone Number: 530 225 2655

“Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the project that the CMU may take legal action against those responsible.

“Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 per day or 40 per week, etc) as well as the name of the employer, the public entity which awarded the public works contract, and the location and name of the project.

“For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the Department of Industrial Relations website found at www.dir.ca.gov/dlse/PublicWorks.html.”

- e. Contractor shall coordinate with the Architect to ensure that DIR is advised of the award of the construction contract in a timely manner by filing form PWC-100 with DIR within five days of award of the contract.

53. DRUG-FREE WORKPLACE CERTIFICATION

Contractor certifies all of the following:

- 1) Contractor is aware of the provisions and requirements of California Government Code §§ 8350 et seq., the Drug Free Workplace Act of 1990.
- 2) Contractor is authorized to certify, and does certify, that a drug free workplace will be provided by doing all of the following:
 - a) Publishing a statement notifying all employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's workplace and specifying actions which will be taken against employees for a violation of the prohibition;
 - b) Establishing a drug-free awareness program to inform employees about all of the following:
 - (i) The dangers of drug abuse in the workplace;
 - (ii) Contractor's policy of maintaining a drug-free workplace;
 - (iii) The availability of drug counseling, rehabilitation and employee-assistance programs; and
 - (iv) The penalties that may be imposed upon employees for drug abuse violations;
 - c) Requiring that each employee engaged in the performance of Work on the Project be given a copy of the statement required by subdivision (a), above, and that as a condition of employment by Contractor in connection with the Work on the Project, the employee agrees to abide by the terms of the statement.
- 3) Contractor understands that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of Government Code §§ 8350 et seq., the Contract is subject to termination, suspension of payments, or both. Contractor further understands that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of Government Code §§ 8350, et seq.

54. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted, and this Contract shall be read and enforced as though it were included, and if through mistake or otherwise any provision is not inserted or is not correctly inserted, upon application of either party the Contract shall be amended to make the insertion or correction. All references to statutes and regulations shall include all amendments, replacements, and enactments on the subject which are in effect as of the date of this Contract.

55. GENERAL PROVISIONS

a. Assignment and Successors:

Neither party may transfer or assign its rights or obligations under the Contract Documents, in part or in whole, without the other party's prior written consent. The Contract Documents are binding on the heirs, successors, and permitted assigns of the parties hereto.

b. Third Party Beneficiaries:

There are no intended third party beneficiaries to the Contract.

c. Choice of Law and Venue

The Contract Documents shall be governed by California law, and venue shall be in the Superior Court of Humboldt County, and no other place.

d. Severability

If any provision of the Contract Documents is determined to be illegal, invalid, or unenforceable, in part or in whole, the remaining provisions, or portions of the Contract Documents shall remain in full force and effect.

e. Entire Agreement

The Contract Documents constitute the final, complete, and exclusive statement of the terms of the agreement between the parties regarding the subject matter of the Contract Documents and supersedes all prior written or oral understandings or agreements of the parties.

f. Waiver

No waiver of a breach, failure of any condition, or any right or remedy contained in or granted by the provisions of the Contract Documents shall be effective unless it is in writing and signed by the party waiving the breach, failure, right, or remedy. No waiver of any breach, failure, right, or remedy shall be deemed a waiver of any other breach, failure, right, or remedy, whether or not similar, nor shall any waiver constitute a continuing waiver unless the writing so specifies.

g. Headings

The headings in the Contract Documents are included for convenience only and shall neither affect the construction or interpretation of any provision in the Contract Documents nor affect any of the rights or obligations of the parties to the Contract.

END OF SECTION

**SECTION 00 73 00
SUPPLEMENTARY GENERAL CONDITIONS**

1. GENERAL:

1-01. AIA GENERAL CONDITIONS:

- A. The General Conditions of the Contract for Construction, Standard Form of the American Institute of Architects, Documents No. A-201, 1987 Edition, Articles 1 through 14 inclusive, accompanying the Specifications are hereby made a part of the Contract. The Contractor and each Subcontractor shall inform himself fully regarding these General Conditions, as unfamiliarity with them shall not relieve any Contractor from requirements contained therein.
- B. If any Article of the "AIA General Conditions", identified in Subparagraph A, above, is supplemented by these Supplementary General Conditions, the provisions of that Article, as supplemented shall remain in effect, unless otherwise modified or deleted by these Supplementary General Conditions.

2. SUPPLEMENTS TO THE GENERAL CONDITIONS:

2-01. ARTICLE 1 - CONTRACT DOCUMENTS:

- A. Paragraph 1.1.1 of Item 1.1 - The contract documents:

The Contract Documents shall include the Advertisement for Bids, the Instructions to Bidders, sample forms and all Addenda pertaining to these.
- B. Paragraph 1.3.1 of Item 1.3 - Ownership and Use of Documents: Delete this paragraph and insert the following:
 - 1.3.1. All Drawings, Specifications and copies thereof furnished by the Architect are and shall remain the property of the Owner, pursuant to Education Code Section 17316. They are to be used only with respect to this Project and are not to be used on any other project. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication, in derogation of the Architect's common law copyright or other reserved rights.

2-02. ARTICLE 1 - CONTRACT DOCUMENTS:

- A. Item 1.2 - Execution, Correlation and Intent:
 - 1.2.6. The Contractor shall keep on the work a copy of the drawings and specifications and shall at all times give the Architect access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown on mentioned in both. In case of difference between drawings and specification, the specifications shall govern.
 - 1.2.7 In case of difference between small- and large-scale drawings, the large-scale drawings shall govern. Schedules on any contract drawing shall take precedence over conflicting information on that or any other contract drawing. On any of the drawings where a portion of the work is detailed or drawn out and the remainder is shown in outline, the parts detailed or drawn out shall apply also to all other like portions of the work.
 - 1.2.8 Where the word "similar" appears on the drawings, it shall have a general meaning and not be interpreted as meaning identical, and all details shall be worked out in relation to their location and their connection with other parts of the work.

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SUPPLEMENTARY GENERAL CONDITIONS**

1.2.9 In case of discrepancy either in the figures, in the drawings, or in the specification, the matter shall be promptly submitted to the Architect, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at his own risk and expense. The Architect shall furnish from time to time such detail drawings and other information as he may consider necessary, unless otherwise provided.

2-03. ARTICLE 2 - OWNER:

A. Item 2.2 - Information and Services Required of the Owner:

2.2.7. JOB INSPECTION: The Owner will employ an Inspector on this project approved by the Architect, Structural Engineer and the Division of the State Architect in accordance with Title 24. He will represent the Owner and Architect and act as coordinator with the Contractor. No work shall be prosecuted in his absence.

B. Item 2.2 - Information and Services Required of the Owner:

2.2.8. JOB PLANS AND SPECIFICATIONS: The Inspector must have and keep in good condition at all times during the construction period, a complete set of stamped plans per Title 24, Part 1, specifications, addenda, and change orders, together with all codes and documents including Title 24, Parts 1 thru 5 but not limited to; which are referred to in the specifications and made a part thereof.

2-04. ARTICLE 3 - CONTRACTOR:

A. Item 3.3 - Supervision and Construction Procedures:

3.3.5. LAYING OUT OF WORK: The Contractor, immediately upon entering project site for the purpose of beginning work, shall locate all general reference points and take such actions as are necessary to prevent their destruction; lay out his work, be responsible for all lines, elevations, and measurements of buildings, grading, utilities, and other work executed by him under this contract. He shall exercise precaution to verify figures shown on the drawings before laying out work and will be held responsible for any error resulting from his failure to exercise such precaution.

Dimensions of existing work shall be verified in the field by the Contractor.

B. Item 3.4 - Labor and Materials:

3.4.3 The Contractor acknowledges that he is aware of and understands his obligations under California Labor Code Section 1720 - 1776, regarding payment of the generally prevailing wage rates, and 1777.5 - 1777.7, regarding employment of registered apprentices on public works, which are hereby incorporated herein by reference and made a part hereof.

C. Item 3.4 - Labor and Materials:

3.4.4. Contracts for work under this proposal will obligate the Contractor and Subcontractors not to discriminate in employment practices. The successful bidder must, if requested, submit a list of all Subcontractors who will perform work on the project and written, signed statements from authorized agents of the labor pools with which they will or may deal for employees on the work, together with supporting information to the effect that said labor pools practices and policies are in conformity with Executive Order Number 11246, and that said labor pools will affirmatively cooperate in or offer no hindrance to the recruitment, employment, and equal treatment of employees seeking employment and performing work under the Contractor or certification as to what efforts have been made to secure such statements when such agents or labor pools have filed or refused to furnish same prior to the award of the Contract.

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SUPPLEMENTARY GENERAL CONDITIONS**

D. Item 3.5 - Warranty:

3.5.2. GUARANTEE: Besides special guarantees required elsewhere, the Contractor shall guarantee the work in general for two (2) year from the date of acceptance of the work by the Owner. The General Contractor shall execute and have each of his subcontractors execute two (2) copies of the guarantee and submit to the Architect prior to completion and filing the Notice of Substantial Completion.

E. Item 3.7 - Permits, Fees and Notices:

3.7.5. The Contractor is required to obtain building permits: however, there is no charge for the permits.

F. Item 3.7 - Permits, Fees and Notices:

3.7.6. PROGRESS REPORTS: In accordance with the Title 24, Part 1, California Code of Regulations, the Contractor is required to submit verified progress reports to the Division of the State Architect (on prescribed form) stating that this project is in conformity with duly approved drawings and specifications and give detailed statements of fact as shall be required. Send one (1) copy of each report to the Architect.

2-05. ARTICLE 4 – ADMINISTRATION OF THE CONTRACT

A. Item 4.3.3. – Time Limits on Claims: Revise to read as follows: Claims by either party must be made within 5 days after occurrence of the event giving rise to such Claim.. Claims must be made by written notice. An additional Claim made after the initial Claim has been implemented by Change Order will not be considered unless submitted in 5 days.

2-06 ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY:

A. Item 10.2 - Safety of Persons and Property:

10.2.8. In accordance with generally accepted construction practices, the Contractor will be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours.

B. Item 10.2 - Safety of Persons and Property:

10.2.9. The duty of the Architect or Engineers to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

C. Item 10.3 - Emergencies:

10.3.2. In case of extreme emergency which would include danger to human life or the structure, the Owner, Contractor and Architect, or their authorized representatives, have the authority to "stop the work" of this project until such "danger" has been eliminated and that no further danger exists. Otherwise, any stoppage of the work will be in accordance with Article 3.3.1 of the General Conditions.

2-07. ARTICLE 11 - INSURANCE AND BONDS:

A. Delete all of the text of Article 11 of the "A.I.A. General Conditions" and insert the following:

**SECTION 00 73 00
SUPPLEMENTARY GENERAL CONDITIONS**

Item 11.1 – General:

- 11.1.1 Contractor, at its expense, shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

11.2 – *Minimum Scope of Insurance*

- 11.2.1 Coverage shall be at least as broad as:
1. Commercial General Liability on an occurrence form (no sunset clauses). Liability deductible or Self-Insured Retention not to exceed \$5,000. Claims Made or Modified Occurrence Liability coverage will not be accepted. Coverage shall be at least as broad as ISO form CG0001.
 2. Umbrella/Excess Liability
 3. Automobile Liability including owned, non-owned, and hired automobiles.
 4. Worker’s Compensation insurance as required by the State of California and Employer’s Liability Insurance.
 5. Builder’s Risk (Course of Construction). Deductible not to exceed \$2,500.
 6. Performance and Payment Bonds.

Item 11.3 – *Minimum Limits of Insurance*

- 11.3.1 Contractor shall maintain limits no less than:
- | | | |
|-------------------------------|--|--|
| 1. General Liability: | \$2,000,000 | General Aggregate (Per Project) |
| | \$2,000,000 | Products/Completed Operations |
| | | Aggregate |
| | \$1,000,000 | Personal & Advertising Injury |
| | \$1,000,000 | Each Occurrence |
| 2. Umbrella/Excess Liability: | \$3,000,000 | Aggregate |
| | \$1,000,000 | Each Occurrence |
| 3. Automobile Liability: | \$1,000,000 | Per Accident for Bodily Injury and Property Damage |
| 4. Worker’s Compensation: | As required by the State of California | |
| 5. Employer’s Liability: | \$1,000,000 | Per Accident for Bodily Injury or Disease |
| 6. Builder’s Risk: | Completed Value of the Project with no Coinsurance Penalty | |

Item 11.4 – *Insurance Provisions*

11.4.1 The general liability policy is to contain, or be endorsed to contain, the following provisions:

1. **Additional Insured:** The **Owner**, its elected or appointed officials, employees, Agents and volunteers are to be covered as Additional Insured’s (utilizing Form CG2010 11/85 edition or an acceptable equivalent) by an endorsement To the general liability policy. A CG2010 11/85 acceptable equivalent is an Additional insured endorsement that includes the named insured’s “ongoing” Operations and completed operations.

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SUPPLEMENTARY GENERAL CONDITIONS**

2. **Primary Insurance:** For any claims related to this project, the Contractor's Insurance coverage shall be primary insurance as respects the **Owner**, its Elected or appointed officials, employees, agents and volunteers. Any Insurance or self-insurance maintained by the **Owner**, its elected or appointed Officials, employees, agents and volunteers shall be excess of the Contractor's Insurance and shall not contribute with it.
3. **Cancellation Provision:** Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) day's prior written notice has been provided to the **Owner**.

11.4.2 – *Waiver of Subrogation*

The Contractor's General Liability and Worker's Compensation insurance policies shall provide a Waiver of Subrogation in favor of the **Owner**.

11.4.3 – *Builders Risk (Course of Construction) Insurance*

Contractor shall procure and maintain Builder's Risk insurance (all-risk, special form with valuation on a replacement cost basis) on a one hundred percent completed value of the project for the benefit of the **Owner**, and the Contractor and Subcontractor, as their interest may appear. The policy shall contain a clause which provides coverage until the building is accepted by the **Owner**. If the Builder's Risk policy contains an occupancy provision, permission for early occupancy must be obtained from the insurance company. The Policy should include debris removal, collapse, theft, and transit coverage with no coinsurance penalty provisions. The Builder's Risk Policy is primary and no insurance held or owned by the **Owner** shall be called upon to contribute to a loss. The **Owner** will not be responsible for loss of Contractor tools or machinery.

11.4.4 - *Worker's Compensation*

Before the Contract is entered into, the Bidder to whom it is awarded shall furnish to the **Owner** satisfactory proof that he and all Subcontractors he intends to employ have taken out, for the period covered by the proposed Contract, full compensation insurance and Employer's Liability with limits of at least \$1,000,000 with an insurance carrier satisfactory to the Owner for all persons whom they may employ in carrying out the work contemplated under this Contract in accordance with the Act of the Legislature of the State of California, known as the "Workers' Compensation Insurance and Safety Act" approved May 26, 1913, and all Acts amendatory or supplemental thereto. Such insurance shall be maintained in full force and effect during the period covered by the Contract. In the event the Contractor is self-insured, he shall furnish a Certificate of Permission to Self-Insure, signed by the Department of Industrial Relations Administration of Self-Insurance, Sacramento, California.

If the Contractor fails to maintain such insurance, the **Owner** may take out compensation insurance to cover any compensation which the **Owner** might be liable to pay under the provisions of said Act as amended, by reason of any employee of the Contractor being injured or killed, and deduct and retain the amount of the premiums for such insurance from any sums due the Contractor under the Contract.

If an injury occurs to any employee of the Contractor for which the employee, or the employee's dependents in the event of the employee's death, is entitled to compensation from the **Owner** under the provisions of said Act as amended, or for which compensation is claimed from the **Owner**, the **Owner** may retain out of the sums due the Contractor under this Contract, an amount sufficient to cover such compensation, as fixed by said Act as amended, until such compensation is paid, or until it is determined that no compensation is due, and if the **Owner** is compelled to pay such compensation, it will deduct and retain from such sums the amount so paid.

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SUPPLEMENTARY GENERAL CONDITIONS**

The policies represented by the certificates must contain the provision (and the certificates must so state) that the insurance cannot be cancelled until thirty (30) days after written notice of intended revocation has been given to the Owner by Certified Mail.

11.4.5 – Acceptability of Insurers

All required insurance must be written by an admitted company licensed to do business in the State of California at the time the policy is issued. All required Insurance as set forth in this Contract shall be underwritten by a company with a balance sheet strength, operating performance and business profile that are equal to or exceed an A VIII rating as listed in the A.M. Best Insurance Guide's latest edition. On a case-by-case basis, the **Owner** may accept insurance written on a company listed on the State of California Department of Insurance List of Eligible Surplus Lines ("LESLI List") with a rating of A VIII or above as listed in Best's Insurance Guide's latest edition. Exception may be made for Workers' Compensation Insurance provided by the State Compensation Insurance Fund when not specifically rated.

11.4.6 – Subcontractors

Contractor shall require and verify that all subcontractors maintain insurance meeting all of the requirements stated herein, with the exception of Umbrella/Excess Liability Insurance, Builders' Risk Insurance, and Performance/Payment Bonds.

11.4.7 – Proof of Insurance

Contractor shall furnish the **Owner** with original certificates and amendatory endorsements effecting coverage required by this contract. All certificates and endorsements are to be received and approved by the **Owner** before work commences. However, failure to do so shall not operate as a waiver of these insurance requirements. If the Contractor fails to maintain such insurance as specified by this Contract, the **Owner** may take out such insurance to cover any damages of the above mentioned classes for which the District might be held liable on account of the Contractor's failure to pay such damages, and deduct and retain the amount of the premium from any sums due the Contractor under the Contract.

The Owner reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

Mail all certificates and endorsements to:

Redwoods Community College District
Attn: Maintenance Department
7351 Tompkins Hill Road
Eureka, CA 95501

Item 11.5 – Performance Bond & Payment Bond

Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum. The surety must be an admitted surety insurer in the State of California. These bonds shall be maintained for the life of the Contract and one year after the date of filing the Notice of Completion.

The Contractor shall deliver the required bonds to the **Owner** not later than ten days following the date the Agreement is entered into. If the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to

**SECTION 00 73 00
SUPPLEMENTARY GENERAL CONDITIONS**

commencement of Work, submit evidence satisfactory to the **Owner** that such bonds will be furnished.

The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney, and to have the signature acknowledged by a notary public.

Item 11.6 - Safety

In accordance with generally accepted construction practices, the Contractor will be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the Work. The duty of the Architect or Engineers to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

2-08. ARTICLE 13 - MISCELLANEOUS PROVISIONS:

A. Paragraph 13.1.1. of Item 13.1 - Governing Law:

The Contract shall be governed by codes and standards as outlined under Section 01 42 00 of the specifications.

2-09. ARTICLE 14 - TERMINATION OF THE CONTRACT:

A. Item 14.2 - Termination by the Owner:

14.2.5. If the unpaid balance of the Contract Sum exceeds the costs of finishing the work, including compensation for the Architect's additional services made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Owner shall be certified by the Architect, upon application, and in the manner provided in Paragraph 9.4, and the obligation for payment shall survive the termination of the remainder of the Contract.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Project consists of construction of the College of the Redwoods Residence Hall Re-Roof, as indicated in Contract Documents.
 - 1. Items noted "NIC" (Not In Contract) will be furnished and installed by Owner or under separate contract.

1.2 REQUIREMENTS INCLUDED

- A. This section includes administrative provisions:
 - 1. Work sequence.
 - 2. Work by Owner.
 - 3. Contractor use of premises.
 - 4. Field engineering.
 - 5. Regulatory requirements and reference standards.
 - 6. Owner furnished, Contractor installed products.

1.3 WORK SEQUENCE

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

1.4 WORK BY OWNER

- A. The Owner may award contracts that will commence during the contract period.
- B. The contractor will be required to coordinate scheduling and installation of these items with Owners installers. Work under these contracts may include:
 - 1. Telephone and Data Systems excluding conduit and boxes.
 - 2. Items noted "NIC" (Not in Contract) are not required to be installed as a part of this work.

1.5 CONTRACTOR USE OF PREMISES

- A. Limit use of premises for Work and construction operations and to allow for work by other contractors.
- B. Coordinate use of premises and access to site under direction of Owner.
- C. Use of school sites:
 - 1. Access to Site: From school parking lot.
 - 2. Construction Operations: Limited to areas noted on Drawings coordinated with Administration.
 - 3. Time Restrictions for Performing Interior and Exterior Work: Work must be performed between May 25, 2015 and July 31, 2015.
 - 4. Utility Outages and Shutdown: Approved by school administration.

1.6 FIELD ENGINEERING

- A. Provide field engineering services; establish lines and levels by use of recognized engineering survey practices.
- B. Locate and protect control and reference points.

1.7 REGULATORY REQUIREMENTS AND REFERENCE STANDARDS

- A. Regulatory Requirements:
 - 1. Architect has contacted governing authorities and reviewed design requirements of local, state and federal agencies for applicability to Project.
 - 2. Contractor shall be responsible for contacting governing authorities directly for necessary information and decisions bearing upon performance of Work.
- B. Reference Standards:
 - 1. For Products specified by association or trade standards, comply with requirements of referenced standard, except when more rigid requirements are specified or are required by applicable codes.
 - 2. Applicable date of each standard is that in effect as of date on proposal or date on Contract where no proposal is available, except when a specific date is specified.

1.8 OWNER FURNISHED, CONTRACTOR INSTALLED PRODUCTS

- A. Select products are to be furnished and paid for by Owner and installed by Contractor:
 - 1. Refer to Drawings.
- B. Owner's Responsibilities:
 - 1. Arrange for and deliver shop drawings, product data, and samples to Contractor.
 - 2. Arrange and pay for product delivery to site.
 - 3. Inspect products jointly with Contractor on delivery.
 - 4. Submit claims for transportation damage.
 - 5. Arrange for replacement of damaged, defective, or missing items.
 - 6. Arrange for manufacturer's warranties, inspections, and service.
- C. Contractor's Responsibilities:
 - 1. Review shop drawings, product data, and samples.
 - 2. Receive and unload products at site.
 - 3. Inspect jointly with Owner for completeness and damage.
 - 4. Handle, store, and install products.

**SECTION 01 11 00
SUMMARY OF WORK**

5. Finish products as required after installation.
6. Repair or replace items damaged by Work of this Contract.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

- A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

- A. Unit Price No. 1:
 - 1. Description: Remove existing deteriorated roof deck and install new plywood sheathing. New material shall be one layer of 1/2" CDX nailed with 10 d at 4" o.c. in the field and on the edges.
 - 2. Unit of Measure: One square foot.

**SECTION 01 22 00
UNIT PRICES**

B. Unit Price No. 2:

1. Description: Provide storm drain collection system at all downspout locations at route to existing storm drain piping based on locations provided in drawings. Contractor shall verify connection points to existing storm drain system and provide best route for piping. New material shall be NPS 6 corrugated PE drainage pipe and fittings with soil-tight coupled joints.
2. Unit of Measure: One lineal foot.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

- 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.
- E. The successful low bidder will be the contractor providing the lowest total bid, including the base and all alternate bids.
- F. Acceptance of alternate bids will not change the number of days allowed for work under this contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1 (Additive): Complete removal of stone fireplace and chimney and replace with infill wall with interior and exterior finishes to match existing. Removal and replacement shall include, but not limited to, the following:
1. Complete removal of stone fireplace above and below roofline (through roof), interior and exterior. Removal includes partial, or complete, foundation reduction (or removal) to allow for new interior flooring and reduce water intrusion from the exterior.
 2. Infill wall opening with 2x framing. Edges (top, bottom, sides) shall be sealed to existing structure for air and water tightness.
 3. Infill roof opening with plywood over 2x T&G planking to match existing.
 4. Infill floor framing or add concrete floated to subfloor level over reduced foundation to allow for new finish floor material.
 5. Provide fiber cement panel with composite trim in board & batten pattern (to match existing style) over weather barrier for exterior finish. Provide continuous sealant at vertical edge joints of panel and trim.
 6. Insulate cavity of wall.
 7. Provide exposed interior 2x wood trim at top of wall between beams to match existing frieze blocking.
 8. Provide gypsum board or wood panel interior finish (to match existing or as requested by owner)
 9. Provide infill finish floor material. Provide unit cost for replacement of floor material for entire room at owner request.
 10. Provide all finish trims to match existing.
 11. Paint/finish to match existing.
 12. Refer to Project documents (Drawings and Specifications) for detailing and material selections.

Conditions for Additive Alternate shall be reviewed at the mandatory Pre-Bid meeting to determine scope.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Documentation of Change in Contract Sum/Price and Contract Time.
- B. Change Procedures.
- C. Construction Change Authorization.
- D. Stipulated Price Change Order.
- E. Unit Price Change Order.
- F. Time and Material Change Order.
- G. Execution of Change Orders.
- H. DSA Approval of Changes - Construction Change Documents (CCD)
- I. Correlation of Contractor Submittals.

1.2 DOCUMENTATION OF CHANGE IN CONTRACT SUM/PRICE AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.
- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- C. On request, provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Taxes, insurance and bonds.
 - 3. Overhead and profit.
 - 4. Justification for any change in Contract Time.
 - 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs, and for work done on a time and material basis, with additional information:
 - 1. Origin and date of claim.
 - 2. Dates and times work was performed, and by whom.
 - 3. Time records and wage rates paid.
 - 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

1.3 CHANGE PROCEDURES

- A. The Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by AIA A201 by issuing supplemental instructions on AIA Form G710.
- B. The Architect may issue a Change Order Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required

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CONTRACT MODIFICATION PROCEDURES

and the period of time during which the requested price will be considered valid.
Contractor will prepare and submit an estimate.

- C. The Contractor may propose a change by submitting a request for change to the Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 62 00.

1.4 STIPULATED SUM PRICE CHANGE ORDER

- A. Based on Change Order Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Architect.

1.5 UNIT PRICE CHANGE ORDER

- A. For pre determined unit prices and quantities; the Change Order will be executed on a fixed unit price basis.
- B. For unit costs or quantities of units of work that are not pre determined, execute Work under a Construction Change Authorization.
- C. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.

1.6 TIME AND MATERIAL CHANGE ORDER

- A. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- B. Architect will determine the change allowable in Contract Sum/Price and Contract Time as provided in the Contract Documents.
- C. Maintain detailed records of work done on Time and Material basis.
- D. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

1.7 EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- B. All Change Orders shall be approved by the Owner (including Board of Trustees), Architect, and Contractor.

1.8 DSA APPROVAL OF CHANGES -

A. ADDENDA

Any supplemental documents that change or affect the Structural, Access or Fire & Life Safety portions of the project construction documents shall be approved by the Division of the State Architect.

B. SUBSTITUTIONS

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CONTRACT MODIFICATION PROCEDURES**

Any substitutions that change or affect the Structural, Access or Fire & Life Safety portions of the project construction documents shall be approved by DSA.

C. CONSTRUCTION CHANGE DOCUMENTS (DSA Form 140)

Any changes to the approved construction documents shall be made by means of Construction Change Documents (CCD). CCDs shall be prepared by the Architect/Engineer.

1. Changes to or affecting the Structural, Access or Fire & Life Safety portions of the project:
 - a. These changes will be classified as CCD Category A and are required to be submitted to and approved by DSA prior to the commencement of the affected work.
 - b. CCD Category A will be submitted to DSA using the CCD Category A form, DSA-140.
2. Changes not affecting the Structural Safety, Access Compliance or Fire & Life Safety portions of the project:
 - a. These changes will be classified as CCD Category B.
 - b. CCD Category B changes are not required to be submitted to DSA unless specifically required in writing, by DSA.
 - c. If DSA requires any CCD Category B to be submitted then they shall be submitted to DSA using the Category B form, DSA-141.
 - d. The initial determination of change Category will be made by the Architect/Engineer and the Inspector. If DSA requires a Category B CCD to be submitted then DSA will review for concurrence that it does not contain changes to, or affect the Structural, Access or Fire & Life Safety portions of the project. If necessary, and at its sole discretion, DSA will re-assign the CCD to Category A.

1.9 CHANGE ORDER BREAKDOWN/MARKUPS

- A. The Contractor's written response to all change order requests (CORs) shall be formatted with an itemized breakdown of all increases or decreases in the cost of the Contractor's and all Subcontractor's work, in at least the following detail:
 1. Material quantities and unit cost.
 2. Labor costs (identified with specific item of material to be placed or operation to be performed).
 3. Construction equipment.
 4. Workmen's Compensation and Public Liability Insurance.
 5. Overhead.
 6. Profit.
 7. Taxes.
- B. The mark-up on work subcontracted by a Subcontractor will be limited to one overhead percentage and one profit percentage in addition to the Prime Contractor's coordination percentage. On proposals covering both increases and decreases in the amount of the contract, the overhead, profit and, where applicable, coordination amount, will be computed on the net change only. On proposals for decreases in the amount of the contract the overhead, profit, and where applicable, coordination will be part of the decrease in direct cost.

1. Change Orders of \$0 - \$5,000:

	<u>OVERHEAD</u>	<u>PROFIT</u>	<u>COORDINATION</u>
To Contractor on work performed by other			

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CONTRACT MODIFICATION PROCEDURES**

than his own forces -	--	--	15%
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To Contractor and/or the subcontractors for that portion of the work performed with their respective forces -	15%	5%	--
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2. Change Orders of \$5,001- \$30,000:

	<u>OVERHEAD</u>	<u>PROFIT</u>	<u>COORDINATION</u>
To Contractor on work performed by other than his own forces -	--	--	13%

To Contractor and/or the subcontractors for that portion of the work performed with their respective forces -	12%	5%	--
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3. Change Orders of \$30,001 or more:

	<u>OVERHEAD</u>	<u>PROFIT</u>	<u>COORDINATION</u>
To Contractor on work performed by other than his own forces -	--	--	10%

To Contractor and/or the subcontractors for that portion of the work performed with their respective forces -	10%	5%	--
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PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers general requirements for Contractor's Requests for Interpretation (RFIs).
- B. Related work:
 - 1. Section 01 33 00 – Submittal Procedures

1.2 CONTRACTORS REQUESTS FOR INTERPRETATION

- A. Submit a Request for Interpretation to the Architect when:
 - 1. An unforeseen condition or constructability question occurs.
 - 2. Questions regarding information in the Contract Documents arise.
 - 3. Information not found in the Contract Documents is required.
- B. When possible, request such clarification in writing at the next scheduled Project meeting. When the RFI is answered at the Project meeting, number the RFI and enter the response into the meeting minutes.
 - 1. When the urgency of the need, or the complexity of the item makes clarification at the next scheduled Project meeting impractical, prepare and submit a formal written RFI to the Architect without delay.
- C. Submit RFIs within a reasonable time frame so as not to interfere with or impede the progress of the work. Keep the number of RFIs to a minimum. When the number and frequency of RFIs submitted becomes unwieldy, the Architect may require the Contractor to abandon the process and submit requests as either submittals, substitutions, or requests for change.
 - 1. When an answer to an RFI has an effect on cost or time, notify the Architect and Owner in accordance with the Contract Documents at the time of submittal. Notification shall occur prior to commencing such work, so that the change order process can be initiated.
 - 2. At the time of submitting an RFI, alert the Architect to the time available before the response will cause an impact to the Project.
- D. Submit the RFI as follows:
 - 1. Submit request via email utilizing architect's "Alliance" electronic construction administration program. Include the following information:
 - a. Project name, as listed on the Contract Documents, Architect's project number or other identifying number, if any.
 - b. Date.
 - c. Name, address, telephone and fax numbers of the Contractor.
 - d. Number and title of affected Specification Section or Sections.
 - e. Drawing numbers and detail references, as appropriate.
 - f. Clear, concise explanation of information or clarification requested.
 - g. Lined spaces for Architect's written response.
 - h. Contractor shall submit recommendations for solution to RFI submitted.

SECTION 01 26 13
REQUESTS FOR INTERPRETATION

2. Each page of each attachment to the RFI shall bear the RFI number.
 3. Number submitted RFIs consecutively.
- E. Allow a minimum of 5 working days for review and response time; the response time will be increased if more information is required, when the RFI is submitted out-of-sequence, or if in the opinion of the Architect, more time is needed to answer the RFI.

1.3 QUALITY ASSURANCE

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

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Schedule of values.
- B. Related Requirements:
 - 1. Section 01 32 00: Construction schedule & progress documentation
 - 2. Section 01 33 00: Submittal procedures
 - 3. Section 01 40 00: Test reports, manufacturer's field reports, and mock-ups.
 - 4. Section 01 62 00: Product options and substitution request procedures.
 - 5. Section 01 70 00: Execution and Closeout Requirements.
 - 6. Section 01 78 36: Warranties.

1.2 SCHEDULE OF VALUES

- A. Submit typed schedule on AIA Form G703 or another Owner and Architect pre-approved 8-1/2" by 11" paper format; Contractor's standard media-driven printout will be considered on request. Submit within 15 days after award of Contract.
- B. Format: Table of Contents of this Project Manual, with modifications as pre-approved by Owner and Architect; identify each line item with number and title of major Specification sections.
- C. Include in each line item a directly proportional amount of Contractor overhead and profit.
- D. Revise schedule to list change orders for each Application for Payment.

1.3 SUMMARY

- A. Procedures for preparation and submittal of Applications for Payment.

1.4 RELATED SECTIONS

- A. Agreement: Contract Sum/Price.
- B. General Conditions: Progress Payments and Final Payment.
- C. Section 01 26 00: Contract Modification Procedures
- D. Section 01 32 00: Construction Progress Documentation
- E. Section 01 33 00: Submittals
- F. Section 01 70 00: Execution and Close-out Requirements
- G. General Conditions, Supplementary General Conditions, and Division 01.

1.5 FORMAT

- A. AIA G702 Application and Certificate for Payment: Application for Payment including continuation sheets when required.
- B. For each item, provide a column for listing: Item Number; Description of work; Scheduled Value, Previous Applications: Work in Place and Stored Materials under this Application: Authorized Change Orders; Total Completed and Stored to Date of Application; Percentage of Completion; Balance to Finish; and Retainage.
- C. Prior to submitting the first application for payment submit a schedule of values on AIA Form G703, continuation sheet utilize table of contents of the project manual for format. Include the cost of each line item including contractor overhead and profit.

1.6 PREPARATION OF APPLICATIONS

- A. Present required information in typewritten form.
- B. Execute certification by signature of authorized officer.
- C. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
- D. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
- E. Certificates for payment as recommended by the Architect or the Owner shall include a 5% retention that will be held by the Owner until such a time as outlined in Section 01 70 00.
- F. Prepare Application for Final Payment as specified in Section 01 70 00.

1.7 PAYMENT APPLICATION SUBMITTAL PROCEDURES

- A. Submit three copies of each Application for Payment.
- B. Submit an updated construction schedule with each Application for Payment.
- C. Payment Period: Monthly.

1.8 SUBSTANTIATING DATA

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

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Coordination.
- B. Field engineering.
- C. Cutting and patching.
- D. Preconstruction conference.
- E. Site mobilization conference.
- F. Progress meetings.
- G. Preinstallation conferences.

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean up of Work of separate Sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.03 FIELD ENGINEERING

- A. Employ a Land Surveyor registered in the State of California and acceptable to the Architect/Engineer and Owner.
- B. Contractor to locate and protect survey control and reference points.
- C. Control datum for survey is that established by Owner provided survey shown on Drawings.

SECTION 01 31 00
PROJECT MANAGEMENT COORDINATION

- D. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- E. Submit a copy of registered site drawing and certificate signed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

1.04 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements which affects:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight-exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and non-conforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods which will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.
- E. Cut rigid materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.
- J. Identify any hazardous substance or condition exposed during the Work to the Architect/Engineer for decision or remedy.

1.05 PRECONSTRUCTION CONFERENCE

- A. Architect will schedule a conference after Notice of Award.
- B. Attendance Required: Owner, Architect and Contractor and subcontractor.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of products, Schedule of Values, and progress schedule.

5. Designation of personnel representing the parties in Contract, and the Architect/Engineer.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders and Contract closeout procedures.
7. Scheduling.
8. Scheduling activities of geotechnical Engineer.

1.06 SITE MOBILIZATION CONFERENCE

- A. Architect will schedule a conference at the Project site prior to Contractor occupancy.
- B. Attendance Required: Owner, Architect, Special Consultants, Contractor's Superintendent, and major Subcontractors.
- C. Agenda:
 1. Use of premises by Owner and Contractor.
 2. Owner's requirements and partial occupancy.
 3. Construction facilities and controls provided by Owner.
 4. Temporary utilities provided by Owner.
 5. Survey and building layout.
 6. Security and housekeeping procedures.
 7. Schedules.
 8. Procedures for testing.
 9. Procedures for maintaining record documents.
 10. Requirements for start-up of equipment.
 11. Inspection and acceptance of equipment put into service during construction period.

1.07 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies within seven days to Architect, Owner, participants, and those affected by decisions made.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Architect, as appropriate to agenda topics for each meeting.
- D. Agenda:
 1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems which impede planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of off-site fabrication and delivery schedules.
 7. Maintenance of progress schedule.
 8. Corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to Work.

1.08 PREINSTALLATION CONFERENCES

- A. When required in individual specification Section, convene a preinstallation conference at site prior to commencing work of the Section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific Section.
- C. Notify Architect seven days in advance of meeting date.
- D. Prepare agenda, preside at conference, record minutes, and distribute copies within seven days after conference to participants, with seven copies to Architect/Engineer.
- E. Review conditions of installation, preparation and installation procedures, and coordination with related work.

PART 2 PRODUCTS

\\Not Used

PART 3 EXECUTION

\\Not Used

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Construction Progress Documentation

B. Related Requirements:

1. Section 01 31 00: Project Management & Coordination
2. Section 01 33 00: Submittal procedures
3. Section 01 40 00: Test reports, manufacturer's field reports, and mock-ups.
4. Section 01 62 00: Product options and substitution request procedures.
5. Section 01 70 00: Execution and Closeout Requirements.
6. Section 01 78 36: Warranties.

1.2 CONSTRUCTION PROGRESS SCHEDULE

- A. Submit initial progress schedule in duplicate within 15 days after date established in Notice to Proceed for Architect review.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit a horizontal bar chart with separate line for each major section of Work or operation, identifying first work day of each week.
- E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- F. Indicate estimated percentage of completion for each item of Work at each submission.
- G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and under Allowances.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. General Submittal Procedures
 - 2. Electronic Submittal Procedures
 - 3. Physical Submittal Procedure
 - 4. Contractor Responsibilities
 - 5. Product Data
 - 6. Shop Drawings
 - 7. Samples
 - 8. Manufacturer's Instructions
 - 9. Manufacturers' certificates.
 - 10. Agency deferred approvals.

1.2 DESCRIPTION

- A. Types of Submittals: Submittal procedures specified in this section include construction progress schedules, shop drawings, product data, samples, manufacturers' certificates, manufacturer's installation instructions, and agency deferred approvals..
- B. Intent: Architect's review of shop drawings is intended to be a preview of what the Contractor intends to provide, and will function as an effort to foresee unacceptable materials or assemblies and to avoid the possibility of their rejection at the Project Site. Architect will review submittals only for conformance with the design concept of the Project and with the information given in the Contract Documents.
- C. The Architect's review of shop drawings will be general and shall not be construed:
 - 1. As permitting departure from the Contract requirements except as otherwise provided for under "substitution" provisions of Section 01 62 00;
 - 2. As relieving Contractor of responsibility for omissions or errors, including details, dimensions, materials, etc.;
 - 3. That review of a separate item indicates acceptance of an assembly in which the item functions. Architect will only review acceptance of an assembly in which the item functions. Architect will only review submittals required by Contract Documents for conformance with design concept of the Project and with the information given in the Contract Documents.

1.3 GENERAL SUBMITTAL PROCEDURES

- A. All submittals shall be made electronically through the Alliance2Build. Only Samples for verification should be submitted physically.
- B. Transmit each Sample submittal with AIA Form G810 or other Architect-accepted form.
- C. Sequentially number the submittals and transmittal forms as shown in each section requiring submittals with the project manual section number from which the submittal is being requested followed by the alphabetic suffix. (I.E. 01 33 00A) Resubmittals are to have original number followed by an underscore and an additional numerical suffix beginning with '1' and then consecutively thereafter with each resubmittal. (I.E. 01 33 00A_1)

**SECTION 01 33 00
SUBMITTAL PROCEDURES**

- D. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
 - E. Apply Contractor's stamp and signature or initial (electronically or physically) certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
 - F. Unless otherwise authorized by the Architect, all of the submittals required by a specification section shall be submitted together at the same time. Electronic submittals of product data, shop drawings, etc. may be submitted ahead of physical color samples with approval of the Architect. Submittals that do not include all required submittals for a given specification section will be returned without review.
 - G. Schedule submittals to expedite the Project, and deliver Samples to architect at business address. Coordinate submission of related items.
 - H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
 - I. Substitutions must be submitted according to Section 01 62 00. Substitutions submitted without following this procedure will be rejected.
 - J. Provide space for Contractor and Architect review stamps.
 - K. Revise and resubmit submittals as required, identify all changes made since previous submittal.
 - L. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- 1.4 ELECTRONIC SUBMITTAL PROCEDURES
- A. All submittals shall be submitted electronically.
 - B. Submittals shall be uploaded to Alliance System in full size PDF format. Do not reduce Shop Drawings from original sheet size.
 - C. One PDF copy of electronic submittals will be returned to the Contractor. Contractor may distribute submittals to the concerned parties electronically or physically. Any printing costs for physical distribution of submittals shall be borne by the Contractor. The Architect will not print copies for distribution.
 - D. Follow all General Submittal Procedures as described above.
- 1.5 PHYSICAL SUBMITTAL PROCEDURES
- A. Samples and Color Charts shall be physical submittals with accurate representation of color and other physical characteristics.
 - B. Submit a minimum of **seven (7) copies** of each submittal including samples and resubmittals, as the Architect will retain a minimum of two.
 - C. Follow all General Submittal Procedures as described above.
- 1.6 CONTRACTOR RESPONSIBILITIES
- A. Review shop drawings, product data and samples prior to submission.

**SECTION 01 33 00
SUBMITTAL PROCEDURES**

- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction criteria.
 - 3. Catalog numbers and similar data.
 - 4. Conformance with specifications.
 - 5. Conformance with applicable codes.
- C. Submittals giving inadequate indication of contractor review and approval will be returned without review, for resubmission.
- D. Coordinate each submittal with requirements of the Work and of the Contract Documents.
- E. Notify the Architect in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents.
- F. Begin no fabrication or construction activity that requires submittals until return of submittals with Architect's stamp and initials or signature indicating finish review.
- G. After Architect's final review, distribute copies.

1.7 PRODUCT DATA

- A. Submit all product data electronically.
- B. Mark the submittal to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this Project.
- C. After review, distribute in accordance with Submittal Procedures and provide copies for Record Documents as described in Section 01 77 00.
- D. Show dimensions and clearances required.

1.8 SHOP DRAWINGS

- A. Submit all shop drawings electronically.
- B. After review and distribution in accordance with Submittal Procedures, retain one copy of all reviewed shop drawings at the job and label them "PROJECT RECORD" as described in Section 01 70 00 Execution and Close-out Requirements.
- C. In addition to shop drawings required elsewhere, the following systems shall be electronically and multiple trade coordinated on an AutoCAD background file(s) of the floor plan at time of award of contract, provided by the architect. The backgrounds provided shall be used as x-references to the contractor's files so that the backgrounds may be updated at the Architects discretion. These coordination drawings shall include mechanical system component locations referenced vertically and horizontally to adjacent column grids and finished floor / ceiling elevations for the following systems:
 - 1. Supply, return and exhaust air systems
 - 2. Access to balancing devices
 - 3. Steam and condensate return piping (including slope data)
 - 4. Supply and return heating hot water
 - 5. Domestic hot and cold water
 - 6. Sanitary sewer and vent
 - 7. Documented interface with existing storm drain system
 - 8. Access to all equipment requiring service

9. Accessibility to all isolation valves
10. Location of piping system labeling per specifications
11. Fire Protection and fire sprinkler system piping
12. Primary electrical conduits
13. Specialty equipment with specialty support requirements
14. Light fixtures and their depths at locations of potential conflict.

- D. The intent is for this to be a coordinated shop drawing reflecting, with only minor modifications, an as-built document. This document shall be updated and submitted as a record document per Section 01 77 00. Provide electronic files to the Architect of all mechanical coordination drawing record document files with the record documents. If AutoCAD is not the CAD package used to view / edit the data, the Contractor may choose to translate the data into another CAD program.
- E. The Contractor is responsible for translating the data coming to and from that format, without loss of data integrity. Architect will only receive data in the AutoCAD format in which the background(s) are provided.

1.9 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Provide units identical with final condition of proposed materials or products for the work. Coordinate sample submittals for interfacing work.
- B. Submit samples of finishes from the full range of manufacturers' standard colors textures, and patterns for Architect's selection.
- C. Include identification on each sample, with full Project information.
- D. Submit the number or samples specified in individual specification Sections; **four** of which will be retained by Architect.
- E. Reviewed samples which may be used in the Work are indicated in individual specification Sections.

1.10 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

1.11 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturers' certificate to Architect for review, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect.

1.12 AGENCY DEFERRED APPROVALS


- A. The General Contractor shall submit, or cause to be submitted by Subcontractors, within 60 days of contract signing, all required deferred approvals. All Deferred Approval documents shall be submitted electronically. The General Contractor or Subcontractors shall complete all deferred approval packages, including design and engineering calculations, in a manner acceptable to the agency requiring such submittal. The General Contractor shall within 15 days of contract signing, develop a schedule of critical dates of deferred approval acceptance by the reviewing agency. These critical dates shall be reflected in the required project schedule and all deferred approvals submitted within 45 days of schedule submittal.
- B. For all deferred items, it is the responsibility of the contractor to see that all submittals are stamped and signed by a California licensed design professional (an architect or PE is acceptable). The Architect will then review the submittal and if the design is acceptable provide a Statement of General Conformance that the submittal conforms to the design intent. Neither the Project's Architect nor any of its consulting engineers will stamp and sign these deferred approval submittals other than with the standard shop drawing stamp. It is the responsibility of the manufacturing entity to procure necessary stamps and signatures from its own design professionals.
- C. All Deferred Approvals shall be submitted by the Contractor to the Division of the State Architect through the Architect. If the Contractor fails to provide a required submittal, the Owner may elect to engage the design team or additional consultants to produce these and back charge the General Contractor for the cost and any schedule impact this may cause.

1.13 ACTION ON SUBMITTALS

- A. Architect's Action: Architect will review each submittal, mark with "Action" and where possible, return within a reasonable period of time from date of receipt. Where submittal must be held for coordination, Contractor will be so advised without delay. Action markings shall be interpreted as follows:
 - 1. No Exceptions Noted (NEN): Work may proceed, provided it complies with Contract Documents.
 - 2. Furnish As Corrected (FAC): Work may proceed, provided it complies with notations and corrections indicated on submittal and with Contract Documents.
 - 3. Revise And Resubmit (RAR): Do not proceed with work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking.
 - 4. Submit Additional Material (SAM): Do not proceed with work. Resubmit submittal with additional material as requested without delay to obtain a different action marking.
 - 5. REjected (REJ): Do not proceed with work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking.
 - 6. See Summary Sheet (SSS): Refer to summary sheet attached to submittal for direction.
 - 7. Reviewed By Consultant (RBC): Submittal has been reviewed by the Architect's consultant. Refer to consultant submittal stamp for direction.

**SECTION 01 33 00
SUBMITTAL PROCEDURES**

B. Sample Architect's Action Stamp:

Submittal Number: _____	
<input type="checkbox"/> No Exceptions Noted	<input type="checkbox"/> REjected
<input type="checkbox"/> Furnish As Corrected	<input type="checkbox"/> See Summary Sheet
<input type="checkbox"/> Revise And Resubmit	<input type="checkbox"/> Reviewed By Consultant
<input type="checkbox"/> Submit Additional Material	
<p>Notes and/or comments made on shop drawings during this review do not relieve Contractor from compliance with requirements of the Contract Documents. This review has been performed by the Architect to check general conformance with the design concept of the project and general compliance with the information in the Contract Documents. Review of a specific item shall not include review of an assembly of which said item is a component. Contractor is responsible for confirming and correlating quantities and dimensions; selecting fabrication processes and construction techniques; coordinating his/her work with that of other trades and performing his/her work in a safe and satisfactory manner. This review shall not be interpreted as an approval of Contractor's means and methods of construction.</p>	
<p>NICHOLS, MELBURG & ROSSETTO 300 Knollcrest Drive Redding, CA 96002</p>	
 By _____	Date: _____

PART 2 - PART 2 PRODUCTS (NOT USED)

PART 3 - PART 3 EXECUTION (NOT USED)

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes general quality control requirements.
 - 1. General quality control.
 - 2. Manufacturers' field services.
 - 3. Mock-ups.
 - 4. Independent testing laboratory services.
 - 5. Inspection Services.
- B. Related Requirements:
 - 1. Refer to applicable codes and Specifications sections for test requirements.

1.2 QUALITY CONTROL, GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.3 MANUFACTURER'S FIELD SERVICES

- A. When specified in respective Specification sections, require manufacturer or supplier to have qualified personnel provide on-site observations and recommendations.
 - 1. Observe field conditions, including conditions of surfaces and installation.
 - 2. Observe quality of workmanship.
 - 3. Provide recommendations to assure acceptable installation and workmanship.
 - 4. Where required, start, test, and adjust equipment as applicable.
- B. Representative shall submit written report to Architect or Owner listing observations and recommendations.

1.4 MOCK-UPS

- A. Erect field samples and field mock-ups at locations on site as approved in advance and in accordance with requirements where included in Specifications section.
 - 1. Test mock-ups requiring special equipment may be erected at location having access to necessary equipment; coordinate with Architect.
- B. Field samples and mock-ups not approved and not capable of being acceptably revised shall be removed from site.

**SECTION 01 40 00
QUALITY REQUIREMENTS**

C. Approved field samples and mock-ups may be used as part of Project.

1.5 TESTING LABORATORY SERVICES

- A. An independent testing laboratory shall perform inspections, tests, and other services required by applicable codes and various Specification sections.
 - 1. Owner or Architect may also require independent testing of items where doubts exists that product or system does not conform to Contract Documents.
 - 2. Contractor shall employ and pay for testing laboratory.
- B. Services shall be performed in accordance with requirements of governing authorities and with specified standards.
- C. Reports will be submitted to Owner and Architect in duplicate giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
 - 1. Where required, testing laboratory will submit copy of test results directly to enforcing agency.
- D. Contractor shall cooperate with testing laboratory personnel; furnish tools, samples of materials, design mix, equipment, storage and assistance as requested.
 - 1. Notify Owner, Architect and testing laboratory sufficiently in advance of expected time for operations requiring testing services.

1.6 INSPECTION SERVICES

- A. Owner will employ and pay for services of an independent person or persons to perform continuous, full time inspection of the project. The Owner's Inspector shall be approved by the Division of the State Architect's Inspector. The full time inspection shall be in accordance with Title 24, Part 1, Section 4-333.
 - 1. Notify Architect and inspector 48 hours prior to expected time for operations requiring specific inspection.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

END OF SECTION

PART 1- GENERAL

1.1 SUMMARY

- A. Definitions.
- B. Schedule of references.
- C. Schedule of governing codes.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents unless specifically noted.
- C. Obtain copies of standards when required by Contract Documents directly from publication source.

SECTION 01 42 00
REFERENCE STANDARDS

- D. Maintain copy at jobsite during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
- G. Schedule of references is general in nature; disregard any reference standard listed that is not applicable to this project.

1.4 STANDARDS AND REGULATIONS

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

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

- B. Schedule of Governing Codes:

- 1. California Code of Regulations (C.C.R.)
 - a. C.C.R. - Title 24, Part 1 – 2013 California Administrative Code.
 - b. 2013 CBC: 2012 IBC as Amended by California 2013 California Building Code - Part 2, Title 24, CCR)

SECTION 01 42 00
REFERENCE STANDARDS

- c. 2013 CEC: 2011 NEC as Amended by California 2013 Electrical Code - Part 3, Title 24, CCR)
 - d. 2013 CMC: 2012 IAMPO UMC as Amended by California 2013 Mechanical Code - Part 4, Title 24, CCR)
 - e. 2013 CPC: 2012 IAMPO UPC as Amended by California 2013 Plumbing Code - Part 5, Title 24, CCR)
 - f. C.C.R. - Title 24, Part 6 - The 2013 California Energy Standards
 - g. 2013 CFC: 2012 IFC as Amended by California 2013 Fire Code, Part 9 - Title 24, CCR.
 - h. C.C.R. - Title 24, Part 12, 2013 California Referenced Standards Code
 - i. California Code of Regulations (C.C.R) Title 19
 - j. California Code of Regulations (C.C.R.) Title 22, Social Security, latest register.
 - k. California Non- Residential Disabled Access Regulations, C.C.R. Title 24 Part 2.
- 2. NFPA 101 - Life Safety Code 2012.
 - 3. NFPA 99 – 2012.
 - 4. American Disability Act (ADA) or American Disability Act 2013 Standards
 - 5. Standard Specifications for Public Works Constructions.
- 1.5 SCHEDULE OF REFERENCES
- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities listed in the 2013 California Building Code, Title 24, Part 2, Chapter 35.
- 1.6 JOB-SITE PUBLICATIONS
- A. Contractor shall keep a copy of the CBC at the job-site at all times (Title 24, Part 2).
 - B. Contractor shall keep a copy of Title 24, Part 1 - Administrative Regulations, at the jobsite at all times.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

- 3.1 All work shall be done in accordance with the codes referenced in Section 1.4.B Schedule of Governing Codes, and as required by all agencies having jurisdiction.

END OF SECTION

PART 1 GENERAL

1.1 SUMMARY

- A. Selection and payment.
- B. Contractor submittals.
- C. Laboratory responsibilities.
- D. Laboratory reports.
- E. Limits on testing laboratory authority.
- F. Contractor responsibilities.
- G. Schedule of inspections and tests.
- H. Additional Tests.

1.2 RELATED SECTIONS

- A. Section 01 42 00 - Reference Standards
- B. Section 01 33 00 - Submittals: Manufacturer's certificates.
- C. Section 01 70 00 - Contract Closeout: Project Record Documents.
- D. Individual Specification Sections: Inspections and tests required, and standards for testing.

1.3 REFERENCES

- A. ANSI/ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- B. ANSI/ASTM E329 - Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

1.4 SELECTION AND PAYMENT

- A. Owner will employ and pay for services of an independent testing laboratory to perform specified inspection and testing. Per Title 24, Part 1 Section 4-335.

1.5 QUALITY ASSURANCE

- A. Comply with requirements of ANSI/ASTM E329 and ANSI/ASTM D3740
- B. Laboratory: Authorized to operate in state of California.
- C. Laboratory Staff: Maintain a full time registered technician on staff to review services.
- D. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards (NBS) Standards or accepted values of natural physical constants.
- E. Tests and inspections shall be conducted in accordance with the requirements of the Specifications or, if not specified, in accordance with the latest standards of ASTM, ACI or

other recognized authorities.

1.6 LABORATORY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Architect, Inspector of Record and Contractor in performance of services.
- C. Perform specified inspection, sampling, and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Architect, Inspector of Record and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional inspections and tests required by Architect.
- G. Attend preconstruction conferences and progress meetings.

1.7 LABORATORY REPORTS

- A. After each inspection and test, promptly submit copies of laboratory report to Architect, Contractor, DSA, Structural Engineer, Inspector of Record, and Owner.
- B. Include the following in each report:
 - a. Date issued,
 - b. Project title and number,
 - c. Name of inspector,
 - d. Date and time of sampling or inspection,
 - e. Identification of product and Specifications Section,
 - f. Location in the Project,
 - g. Type of inspection or test,
 - h. Date of test,
 - i. Results of tests,
 - j. Conformance with Contract Documents.
- C. When requested by Architect, provide interpretation of test results.

1.8 LIMITS ON TESTING LABORATORY AUTHORITY

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

1.9 CONTRACTOR RESPONSIBILITIES

- A. Deliver to laboratory at designated location adequate samples of materials proposed to be

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SECTION 01 45 29
TESTING LABORATORY SERVICES

used that require testing, along with proposed mix designs.

- B. Cooperate with laboratory personnel, and provide access to the Work and to manufacturer's facilities.
- C. Provide incidental labor and facilities to provide access to Work to be tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples.
- D. Notify Architect/Engineer and laboratory 24 hours prior to expected time for operations requiring inspection and testing services.
- E. The laboratory shall notify the Contractor, or his authorized representative, of any Work that is not in full conformance with the Specifications and the Architect shall be informed of such notification. Such nonconforming items shall not be incorporated in the finished Work unless specifically approved by Architect.
- F. The Contractor shall compensate the Architect or Engineers, at their standard hourly rates, for any additional services provided to analyze or justify non-compliant test results caused by substitutions, materials other than those specified or poor workmanship.

1.10 ADDITIONAL TESTS

- A. The Architect reserves the right to require additional tests to those specified, or upon materials not herein specified for testing.
- B. If the results of any test disclose noncompliance with the Drawings or requirements of the Specifications, the Architect reserves the right to require additional tests at the expense of the Contractor.

1.11 SCHEDULE OF INSPECTIONS AND TESTS

- A. Test and inspection list as approved by the Division of the State Architect.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes temporary construction facilities and temporary controls.
 - 1. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, water, and sanitary facilities.
 - 2. Temporary Controls: Barriers, enclosures and fencing, protection of the Work, construction aids, water control and construction waste management program.
 - 3. Construction Facilities: Access roads, parking, progress cleaning, Project identification, Field offices, telephone service, and storage.
- B. Related Requirements:
 - 1. Section 01 70 00: Progress cleaning and final cleaning.
- C. Provide temporary construction facilities and temporary controls as required to conform to applicable authorities and as required to complete Project in accordance with Contract Documents.
 - 1. Authorities: Contact governing authorities to establish extent of temporary facilities and temporary controls required by authorities.
- D. Comply with 2013 CFC Chapter 33 – Fire Safety During Construction and Demolition.

1.2 ELECTRICITY AND LIGHTING

- A. Provide electrical service required for construction operations, with branch wiring and distribution boxes located to allow service and lighting by means of construction-type power cords.
 - 1. Owner will pay for use charges for temporary utilities. Exercise measures to conserve energy.
 - 2. Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with CEC.
- B. Provide lighting for construction operations.
 - 1. Permanent lighting may be used during construction; maintain lighting and make routine repairs.

1.3 HEAT AND VENTILATION

- A. Provide heat and ventilation as required to maintain specified conditions for construction operation, to protect materials and finishes from damage due to temperature and humidity.
- B. Existing facilities shall not be used.
- C. Systems being installed as part of the Work shall not be used for construction heat and ventilation. All ductwork, vents and diffusers shall be completed sealed from construction.

SECTION 01 50 00
TEMPORARY FACILITIES & CONTROLS

- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.4 WATER AND SANITARY FACILITIES

- A. Provide water service from Owner's source, required for construction operations; extend branch piping with outlets located so water is available by use of hoses.
- B. Provide and maintain required sanitary facilities and enclosures. Existing or new facilities shall not be used.

1.5 ACCESS ROADS

- A. Construct and maintain temporary roads accessing public thoroughfares to serve construction area.
- B. Extend and relocate as Work progress requires. Provide detours necessary for unimpeded traffic flow.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Designated existing on-site roads may shall not be used for construction traffic.

1.6 PARKING

- A. Parking will be provided in the upper parking lot as directed by Owner.

1.7 CONSTRUCTION AIDS

- A. Noise, Dust and Pollution Control: Provide materials and equipment necessary to comply with local requirements for noise, dust and pollution control.
- B. Fire Protection: Maintain on-site fire protection facilities as required by applicable authorities and insurance requirements.
- C. Dewatering: Provide and operate drainage and pumping equipment; maintain excavations and site free of standing water.

1.8 ENCLOSURES

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

1.9 BARRIERS

- A. Barriers: Provide barriers as required to prevent public entry to construction areas and to protect adjacent properties from damage from construction operations.

SECTION 01 50 00
TEMPORARY FACILITIES & CONTROLS

1. Fence: Provide minimum 8 foot high commercial grade chain link or painted solid wood fence around construction site; equip with gates with locks.
 - B. Barricades: Provide barricades as required by governing authorities.
 - C. Tree Protection: Provide barriers around trees and plants designated to remain; protect against vehicular traffic, stored materials, dumping, chemically injurious materials, and puddling or continuous running water.
- 1.10 CLEANING DURING CONSTRUCTION
- A. Control accumulation of waste materials and rubbish; recycle or dispose of off-site.
 - B. Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.
- 1.11 PROJECT IDENTIFICATION
- A. Project Sign: Provide minimum 32 square foot Project identification sign of wood frame and exterior grade plywood construction, painted, with exhibit lettering by professional sign painter.
 1. Design: As furnished by Architect.
 2. Submit to Owner and Architect additional names or changes proposed to Project sign for prior written approval.
 3. Erect on site at location established by Architect.
 - B. Other Signs: Subject to approval of Architect and Owner.
- 1.12 FIELD OFFICES, COMMUNICATIONS, AND STORAGE
- A. Office: Provide weather-tight field office, with lighting, electrical outlets, data outlets, heating, and ventilating equipment, and equipped with furniture.
 1. Meeting Space: In addition, provide space for Project meetings with table and chairs to accommodate minimum six persons.
 2. Telephone Service: Provide telephone service to field office.
 3. Facsimile Service: Provide separate FAX line to field office with plain paper facsimile machine.
 4. Copier: Provide separate plain paper copier with enlargement and reduction capability.
 5. Computer: Provide desktop computer system at Project field office with e-mail capacity and software compatible with Architect word processing system; include separate e-mail line; provide plain paper printer.
 - a. Digital Camera: Maintain operational digital camera on-site during construction along with software allowing transmission of digital pictures taken on-site via e-mail to Owner and Architect.

SECTION 01 50 00
TEMPORARY FACILITIES & CONTROLS

- B. Storage for Tools, Materials, and Equipment: Limit on-site storage to Project area; provide weather-tight storage, with heat and ventilation for products requiring controlled conditions.
 - 1. Maintain adequate space for organized storage and access.
 - 2. Provide lighting for inspection of stored materials.
- C. DSA Inspector's Office: Provide 100 sq.ft. space, similarly equipped and furnished to Contractor's office described above for use of Inspector.

1.13 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.14 PROTECTION OF INSTALLED WORK

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

1.15 SECURITY

- A. Provide security and facilities to protect Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
- B. Coordinate with Owner's security program.

1.16 CONSTRUCTION WASTE MANAGEMENT

- A. Construction Waste Management: Comply with applicable regulations for diverting Project waste from landfill; aim for waste management goal of 50% or higher.
 - 1. Effect optimum control of solid wastes.
 - 2. Prevent environmental pollution and damage.
- B. Reports: Provide as required by applicable authorities.

SECTION 01 50 00
TEMPORARY FACILITIES & CONTROLS

- C. Recycling: Implement recycling program that includes separate collection of waste materials of types as applicable to Project; recycling program to be applied by Contractors and subcontractors.
- D. Handling: Keep materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling process.
 - 1. Clean materials contaminated prior to placing in collection containers.
 - 2. Arrange for collection by or delivery to appropriate recycling center or transfer station that accepts construction and demolition waste for purpose of recycling.
- E. Participate in Re-Use Programs: Rebates, tax credits, and other savings obtained for recycled or re-used materials shall accrue to Contractor.

1.17 REMOVAL

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion Inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore existing facilities used during construction to specified or original condition.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes basic product requirements governing material and equipment.
 - 1. General product requirements.
 - 2. Product list.
 - 3. Quality assurance.
 - 4. Delivery, storage, and handling.
- B. Related Requirements:
 - 1. Section 01 33 00: Submittal of manufacturers' certificates.
 - 2. Section 01 62 00: Product options and substitution procedures.
 - 3. Section 01 77 00: Operation and maintenance data.

1.2 GENERAL PRODUCTS REQUIREMENTS

- A. Products include material, equipment, and systems.
- B. Comply with Specifications, referenced standards, and applicable codes and regulations as minimum requirements.
- C. Provide new materials except as specifically allowed by Contract Documents.
- D. Materials to be supplied in quantity within a Specification section shall be by one manufacturer, shall be the same, and shall be interchangeable.
- E. Provide equipment and systems composed of materials from a single manufacturer except where otherwise recommended by equipment or systems manufacturer or where otherwise indicated in Contract Documents.

1.3 SUBMITTALS

- A. Product List: Prior to submittal of second Request for Payment, submit to Architect complete list of major products that are proposed for installation, with name of manufacturer, trade name, and model.
 - 1. Tabulate products by Specification number and title.
- B. Substitutions: Refer to Section 01 62 00 - Product Options.

1.4 QUALITY ASSURANCE

- A. Comply with industry standards and applicable codes except when more restrictive tolerances or requirements indicate more rigid standards or precise workmanship.
- B. Comply with manufacturer's instructions.
- C. Perform work by persons qualified to produce workmanship of specified quality.

**SECTION 01 60 00
PRODUCT REQUIREMENTS**

- D. Install products straight, true-to-line, and in correct relationship to adjacent materials, with hairline joints, free of rough, sharp and potentially hazardous edges.
- E. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.
 - 1. Seismic Anchors: Conform to code requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

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

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 RELATED SECTIONS

- A. Section 01 60 00 – Product Requirements

1.3 CONTRACTOR'S OPTIONS

- A. Products Identified by Reference Standards: Select product meeting referenced standard for products specified only by reference standard.
- B. Named Manufacturers and Named Products: Select products of any named manufacturer meeting Specifications for products specified by naming one or more products or manufacturers.
- C. Substitutions for Named Manufacturers and Named Products: Submit request for substitution for products and for manufacturers not specifically named where products or manufacturers are named in Specifications.
- D. "Or Equal" Clauses: Submit request for substitution for product or manufacturer not specifically named in Specifications where terms "or equal", "or approved equal", or similar references are made.

1.4 SUBSTITUTIONS

- A. Architect/Engineer will consider requests for Substitutions only within 20 days after date established in Notice to Proceed.
- B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.
- C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- D. Substitution Submittal Procedure:
 - 1. Submit three copies of Request for Substitution data for consideration. Submit completed "Product Substitution Request Form 01 62 33". Limit each request to one proposed Substitution.

**SECTION 01 62 00
PRODUCT OPTIONS**

2. Submit shop drawings, product data, and certification test results attesting to the proposed product equivalence.
3. The Architect will notify Contractor, in writing, of decision to accept or reject request.
4. Incomplete substitution requests will be rejected without explanation.
5. The Architect may reject any substitution request on the basis of aesthetics.
6. Incomplete substitution requests will be rejected without explanation.

E. "Approved Equal" or "Equal" shall mean in the opinion of the Architect.

F. Substitutions will not be considered for acceptance when:

1. They are indicated or implied on submittals without a formal request from Contractor.
2. They are requested directly by a subcontractor or supplier.
3. Acceptance will require substantial revision of Contract Documents.

G. Substitute products shall not be ordered without written acceptance of Owner and Architect.

H. Owner and Architect will determine acceptability of proposed substitutions and reserves right to reject proposals due to insufficient information.

1.5 CONTRACTOR'S REPRESENTATION

A. Requests constitute a representation that Contractor:

1. Has investigated proposed product and determined it meets or exceeds, in all respects, specified product.
2. Will provide same warranty or longer warranty for substitution as for specified product.
3. Will coordinate installation and make other changes that may be required for Work to be complete in all respects.
4. Waives claims for additional costs or time that subsequently become apparent.
5. Will pay costs of changes to Contract Documents, Drawings, details and Specifications required by accepted substitutions.

1.6 ARCHITECT'S DUTIES

A. Review Contractor's requests for substitutions with reasonable promptness.

1. Architect will recommend that Owner accept or reject substitution request.
2. Upon request, Architect will provide cost for changes to Contract Documents, Drawings, details and Specifications required for substitutions.

B. Notify Contractor in writing of decision to accept or reject requested substitution.

END OF SECTION

SECTION 01 62 33
PRODUCT SUBSTITUTION REQUEST FORM

Project: College of the Redwoods Residence Hall Re-Roof
NMR Project No.: 10-2529

Substitution Request No.: _____
Submittal No.: _____
Date : _____

To: Nichols, Melburg & Rossetto Architects
300 Knollcrest Drive
Redding, CA 96002

From:

1) Specification Section of Item: _____

2) Specified Item: _____
Attach Product Data as required by Section 01 33 00

3) Proposed Substitution: _____
Attach Product Data as required by Sections 01 60 00 and 01 62 00

4) Itemized quality and performance comparison of proposed substitution with specified product. Indicate variations and appropriate specification section references. Attach summary.

5) Reason for submitting Substitution: _____

6) Does substitution effect dimensions shown on Drawings? Yes___ No___
If yes clearly indicate changes.

7) What effect does the substitution have on other trades or products?

8) What effect does the substitution have on the construction schedule?

PART 1 - GENERAL

1.1 SUMMARY

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

- B. Related Requirements:
 - 1. Section 01 50 00: Cleaning during construction.
 - 2. Section 01 77 00: Closeout procedures.
 - 3. Section 01 79 00: Demonstration and training.

1.2 INSTALLER QUALIFICATIONS

- A. Experienced Installers: Installers to have minimum five years successful experience installing items similar to those required for Project, except for individuals in training under direct supervision of experienced installer.

1.3 EXAMINATION

- A. Acceptance of Conditions: Beginning installation of a product signifies installer has examined substrates, areas, and conditions for compliance with manufacturer requirements for tolerances and other conditions affecting performance.

- B. Field Measurements: Take field measurements as required to fit Work properly; recheck measurements prior to installing each product.
 - 1. Where portions of Work are to fit to other construction verify dimensions of other construction by field measurements before fabrication; allow for cutting and patching in order to avoid delaying Work.

- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

1.4 MANUFACTURERS' INSTRUCTIONS

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

**SECTION 01 70 00
EXECUTION REQUIREMENTS**

- B. Perform work in accordance with details of recommendations and instructions and specified requirements.
 - 1. Should a conflict exist between Specifications and recommendations or instructions consult with Architect.
- C. Where manufacturer's information notes special recommendations in addition to installation instructions, comply with both recommendations and instructions.

1.5 INSTALLATION

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

1.6 FINAL CLEANING

- A. Cleaning During Construction: Specified in Section 01 50 00 - Temporary Facilities and Controls.
- B. Progress Cleaning: Keep installed areas clean using cleaning materials specifically recommended by manufacturers of product being cleaned; where not otherwise recommended use nontoxic materials that will not damage surfaces.
 - 1. Remove debris from concealed spaces before enclosing space.
 - 2. Supervise construction operations to assure no part of construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

SECTION 01 70 00
EXECUTION REQUIREMENTS

- C. Final Cleaning: Execute final cleaning at Substantial Completion.
 - 1. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; vacuum carpeted and soft surfaces.
 - a. Vacuuming Equipment: Type with high efficiency particulate arrestor (HEPA) type filters; properly maintained.
 - 2. Clean equipment and fixtures to a sanitary condition, clean filters of mechanical equipment, replace filters where cleaning is impractical.
 - a. Clean ducts.
 - 3. Clean site; sweep paved areas.
 - 4. Remove waste, surplus materials and rubbish from Project and site; recycle to maximum extent feasible.

1.7 PROTECTION

- A. Protect products subject to deterioration with impervious cover. Provide ventilation to avoid condensation and trapping water.
- B. Take care to use protective covering and blocking materials that do not soil, stain, or damage materials being protected.
- C. After installation, provide coverings to protect products from damage from traffic and construction operations, remove when no longer needed.
- D. Protect interior materials from water damage; immediately remove wet materials from site to prevent growth of mold and mildew on site.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Starting systems.
- B. Testing, adjusting, and balancing.

1.2 RELATED SECTIONS

- A. Section 01 40 00 - Quality Requirements
- B. Section 01 77 00 - Contract Closeout

1.3 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Architect and Owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions that may cause damage.
- D. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of responsible Contractors' personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report in accordance with Section 01 40 00 that equipment or system has been properly installed and is functioning correctly.

1.4 TESTING, ADJUSTING, AND BALANCING

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

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Protection for products, including Owner-provided products, after installation.

1.2 RELATED SECTIONS

- A. Section 01 60 00: Protection of products in storage.
- B. Individual Sections: Specific protection of installed products, as applicable.

1.3 PROTECTION AFTER INSTALLATION

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

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not used

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes Contract closeout procedures.
 - 1. Substantial completion.
 - 2. Final completion.
 - 3. Project record documents.
 - 4. Material and finish data.
 - 5. Operation and maintenance data.
- B. Related Requirements:
 - 1. Section 01 78 36: Warranties.
 - 2. Section 01 79 00: Demonstration and training.

1.2 SUBSTANTIAL COMPLETION

- A. Immediately prior to Substantial Completion, schedule agency reviews as required for “temporary certificate of occupancy” or for “certificate of occupancy”.
- B. When Contractor considers the Work or a designated portion thereof is substantially complete, submit written notice, with list of items to be completed or corrected.
 - 1. List (“Punch List”): Format pre-approved by Owner and Architect; tabular form with each space listed required.
- C. Within a reasonable time Owner will inspect status of completion and may add to “Punch List”.
- D. Should Owner determine Work is not substantially complete, Contractor will be promptly notified in writing, giving reasons.
- E. Contractor shall remedy deficiencies and send a second written notice of substantial completion; Owner will reinspect Work.
- F. When Owner determines Work is substantially complete, a Certificate of Substantial Completion will be prepared in accordance with General Conditions.

1.3 FINAL COMPLETION

- A. When Work is complete, submit written certification indicating:
 - 1. Work has been inspected for compliance with Contract Documents.
 - 2. Work has been completed in accordance with Contract Documents and deficiencies listed (in ‘Punch List’) with Certificate of Substantial Completion have been corrected.
 - 3. Equipment and systems have been tested in presence of Owner's representative and are operational.
 - 4. Work is complete and ready for final inspection.

- B. Special Submittals: In addition to submittals required by Contract, submit following.
 - 1. Provide submittals required by governing authorities to governing authorities with copies included in Project Record Documents.
 - 2. Submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 PROJECT RECORD DOCUMENTS

- A. Keep documents current; do not permanently conceal any work until required information has been recorded.
 - 1. Contractor to maintain a separate set of Drawings for Project Record Documents.
 - 2. Store reproducible Drawings, one set of Project Manual, and one copy of each Change Order separate from documents used for construction, for use as Project Record Documents.
 - 3. Indicate actual work on Drawings; indicate actual products used in Project Manual, including manufacturer, model number and options.
 - 4. Update Project Record Documents daily and allow for Architect inspection at least once a month.
- B. At Contract close-out submit documents with transmittal letter containing date, Project title, Contractor's name and address, list of documents, and signature of Contractor.

1.5 MATERIAL AND FINISH DATA

- A. Provide data for primary materials and finishes.
- B. Submit two sets prior to final inspection, bound in 8-1/2" by 11" three-ring binders with durable plastic covers, clearly identified regarding extent of contents.
 - 1. Electronic Format: Where available in electronic format, submit computerized compact disk (CD's) of material and finish data.
- C. Arrange by Specification division and give names, addresses, and telephone numbers of subcontractors and suppliers. List:
 - 1. Trade names, model or type numbers.
 - 2. Cleaning instructions.
 - 3. Product data.

1.6 OPERATION AND MAINTENANCE DATA

- A. Provide data for:
 - 1. Electrically operated items.
 - 2. Mechanical equipment and controls.
 - 3. Electrical equipment and controls.

**SECTION 01 77 00
CONTRACT CLOSEOUT**

- B. Submit two sets prior to final inspection, bound in 8-1/2" by 11" three-ring binders with durable plastic covers, clearly identified regarding extent of contents.
- C. Provide a separate volume for each system, with a table of contents and index tabs for each volume.
- D. Arrange by Specification division and gives names, addresses, and telephone numbers of subcontractors and suppliers. List:
 - 1. Appropriate design criteria.
 - 2. List of equipment and parts lists.
 - 3. Operating and maintenance instructions.
 - 4. Shop drawings and product data.
- E. Electronic Format: Where available in electronic format, submit computerized compact disk (CD's) of material and finish data.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 FORM OF SUBMITTAL

- A. Provide duplicate copies, notarized or on Contractor and Manufacturer's letterhead.
 - 1. Assemble documents executed by subcontractors, installers, suppliers, and manufacturers.
 - 2. Provide table of contents and assemble in binder with durable plastic cover, clearly identified regarding extent of contents.
 - 3. Electronic Format: Submit computerized compact disk (CD's) of warranties, in Microsoft Word.
- B. Warranty Form: Use form acceptable to Owner; completed form shall not detract from or confuse interpretations of Contract Documents.
 - 1. Manufacturer shall countersign warranty.
 - 2. Subcontractor and installer shall countersign warranty where specified.
 - a. Provide required warranties for waterproofing and roofing systems countersigned by subcontractor and installer.
- C. Submit final warranties prior to final application for payment.
 - 1. For equipment put into use with Owner's permission during construction, submit within ten days after first operation.
 - 2. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.
- D. Provide information for Owner's personnel regarding proper procedure in case of failure and instances that might affect validity of warranty.
- E. Size: 8-1/2" by 11" for three-ring binder; fold larger sheets to fit.

1.3 WARRANTIES

- A. Warranties are intended to protect Owner against failure of work and against deficient, defective and faulty materials and workmanship, regardless of sources.

**SECTION 01 78 36
WARRANTIES**

- B. Limitations: Warranties are not intended to cover failures that result from:
1. Unusual or abnormal phenomena of the elements.
 2. Owner's misuse, maltreatment or improper maintenance of work.
 3. Vandalism after substantial completion.
 4. Insurrection or acts of aggression including war.
- C. Related Damages and Losses: Remove and replace work which is damaged as result of failure, or which must be removed and replaced to provide access for correction of warranted work.
- D. Warranty Reinstatement: After correction of warranted work, reinstate warranty for corrected work to date of original warranty expiration, but not less than half original warranty period.
- E. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.
- F. Rejection of Warranties: Owner reserves right to reject unsolicited and coincidental product warranties that detract from or confuse interpretations of Contract Documents.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. See Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
- C. See Divisions 02 through 49 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.2 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set of marked-up Record Prints.
 - 2. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal: Submit one set of marked-up Record Prints. Architect will initial and date each plot and mark whether general scope of changes, additional information recorded, and quality of drafting are acceptable. Architect will return plots and prints for organizing into sets, printing, binding, and final submittal.
 - b. Final Submittal: Submit one set of marked-up Record Prints, and the following:
- B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

- b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 2. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
 - B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
 3. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. Note related Change Orders[, **Record Product Data,**] and Record Drawings where applicable.

2.3 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of

SECTION 01 78 39
PROJECT RECORD DOCUMENTS

the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Provide equipment and systems demonstration and instruction in accordance with Contract Documents.
 - 1. Video-record seminars and system demonstrations.
- B. Related Sections:
 - 1. Section 01 31 00: Project management and coordination.
 - 2. Section 01 77 00: Contract closeout procedures.
 - 3. Refer to Facility Services Subgroups for mechanical and electrical requirements.

1.2 DESCRIPTION

- A. Seminar Agenda and Outline:
 - 1. Prepare a seminar agenda and outline in consultation and cooperation with Owner. Include following:
 - a. Equipment and systems that will be included in seminars.
 - b. Name of companies and representatives presenting at seminars.
 - c. Outline of each seminar's content.
 - d. Time and date allocated to each system and item of equipment.
 - 2. Submit preliminary seminar agenda and outline for review and comment by Owner two months before date of completion.
- B. Seminar Organization:
 - 1. Qualified Contractor or Sub-contractor personnel familiar with design, operation, maintenance and troubleshooting of equipment and systems shall lead seminars.
 - 2. Coordinate individual presentations and ensure manufacturer's representatives scheduled to be at training seminars are present.
 - 3. Coordinate proposed seminar dates with Owner and select mutually agreeable dates.
 - 4. Video-recording: Arrange for recording of training seminars and system demonstrations, including seminar and demonstration questions and answers.
- C. Seminar Content:
 - 1. Contractor or manufacturer's representative will explain design philosophy of primary systems.
 - 2. Include following information in presentations dealing with specific systems.
 - a. An overview of how system is intended to operate.
 - b. Describe design parameters, constraints and operational requirements.
 - c. Describe system operation strategies.

SECTION 01 79 00
DEMONSTRATION AND TRAINING

- d. Provide information to help in identifying and troubleshooting problems.
- e. Recommended preventative and routine maintenance.

D. System Demonstration:

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

1.3 SUBMITTALS

- A. Video-records: Submit two copies; include label on each tape and on each container identifying Project and Seminar content.

END OF SECTION

PART 1 GENERAL

1.1 DESCRIPTION

- A. This Section describes the requirements for furnishing and installing metal fabrications made from steel shapes, plates, bars, strips, tubes, pipes and castings not a part of structural steel or specified in other Sections.

1.2 RELATED SECTIONS

- A. 09 90 00 – Painting and Coating

1.3 SUBMITTALS

All submittals shall be submitted under the provisions of Section 01 33 00.

- A. Submittal No. 05 50 00A – Product Data:

- 1. Manufacturer's specifications, anchor details and installation instructions, including paint products and grout.

- B. Submittal No. 05 50 00B - Shop Drawings:

- 1. Include plans, elevations and details of metal fabrications and their connections. Show anchorage and accessory items.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: Firm experienced in successfully producing metal fabrications similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the work.
- B. Welding Qualifications: Qualify welding processes and welding operators in accordance with AWS D1.1, D1.3, and D1.2 as applicable. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit, by accurate field measurements before fabrication. Show recorded measurements on shop drawings. Coordinate fabrication schedule to avoid delay of work.

1.6 SEQUENCING AND SCHEDULING

- A. Painting: Items specified in this Section as having a shop applied prime coat will be job painted as specified in Section 09 90 00, unless otherwise noted.
- B. Furnish templates for anchors and bolt installation by other Sections.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General: For fabrication of metal work, which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.
- B. HSS: ASTM A500 Grade B; 1/8" wall thickness, galvanized finish. Fabricate to design, dimensions, and details indicated.
- C. Brackets, Flanges and Anchors: Cast or formed metal of same type material and finish as supported material, unless otherwise indicated
- D. Fasteners: Steel fasteners, galvanized in accordance with ASTM A153, selected by fabricator
- E. Paint:
 - 1. Metal Primer: SSPC 20, Type 2
 - a. Exterior Exposure: Tnemec 90-97 Tnemec Zinc or approved equal
 - b. Interior Exposure: Tnemec 18 Enviro-Prime acrylic emulsion rust-inhibitive primer or approved equal
 - c. Exposed to view items to be field painted shall be primed with a primer compatible with final finish coats specified in Section 09 90 00.
 - 2. Galvanizing Repair Paint: High zinc dust content paint for re-galvanizing welds in galvanized steel; Rust Oleum Corp. "Zinc Rich Cold Galvanizing Compound", Tnemec 90 93, ZRC Chemical Products Div. of Norfolk Corp. "ZRC Cold Galvanizing Compound" or approved equal.

2.2 FABRICATION, GENERAL

- A. Workmanship:
 - 1. Use materials of size and thickness indicated or required to produce strength and durability in finished product for use intended.
 - 2. Work to dimensions indicated,
 - 3. Form exposed work true to line and level with accurate angles and surfaces and straight, sharp edges.
 - 4. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated.
 - 5. Form bent metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
 - 6. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections, grind exposed welds smooth and flush to match and blend with adjoining surfaces. Welds shall be imperceptible in the finished work.

**SECTION 05 50 00
STEEL FABRICATIONS**

7. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use Phillips flat head countersunk screws or bolts for exposed fasteners, unless tamperproof security screws are indicated.
 8. Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware and similar items.
- B. Galvanizing: Provide zinc coating for items indicated or specified to be galvanized, as follows:
1. ASTM A153 for galvanizing iron and steel hardware.
 2. ASTM A123 for galvanizing both fabricated and un-fabricated iron and steel products made of uncoated rolled, pressed, and forged shapes, plates, bars, and strip 0.0299-inch thick and heavier.
- C. Fabricate joints exposed to the weather to exclude water or provide weep holes.
- D. Shop Painting:
1. Shop paint miscellaneous metal work, except members or portions of members to be embedded in concrete or masonry, surfaces and edges to be field welded, and galvanized surfaces.
 2. Remove scale, rust and other deleterious materials before applying shop coat. Clean off heavy rust and loose mill scale in accordance with SSPC SP 2, SP 3, or SP 7.
 3. Remove oil, grease and similar contaminants in accordance with SP 1.
 4. Brush or spray on primer in accordance with manufacturer's instructions, at a rate of 2.0 mils thickness for each coat.
 5. Apply one shop coat to fabricated metal items, except apply 2 coats to inaccessible surfaces after assembly or erection. Change color of second coat to distinguish from the first.
 6. Primer on exposed to view items to be field painted shall be smooth and suitable for application of final finish coats specified in Section 09 90 00.
 7. Apply a heavy coat of bituminous paint, compounded for application in 30 mil coat, to metal surfaces in contact with concrete, masonry and dissimilar metals. Do not apply on exposed surfaces.

2.3 MISCELLANEOUS METAL FABRICATIONS

- A. Miscellaneous Framing and Supports:
1. Provide miscellaneous framing and supports not a part of structural steel framework, as required to complete work.
 2. Fabricate to sizes, shapes and profiles shown or required.
 3. Fabricate from structural steel shapes and plates and steel bars of welded construction using mitered joints for field connection.

4. Cut, drill and tap units to receive hardware and similar items.
 5. Furnish integrally welded anchors for casting into concrete or building into masonry.
 6. Finish: Galvanize exterior frames and supports, shop prime interior frames and supports.
- B. Steel Pipe: Fabricate to design, dimensions and details indicated.
1. Interconnect railing members by butt welding or welding with internal connectors.
 2. Provide coped joints at tee and cross sections.
 3. Form simple and compound curves by bending pipe or tubing in jigs to produce uniform curvature for each repetitive configuration. Maintain cylindrical cross section of pipe or tube throughout entire bend without buckling, twisting or deforming exposed surfaces.
 4. Close exposed ends of pipe by welding 3/16 inch steel plate in place or by using prefabricated fittings.
 5. Flanges, Fittings and Anchors: Provide end closures, flanges, miscellaneous fittings and anchors for interconnections of pipe or tubing and attachment of railings to other work. Furnish inserts and other anchorage devices for connecting to concrete or masonry.
 6. Pipe Sleeves:
 - a. Provide galvanized pipe sleeves not less than 6 inches long with an inside diameter not less than 1/2 inch greater than the outside diameter of pipe or tube.
 - b. Provide steel plate closure welded to bottom of sleeve, width and length not less than 1 inch greater than outside diameter of sleeve.
 - c. Provide friction fit, removable covers designed to keep sleeves clean and hold top edge of sleeve 1/2 inch below finished surface of concrete.
 7. Finish: Galvanize exterior steel railings, including pipe or tubing, fittings, brackets, fasteners, and other ferrous components. Provide black steel pipe or tubing for interior railings.

PART 3 EXECUTION

3.1 PREPARATION

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, sleeves, anchor bolts and miscellaneous items having integral anchors.

3.2 INSTALLATION

**SECTION 05 50 00
STEEL FABRICATIONS**

- A. General:
1. Fastening to In Place Construction: Provide threaded fasteners for concrete and masonry inserts, toggle bolts, through bolts, lag bolts, wood screws and other connectors as required
 2. Cutting, Fitting and Placement:
 - a. Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications.
 - b. Set work accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels.
 - c. Provide temporary bracing or anchors in formwork for items to be built into concrete, masonry or similar construction.
 3. Fit exposed connections together forming tight hairline joints.
 - a. Weld connections not shop welded.
 - b. Grind exposed joints smooth and imperceptible, and touch up shop paint coat.
 - c. Do not weld, cut or abrade the surfaces of exterior units which have been hot dip galvanized after fabrication, and intended for bolted or screwed field connections.
 4. Field Welding: Comply with AWS for procedures of manual shielded metal arc welding, appearance and quality of welds, and methods used in correcting welding work.
 5. Install prefabricated items in accordance with manufacturer's instructions.

3.3 ADJUST AND CLEAN

- A. Touch-Up Painting: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material used for shop painting. Apply by brush or spray to provide a minimum dry film thickness of 2.0 mils.
- B. Galvanized Surfaces: Clean field welds, bolted connections and abraded areas and spot prime with specified primer applied to a minimum dry film thickness of 2.5 mils.

3.4 SCHEDULE

- A. Provide and install items listed in Schedule and shown on Drawings with anchorage and attachments necessary for installation.
- B. The Schedule is a list of principal items only. Refer to Drawing details for items not specifically scheduled.
 1. HSS Downspouts.

END OF SECTION

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Structural and non-structural framing.
- B. Miscellaneous concealed and exterior lumber and sheet materials as shown or required.
- C. Roof curbs and cants.
- D. Blocking in wall and roof openings.
- E. Wood Blocking.
- F. Treatment of wood members where required.

1.2 RELATED WORK

- A. Division 1 - General Requirements
- B. Division 6 - Wood, Plastics and Composites

1.3 REFERENCE STANDARDS

- A. NFPA National Design Specification of Stress-Grade Lumber and its Fastening.
- B. WCLIB - West Coast Lumber Inspection Bureau: Standard Grading Rules for West Coast Lumber.
- C. WWPA - Western Wood Products Association.
- D. ASTM E84 - Fire Test.
- E. FS TT-W-571 - Wood Preservation: Treating Practices.
- F. California Building Code Title 24, Chapter 23.
- G. AWWPA - American Wood Preservers' Association: Book of Standards.
- H. FS FF-N-105B – Common Wire Nails.
- I. National Design Specification

1.4 QUALITY ASSURANCE

- A. Lumber to have visible grade stamp of an agency certified by AF & PA.
- B. Provide written certification stating that materials provided meet specified requirements, including but not limited to their compliance with referenced standards relative to:
 - 1. Grade mark for the use intended
 - 2. Preservative treatment
 - 3. Fire retardant treatment

1.5 DELIVERY, STORAGE AND HANDLING

- A. Protect materials from weather while in transit. Place under cover and protect from weather immediately upon delivery.
- B. Store flat, off the floor, in well ventilated area where there will be no great variations in heat and humidity.
- C. All pieces of lumber shall be grade stamped with WCLIB or WWPA grade stamp.

1.6 WARRANTY

- A. Warrant the Work specified herein for two (2) years against becoming unserviceable or causing an objectionable appearance resulting from defects in materials and workmanship.
- B. Warrant that products comply with the Contract Documents and local use restrictions, and are compatible with adjoining materials, substrates and other conditions of installation.
- C. Defects shall include, but not be limited to:
 - 1. Buckling or warping of surfaces
 - 2. Loose or missing parts
 - 3. Faulty installation, attachment or alignment
 - 4. Deterioration due to lack or loss of preservative treatment

PART 2 PRODUCTS

2.1 LUMBER

- A. Lumber Species and Materials: Framing Lumber: Shall be Douglas Fir - Larch, unless noted otherwise, and shall comply with the grading rules of WWPA or WCLIB. All lumber shall be stamped as to grade by an approved grading agency. End jointed lumber shall not be used. All structural wood members with the least dimension 2 1/2" or greater shall be free of heart center. All sides surfaced. Grades as follows unless otherwise noted on Drawings:

	USE Grade	Max moisture content at time of installation
1 inch boards	"Construction"	19%
Beams & Headers	No. 1	19%
Roof & Ceiling Joists	No. 1	19%
Studs, Sills, Plates	No. 1	19%
Posts & Timbers	No. 1	19%
Miscellaneous Blocking, & Framing not noted	No. 1	19%

- B. Preservative Treated Wood Materials: Pressure-treated in accordance with Standard Specifications of AWP for treating structural timbers and FS TT-W-571.
Fascia Base Layer: Douglas Fir No. 1 pressure treated. Pressure treatment shall meet the requirements of Specification TT W 571, using Boliden, Chemonhe, Chromated Zinc

**SECTION 06 10 00
ROUGH CARPENTRY**

Chloride, Erdalith or Wolman Salts. Cut faces of treated wood shall be brush treated (two complete applications) prior to installation. Treated lumber shall be identified by the AWPA stamp.

- C. Fascia Finish Layer: Azek Building Products, Azek Trim (www.azek.com) sizes and profiles as indicated on drawings.

2.2 ACCESSORIES

- A. Furnish and install all connecting hardware indicated on Drawings, specified herein or required to complete the work.
- B. Materials:
 - 1. Nails, Screws, Bolts and Fasteners: Hot-dipped galvanized steel for exterior, high humidity, and treated wood locations; plain finish elsewhere; size and type to suit condition.
 - 2. Nails for light gauge metal connectors: Common wire nails, sizes as indicated or as specified by metal connector manufacturer
 - 3. Screws: Standard domestic manufacturer, bright steel. Galvanized for exterior use. Brass, bronze, aluminum or stainless when used to fasten items made of those metals.
 - 4. Screws: For attaching interior trim and finish to drywall partitions, use Type S, self drilling, self tapping anodized steel drywall screws of indicated lengths
 - 5. Bolts: ASTM A307 machine bolts with standard hex nuts and steel plate or cut washers or carriage bolts with standard hex nuts and cut washers as indicated. Bolts, nuts and washers wholly or partially exposed on exterior shall be galvanized. Sill plate anchor bolts shall use 3" x 3" x 0.229" Plate Washers.
 - 6. Steel Plates and Angles: ASTM A36
 - 7. Lag Screws, Shear Plates, and Split Ring Connectors: As per American Forest & Paper Association "National Design Specifications for Wood construction".
 - 8. Framing Anchors, Joist Hangers, Etc: As made by Simpson Company and indicated on drawings, or equivalent devices as approved by Architect. All framing connectors and joist hangers in contact with preservative-treated wood shall be coated to meet the requirements of CBC Section 2304.9.5.1. Connectors in contact with preservative-treated wood should have a minimum coating meeting the connector manufacturer's recommendations based upon the type of preservative treatment used. At outdoor installations, in the absence of manufacturer's recommendations, the connectors in contact with preservative-treated wood shall have a minimum coating meeting ASTM A653, type G185 per the CBC.
 - 9. Power Driven Inserts: "Hilti" or as approved by Architect; install as per manufacturer's directions.
 - 10. Miscellaneous Clips, Steel Assemblies: As per ASTM A36.

11. Provide drilled anchors (i.e. Hilti Kwik Bolt TZ) as indicated on plan in concrete. Pull or torque test as indicated on structural test and inspection form and per table in General Structural Notes of construction drawing set.

PART 3 EXECUTION

3.1 SITE TREATMENT

- A. Field apply a compatible preservative or fire-retardant treatment, as applicable, to site-sawn ends of treated members in accordance with manufacturer's recommendations. Allow treatment to cure prior to placing members.
- B. Locations requiring preservative treatment:
 1. Sill Plates for wood framing in contact with concrete or masonry.
 2. Blocking or grounds in contact with concrete or masonry.
 3. Blocking or grounds concealed in construction in such a manner as to prevent exposure to circulating air.
- C. Locations requiring fire retardant treatment:
 1. Concealed backing and blocking within partition or ceiling construction.
 2. Other interior locations as shown or required by code.

3.2 SELECTION AND USE OF LUMBER

- A. Examine each piece of lumber separately. Select for strength, warp and appearance, using the best pieces for the most demanding purposes.
- B. Discard inferior portions of members where shorter pieces are required.

3.3 INSTALLATION

- A. Execute carpentry Work carefully with neat cuts and close joints. Fit members to give firm seating and bearing.
- B. Place members true to lines and levels. Secure rigidly in place.
- C. Construct continuous members with pieces of longest possible lengths.
- D. Install members where indicated or needed to provide proper nailing, furring or bracing. Provide all blocking as required to hold Work in proper position.
- E. Bore bolt holes only slightly larger than size of bolts. Provide washers for all bolts where heads or nuts bear on wood. Where required, countersink heads, nuts and washers.
- F. Plywood Sheathing: install plywood roof sheathing and sub flooring with long dimension perpendicular to joints.
- G. Fire Blocking: provide in accordance with CBC Section 708.

3.4 FRAMING

**SECTION 06 10 00
ROUGH CARPENTRY**

- A. General: Install all wood framing making proper provisions for work of other trades. Do all cutting of wood required to accommodate plumbing, heating and ventilating, electrical and other trades. Fit neatly around all exposed items such as outlet boxes, conduit, pipes and ducts.
- B. Exterior Base Plates or Bearing or Sheathed Wall Sills Resting on Concrete: Bed in cement mortar to obtain a continuous bearing. Mortar shall consist of one part cement to three parts sand. Mix mortar in small quantities so it can be used promptly. Size all plates or sills and set level true to line. Bolt down with bolts of size, length and spacing indicated, with a bolt not more than nine inches from the end of any piece. Each piece shall receive at least two bolts.
- C. Rough Framing: Fit closely; set accurately to required lines and levels and secure rigidly in place. Set horizontal and inclined members with crown edge up. Do not cut, notch, or bore structural members without specific approval. Reinforce cut members as directed. Bolt, nail and spike thoroughly with not less than sizes and quantities indicated. Structural members shall provide full contact at all bearing surfaces. Joists shall be spliced over bearings unless shown otherwise.
- D. Studs: Make walls and partitions of nominal 2x4, 2x6, 4x6, 2x8, or 4x8 studs, 16 inches on center, unless otherwise indicated or required to be larger to accommodate mechanical or electrical equipment, piping, and fixtures or the fixtures or equipment of any other trade. Unless otherwise indicated, all panels, valve covers, cleanouts, devices, access doors, recessed cabinet boxes, etc. shall be mounted flush with the adjacent wall surface. When any such item is of a depth where it is not practical to use solid studding to the full thickness of the wall, the wall shall be furred. When furring is required, it shall extend the full width of the room on the wall in which it occurs and from floor to roof or ceiling joists. The studs comprising all interior partitions and the wall material affixed to them shall extend from floor to ceiling joist framing except as otherwise indicated. Staggered stud walls shall be constructed where indicated on drawings.
- E. Top Plates in Bearing Partitions: shall be doubled and lapped at each intersection with walls or partitions. Stagger joints in upper and lower members of top plate not less than 4 feet and splice as shown.
- F. Provide blocking not less than 2 inches in thickness of same width as studs as shown on drawings. Also install all fire stopping as required by Section 708 of the California Building Code.
- G. Frame corners solid where stud walls or partitions meet, or as indicated on drawings.
- H. Retighten anchor bolts before closing in.

3.5 WOOD BACKING AND NAILING STRIPS

- A. Provide all wood backing, furring or blocking indicated or required for proper installation and attachment or work of other trades. Form lumber, which has been cleaned and is in sound conditions, may be used, unless other material is indicated.
- B. Provide wood stripping where indicated for attachment of finish materials to wood or concrete surfaces

3.6 TOLERANCES

- A. Framing Members: 1/4 inch maximum from true position.

**SECTION 06 10 00
ROUGH CARPENTRY**

B. Surface Flatness of Floor: 1/4 inch in 10 feet maximum.

3.7 CLEANUP

A. Upon completion of installation activity, remove all waste, sawdust, dirt, wrappings and excess materials, tools and equipment. Thoroughly clean all surfaces to the satisfaction of the Architect.

END OF SECTION

PART 1 GENERAL

1.1 WORK INCLUDED

- A. Includes but not limited to:
 - 1. Roof sheathing where replacement is required.

1.2 RELATED WORK

- A. General Conditions, Supplementary General Conditions, and Division 01

1.3 REFERENCES

- A. Title 24, Chapter 23.
- B. PS-1 - Construction and Industrial Plywood
- C. PS2 – Performance Standard for Wood-Based Structural Panels
- D. APA - American Plywood Association
- E. FS FF-N-105B – Common Wire Nails
- F. National Design Specification 2012 edition

1.4 QUALITY ASSURANCE

- A. Plywood Grading Agency: Certified by APA

1.5 REGULATORY REQUIREMENTS

- A. Conform to the 2013 California Building Code

1.6 SUBMITTALS

All submittals shall be submitted under the provisions of Section 01 33 00.

- A. Submittal No. 06 16 00A – Product Data:
 - 1. Manufacturer's product data, specifications with application and installation instructions for proprietary materials and items.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store and protect products under provisions of Section 01 60 10.
- B. All pieces of sheathing shall be stamped with grade stamp

PART 2 PRODUCTS

2.1 STRUCTURAL PLYWOOD:

- A. Plywood shall conform to the requirements of U.S. Product Standard PS 1-95 or PS2-92. Each piece shall be clearly and legibly grade marked with established symbols of the American Plywood Association. Exterior glue required.
- B. Replace roof sheathing with same thickness, grade and attachment pattern as existing.

2.2 CONNECTING HARDWARE:

- A. Furnish and install all connecting hardware indicated on Drawings, specified herein or required to complete the work.
- B. Materials:
 - 1. Nails for wood-to-wood connections for attachment of plywood sheathing: Common wire or box, galvanized for exterior work. 16d Green vinyl-coated sinkers are an acceptable substitution for 10d box nails.

PART 3 EXECUTION

3.1 SHEATHING

- A. Secure roof sheathing perpendicular to framing members with ends staggered. Secure sheet edges over firm bearing. Provide solid blocking between sheathing.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Finish carpentry items, other than shop-prefabricated casework, with accessories as required for complete installation.
 - 1. Exterior roof fascia and trim and siding trim for board & batten pattern.
- B. Related Sections:
 - 1. Section 07 41 13: Metal Roofing
 - 2. Section 07 46 46: Fiber Cement Siding

1.2 SUBMITTALS

All submittals shall be submitted under the provisions of Section 01 33 00.

- A. Submittal No. 06 20 00A - Shop Drawings: Indicate materials and wood species, component profiles, fastening, joining details, finishes, and accessories to a minimum scale of 1-1/2 inch to one foot.
- B. Submittal No. 06 20 00B - Product Data: Submit literature for manufactured items.
- C. Submittal No. 06 20 00C - Samples: Furnish samples of each type of finish carpentry, 12" long min.

1.3 QUALITY ASSURANCE

- A. Standards: Perform finish carpentry in accordance with standards of Woodwork Institute (formerly Woodwork Institute of California) "Manual of Millwork."

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver materials until site conditions are adequate to receive work; protect items from weather while in transit.
- B. Store materials indoors, in ventilated areas with constant but minimum temperature of 60 degrees F and maximum relative humidity of 25% to 55%.
- C. Do not begin installation of finish carpentry until space is fully enclosed and mechanical systems are fully operational.
 - 1. Maintain interior installation areas at 70 degrees F and 50% to 55% relative humidity.
- D. Immediately remove from site materials with visible mold and materials with mildew.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Opaque Painted Exterior Wood Trim: Expanded PVC material by AZEK Building Products, Scranton Pennsylvania.
 - 1. Quality: ES Report No. ESR-1074.
 - 2. Size: As shown on drawings.
 - 3. Adhesive: AZEK standard.
 - 4. Texture: Wood grain AZEK "Frontier".
- B. Lumber for Shimming, Blocking, and Backing: No. 2 Douglas Fir – pressure treated.
- C. Anchors, Nails and Screws: Select the material, type, size and finish required by each substrate for secure anchorage; provide toothed steel or lead expansion bolt screws for drilled-in-place anchors.
- D. Wood Filler: Color to match wood being filled.

2.2 FABRICATION

- A. Fabricate finish carpentry items in accordance with specified quality standard.
- B. Use exposed fastening devices or nails only when approved in writing by Architect and unavoidable; arrange neatly.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication where possible; do not delay job progress, allow for trimming and fitting.
- B. Verify surfaces are ready to receive work and field measurements are as shown on shop drawings.
 - 1. Beginning installation signifies acceptance of conditions.
- C. Ensure mechanical and electrical items affecting work are properly placed, complete, and have been inspected by applicable authorities prior to commencement of installation.
- D. Inspect each piece of finish carpentry and discard damaged and defective pieces.

3.2 INSTALLATION

- A. Install work consistent with specified WI MoM quality grade, plumb, level, true and straight with no distortions; shim as required, using concealed shims.
- B. Secure work to blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation.

**SECTION 06 20 00
FINISH CARPENTRY**

- C. Scribe and cut for accurate fit to other finished work.
- D. Install trim in single, unjointed lengths for openings and for runs less than 10'-0".
 - 1. For longer runs, use only one piece less than 10'-0" in any straight run; provide scarf joints between members and glue joints with manufacturer's adhesive.
 - 2. Stagger joints in adjacent members.
 - 3. Cope at returns and miter at corners.
- E. Accessories: Install accessories in accordance with manufacturer's recommendations in locations indicated or as directed by Architect.
- F. Acceptable Tolerances:
 - 1. Variation from True Position: Maximum 1/16" at any position and maximum 1/8" in any 10'-0" length.
 - 2. Adjoining Surfaces of Same Material: No variation permitted.
 - 3. Offset with Abutting Materials: Maximum 1/32".
- G. Preparation for Field Finishing:
 - 1. Sand work smooth and set exposed nails and screws.
 - 2. Apply wood filler in exposed nail and screw indentations and leave ready to receive site-applied finishes.
 - 3. Seal concealed and semi-concealed surfaces; brush apply only, using primer consistent with finish coats specified under Section 09 90 00 – Painting and Coating.

END OF SECTION

PART 1 – GENERAL

1.1 SUMMARY

1.1 Section Includes:

1. Provide thermal insulation system at exterior walls with accessories as required for complete installation.

1.2 SUBMITTALS

All submittals shall be submitted under the provisions of Section 01 33 00.

2.1 Submittal No. 07 21 00A - Product Data: Furnish manufacturer's literature for each type of insulation.

1. Indicate thermal insulation name and number as included in California Energy Commission's Directory of Certified Material.
2. Submit Underwriter's Laboratory approval numbers for required fire ratings; approvals of other laboratories contingent upon acceptance of applicable authorities.
3. Installation Instructions: Submit manufacturer's installation instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Acceptable Manufacturers:

1. Knauf Insulation
2. Johns Manville/FSK-25 Thermal-Shield Insulation.
3. Owens-Corning Fiberglas Corp./Fiberglas FS-25 Insulation.
4. Certainteed.
5. Substitutions: Refer to Section 01 33 00.

B. Materials

1. Exterior Wall Batt Insulation within closed wall cavity: R-19 Preformed kraft-faced fiberglass batts at all exterior walls.
2. Insulation Supports: Galvanized or electroplated steel wire supports with friction attachment to framing.
3. Nails or staples: Steel wire; electroplated; type and size to suit application.
4. Line Wire: Galvanized steel, 19 gauge wire.

**SECTION 07 21 00
BATT INSULATION SYSTEMS**

5. Wire Mesh: 1 ½" x 17 gauge poultry netting.
 6. Vapor Retarder: Type III, aluminum vapor retarder on one side.
 7. Vapor Retarder Tape: Minimum 2" wide self-adhering type designed to maintain vapor retarder integrity and complying with fire resistance ratings as required by applicable codes.
 8. Accessories: Furnish as recommended by insulation manufacturer for insulation types, substrates, and conditions involved.
- C. Insulation shall comply with California standards for insulating material. Maximum flame spread rating of 25 and maximum smoke density per 2013 CBC.
1. Flame Spread/Smoke Density Rating: Maximum 25/450, ASTM E84.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify substrate and adjacent materials are dry and ready to receive insulation; beginning installation signifies acceptance of conditions.
- B. Ensure mechanical and electrical items affecting work are properly placed, complete, and have been inspected prior to commencement of installation.

3.2 INSTALLATION

- A. Install insulation in accordance with manufacturer's instructions.
- B. Cut and trim insulation neatly, to fit spaces.
 1. Backed Insulation: Use insulation free of ripped backs and edges.
- C. Fit insulation tight within spaces and tight to and behind mechanical and electrical services within insulation plane; leave no gaps or voids; maintain integrity of thermal barrier.
- D. Maintain minimum ventilating airspace as required by the Drawings.
- E. Friction fit in place; use tape or friction supports as necessary to assure permanent installation.
 1. Taping: Tape joints and tears in vapor retarder, including joints between insulation and surrounding construction, to ensure vapor-tight installation.
 2. Penetration Supports: Cut or bend pins in locations accessible to maintenance personnel, to eliminate potential hazards from exposed pin points.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood or Composite plank and/or panel Underlayment: Provide weather-resistive barrier underlayment and flashing, with related concealed metal flashings and accessories as required for complete watertight installation.
2. Sloped Roofing Underlayment: Provide sheet membrane underlayment at sloped roofing, with accessories as required for complete watertight installation.
3. Flashings and Sheet Metal Underlayment: Provide sheet membrane underlayment at flashings and sheet metal, with accessories as required for complete watertight installation.
4. Membrane Flashing at Penetrations: Provide sheet membrane underlayment and flashing for around penetrations through building paper including windows and doors, with accessories as required for complete watertight installation.
5. Sheet Membrane at Walls: Limit sheet membrane at walls to areas around penetrations through building paper (including doors and window penetrations) and at metal flashings.
 - a. Do not apply vapor retardant sheet membranes at areas indicated to receive foil-faced insulation; application of vapor retarder on both interior and exterior surface results in vapor lock which is detrimental to building.

1.2 SUBMITTALS

All submittals shall be submitted under the provisions of Section 01 33 00.

- A. Submittal No. 07 25 00A - Product Data: Furnish manufacturer's literature for each type of underlayment.
- B. Submittal No. 07 25 00B - Shop Drawings: Submit for metal flashings, as related to underlayment.
 1. Clearly indicate general construction, configurations, jointing methods and locations, fastening methods and locations and installation details.
- C. Submittal No. 07 25 00C - Samples: Furnish samples of each material.

1.3 QUALITY ASSURANCE

- A. Pre-Installation Meeting: Require attendance of parties directly affecting underlayment at mandatory Pre-Bid meeting.
 1. Review procedures and coordination required with related work.

1.4 WARRANTY

- A. Special Warranty: Provide for correcting failure of underlayment to resist penetration of water. Repair underlayment and pay for or replace damaged materials or surfaces.
 - 1. Special Warranty Period: Two years.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Wood or Composite plank and/or panel Underlayment: Provide Grade D water-vapor permeable kraft building paper conforming with ASTM Specification D226, Grade D, 60 minute water resistance (based on Fed Spec UU-B-790a).
 - 1. Manufacturers:
 - a. Fortifiber/2-ply WeatherTex.
 - b. Substitutions: Refer to Section 01 62 00.
- B. Sloped Roofing Underlayment: Rubberized sheet membrane with primers and seam sealers as required for complete watertight installation; type as recommended by manufacturer for substrate and for applications indicated.
 - 1. Manufacturers:
 - a. Grace Construction Products.
 - b. Carlisle Corp.
 - c. Protecto Wrap Company.
 - d. Substitutions: Refer to Section 01 62 00.
- C. Sheet Metal and Flashing Underlayment: Rubberized sheet membrane with primers and seam sealers as required for complete watertight installation; type as recommended by manufacturer for substrate and for applications indicated.
 - 1. Manufacturers:
 - a. Grace Construction Products: Vycor V40.
 - b. Carlisle Corp.
 - c. Protecto Wrap Company.
 - d. Substitutions: Refer to Section 01 62 00.
- D. Membrane Flashing at Penetrations: Rubberized sheet membrane with primers and seam sealers as required for complete watertight installation; type as recommended by manufacturer for substrate and for applications indicated.
 - 1. Manufacturers:
 - a. Grace Construction Products: Vycor V40.
 - b. Substitutions: Refer to Section 01 62 00.
- E. Concealed Metal Flashings Integral with Underlayments: Minimum 26 gage thick steel with minimum 0.90 oz/sq.ft. galvanized coating; ASTM A653.

**SECTION 07 25 00
WEATHER BARRIERS**

1. Fasteners: Standard round wire type of hot dipped galvanized steel; minimum 19/64" head diameter and 0.104" shank diameter; minimum 7/8" long.
- F. Accessories: Provide as recommended by underlayment manufacturers for specific applications.
 1. Plastic Cement: Cutback asphaltic type with mineral fiber components, for sealing and coating flashings; free of toxic solvents and free of asbestos. Capable of setting within 24 hours at temperatures of approximately 75 degrees F and 50% R.H.
- G. Volatile Organic Compound (VOC) Emissions: Provide materials conforming to applicable air quality management district limitations on volatile organic compound (VOC) emissions.

2.2 FLASHING FABRICATION

- A. Fabricate metal flashings as recommended by Sheet Metal and Air Conditioning Contractors National Association (SMACNA) "Sheet Metal Manual".
- B. Form flashings to drain water to exterior at roofing and siding construction for penetrations, sill and header flashings.
- C. Form sections square, true and accurate to size, in maximum possible lengths and free from distortion and other defects detrimental to appearance or performance.
- D. Hem exposed edges of metal flashings minimum 1/4" on underside.
- E. Apply bituminous paint on concealed surfaces of metal flashings.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Install underlayment over surfaces that are dry, free of ridges, warps and voids that could damage paper.
- B. Weatherlap joints minimum 2" and seal with plastic cement; secure in place.
- C. Coordinate installation with installation of components and items projecting through underlayment.

3.2 FLASHINGS INSTALLATION

- A. Install flashings as recommended by Sheet Metal and Air Conditioning Contractors National Association (SMACNA) "Sheet Metal Manual".
- B. Weather-lap joints minimum 2" and seal with plastic cement; secure in place.
- C. Fastenings: Concealed in completed installation.

3.3 UNDERLAYMENT INSTALLATION

- A. Install underlayment in accordance with recommendations of underlayment manufacturer and of manufacturer's of products to cover underlayment; comply with applicable code requirements.

**SECTION 07 25 00
WEATHER BARRIERS**

1. Layers: Weather-lap joints as recommended by system manufacturer, not less than 2" at building paper.
 2. Secure underlayment in place, stagger joints between layers; lap ends minimum 6"; stagger end joints.
 3. Apply layer of sheet membrane underlayment extending minimum 18" from penetrations, including windows and doors; start at bottom of penetration and weather-lap joints; apply top layer over metal flashing to direct water to exterior.
- B. Apply plastic cement to substrate prior to application of underlayment starter strips to prevent capillary movement of water back up beneath underlayment.
- C. Weather-lap items projecting through underlayment and seal with plastic cement at building paper underlayment, with sealer recommended by sheet membrane underlayment manufacturer at sheet membrane underlayment.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Precoated galvanized steel roofing and accessories.
- B. Precoated galvanized steel gutters
- C. Precoated galvanized steel trim.

1.2 RELATED SECTIONS

- A. Section 06 10 50: Wood Blocking and Curbing
- B. Section 06 16 00: Wood Sheathing
- C. Joint Protection Not Specified Herein: Section 07 90 00.
- D. Painting Not Specified Herein: Section 09 90 00.

1.3 PERFORMANCE REQUIREMENTS

- A. Testing and Certification:
 - 1. Wind Uplift: UL 580 test:
24 gauge panels rated Class 90 when installed over minimum 5/8" plywood decking, with roof fastener clips spaced 2'-0" on center maximum.
 - 2. Air Infiltration: Panel to meet the following standard when tested in accordance with ASTM E283-73:
 - a. With factory-applied continuous sealant - 0.14 cfm/ft. at 20 psf .
 - 3. Water Penetration: Panel to meet the following standard when tested in accordance with ASTM E331-70 (75):
 - a. With factory-applied continuous sealant, no leakage at 20 psf.
 - 4. Fire Classification: Class B when tested in accordance with ASTM E 108.

1.4 SUBMITTALS

All submittals shall be submitted under the provisions of Section 01 33 00.

- A. Submittal No. 07 41 13A - Shop Drawings:
 - 1. Submit shop drawings indicating thickness and dimensions of parts, fastenings and anchoring methods, details and locations of seams, transitions and other provisions necessary for thermal expansion and contraction.
 - 2. Indicate roof terminations, clearly showing flashings and change of direction caps
 - 3. Clearly indicate locations of field and factory applied sealant.

**SECTION 07 41 13
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4. Show locations and types of hold-down clips and fasteners.
 5. Provide plan showing layout of entire roof.
- B. Submittal No. 07 41 13B - Samples:
1. Submit two samples, 12" long x full width panel, showing proposed metal gauge and seam profile.
 2. Submit standard color samples of metal for Architect's selection.
- C. Submittal No. 07 41 13C – Installation instructions.

1.5 QUALITY ASSURANCE

- A. Installers Qualifications
1. Installer must be approved by the Panel Manufacturer in writing prior to work commencing.
 2. Installer shall meet the following:
 - a. Successfully applied five metal roofs of comparable size and complexity which reflect a quality and weather tight installation.
 - b. Have been in business for minimum period of 5 years in the region where the work will be performed.
- B. Manufacturer's Qualifications
1. Manufacturer shall have a minimum of 10 years experience supplying metal roofing to the region where the work is to be done.
 2. Comply with current independent testing and certification as specified.
 3. Manufacturer shall provide proof of liability insurance for their metal roof system.
- C. Comply with CA Building Code requirements.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Protect against damage and discoloration.
- B. Handle panels with non-marring slings.
- C. Do not bend panels.
- D. Store panels above ground, with one end elevated for drainage.
- E. Protect panels against standing water and condensation between adjacent surfaces.
- F. If panels become wet, immediately separate sheets, wipe dry with clean cloth, and allow to air dry.

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- G. Painted panels shall be shipped with plastic sheeting or a strippable film coating between all panels. Remove any strippable film coating prior to installation and in any case, do not allow the strippable film coating to remain on the panels in extreme heat, cold, or in direct sunlight or other UV source.

1.7 PROJECT CONDITIONS

- A. Examine the conditions and substrate in which metal roofing work is to be installed. Substrate shall be installed level, flat and true to avoid panel stresses.
- B. Field measurements shall be taken prior to fabrication of panels.
- C. Proceed with roofing installation only after satisfactory conditions are met.

1.8 WARRANTY

- A. Furnish manufacturer's standard 20-year warranty stating architectural fluorocarbon finish will be:
1. Free of fading or color change in excess of 5 NBS units as measured per ASTM D 2244-68;
 2. Will not chalk in excess of numerical rating of 7 when measured in accordance with standard procedures specified in ASTM D 659-74;
 3. Will not peel, crack, chip, or delaminate.
- B. Furnish written warranty signed by applicator for five year period from date of substantial completion of the building covering repairs required to maintain roof and flashings in watertight conditions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- Metal Sales Manufacturing.
- MBCI – Metal Roof and Wall Systems
- AEP Span by ASC Profiles, Inc.

- A. Substitutions: Refer to Section 01 33 00.

2.2 MATERIALS

- A. Panels:
- Metal Sales Manufacturing “Mini-Batten” system.
 - MBCI – “Craftsman Systems”
 - AEP Span – “Cap Seam” System
1. Prefinished Galvalume® or Zinalume® sheet, ASTM AZ50 made of 55% aluminum, 1.6% silicon and the balance zinc as described in ASTM specification A792 – 24 gauge.
 2. Fabricate panels with sufficient thickness to meet specified UL 90 wind uplift requirements.

**SECTION 07 41 13
METAL ROOF SYSTEM**

3. Factory fabricated panel with integral continuous overlapping seams suitable for continuous locking or crimping by mechanical means during installation. Field rollformed panel profiles will not be acceptable.
 4. Profile
 - a. 18" wide pan type panels with separate snap on batten joint cover. Joint with batten to be 1 ½" high. Pans to be creased to reduce oil canning.
 5. Provide factory installed, high grade, hot-melt elastomeric sealant, within the confines of female seam flange, on bottom edge of female seam flange, designed to seal against adjacent male panel leg.
- B. Accessories:
1. Typical clip: UL 90 requirements
 - a. Fasteners: Manufacturer's standard #12 - 14 x 6" long self-drilling, hex head drive screws for plywood base material.
 - b. UL Rated Clip: Sliding 22 gauge galvanized steel hook in combination with a double fastened 16 gauge galvanized steel base, both at Fy (MIN) = 33 ksi.
 - c. Bearing Plates: Not required.
 2. Underlayment – all metal roof surfaces: Install per roof manufacturer recommendations.
 - a. Metal Sales High Temp Underlayment
 - b. ASTM D1970 fully adhered, self-sealing sheeting equal to "Dri Deck" by Fortifiber Building Systems Group.
 3. Special Underlayment: as recommended by roof manufacturer
 - a. W.R. Grace Ice & Water Shield.
 4. Sealant:
 - a. Color coordinate primerless silicone or high grade, nondrying butyl, as recommended by manufacturer.
 - b. Do not use sealant containing asphalt.
 5. Roof Penetration Boots:
 - a. "Dektite" EPDM rubber sleeves with aluminum trim.
 6. Roof Attic Vents: Norwesco Products RVO-38 17" x 17" galvanized steel vent unit.
- C. Finish:
1. Kynar 500 coating.
 2. Color: To match existing campus metal roofs. Formulate custom color if necessary.
- D. Gutters and Flashing
1. Fabricate gutters and flashing to sizes shown on drawings. Material to be 24 gauge prefinished, galvanized material similar to roofing.
 2. Leaf Strainer: Peak Products No. 1640 3" galvanized wire assembly.

PART 3- EXECUTION

3.1 EXAMINATION

A. Existing Conditions

1. Verify that members to receive panels are complete, accurately sized and located, in true plane, secure and otherwise properly prepared.
2. Prior to starting work, notify General Contractor about defects requiring correction.
3. Do not start work until conditions are satisfactory.

3.2 PREPARATION

A. Field Measurements

1. Verify prior to fabrication.
2. If field measurements differ from drawing dimensions, notify Architect/Engineer prior to fabrication.

B. Protection

1. Treat, or isolate with protective material, any contacting surfaces of dissimilar materials to prevent electrolytic corrosion.
2. Require workmen who will be walking on roofing panels to wear clean, soft-soled work shoes that will not pick-up stones or other abrasive material which could cause damage and discoloration.
3. Protect work or other trades against damage and discoloration.

C. Surface Preparation

1. Clean and dry surfaces prior to applying sealant.

D. Install special underlayment over entire roof deck per manufacturer's instructions.

3.3 INSTALLATION

A. Panels

1. Follow roof panel manufacturer's directions.
2. Install underlayment per manufacturer's recommendations and add special underlayment where shown.

**SECTION 07 41 13
METAL ROOF SYSTEM**

3. Install panel seams vertically.
4. Eave end of panels to be secured with continuous clip.
5. Do not stretch or compress panel side-lap interlocks.
6. Secure panels without warp or deflection.
7. Fully engage clip wings over panel edges.
8. Remove strippable protective film, if used, immediately preceding panel installation.

B. Allowable Erection Tolerance

1. Maximum Alignment Variation: 1/4" in 40 feet.

C. Flashing/Gutters

1. Follow manufacturer's directions and Architect-approved Shop Drawings.
2. Avoid exposed fastener penetration of roof panels wherever possible.
3. Install flashings to allow for thermal movement.

D. Cutting and Fitting

1. Neat, square and true. Torch cutting is prohibited.
2. Openings 6 inches and larger in any direction: Shop fabricate and reinforce to maintain original load capacity.
3. Where necessary to saw cut panels, de-bur and treat with galvanic paint.

3.4 CLEAN-UP AND CLOSE-OUT

A. Touch-up

1. Touch-up damaged paint surfaces with air dry touch-up paint provided by manufacturer. Follow directions carefully to minimize color irregularities. Small brush application only - do not spray touch-up paint.

B. Cleaning and Repairing

1. At completion of each day's work and at work completion, sweep panels, flashing and gutters clean. Do not allow fasteners, cuttings, filings or scraps to accumulate.
2. Remove debris from project site upon work completion or sooner, if directed.

END OF SECTION.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Exterior panels at chimney removal infill wall.

1.2 REFERENCE

- A. ASTM E.108 Spread-of-flame test
- B. ASTM E-136 - Surface Burning Characteristics
- C. ASTM C1185 Flexural Strength
- D. ASTM E-136 - Non-combustibility
- E. NER 405 – Thermal Resistance
- F. Council of American Building Officials NER Report #405
- G. International Conference of Building Officials I.C.B.O. Report #4342, NER Report #405.
- H. Southern Building Code Congress International S.B.C.C.I. NER Report #405

1.3 SUBMITTALS

- A. Submittal No. 07 46 46 A - Submit manufacturer's technical product data and installation instructions.
- B. Submittal No. 07 46 46 A - Submit shop drawings under provisions of Section 01 33 00.
 - 1. Indicate on shop drawings, material profile, jointing pattern, jointing details, fastening methods and installation details.
- B. Submittal No. 07 46 46 B - Submit samples under provisions of Section 01 33 00.
 - 1. Submit one sample 16" x 16" minimum illustrating typical pattern.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site under provisions of Section 01 60 00.
- B. Store and protect products under provisions of Section 01 60 00.

1.5 WARRANTY

- A. Provide 50-year transferable limited warranty.

PART 2 PRODUCTS

2.1 MATERIAL

- A. Exterior siding – ‘Hardipanel’ 4’ x 10’ sheets.
 - 1. Pattern: Smooth (texture to match existing siding). Installed vertically with joints aligning with, and covered by, surface trim boards in Board & Batten pattern to match existing siding.

2.2 FASTENERS

- A. 6d hot dipped galvanized spacing as noted.

2.3 ACCESSORIES

- A. Trim: Fry Reglet Vertical Molding. Extruded alloy 6063 T5 for ½" reveal, with chemical conversion coating at horizontal trim band.
- B. Underlayment:
 - 1. Substrate Cover: See Section 07 25 00.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are ready to receive work and field measurements are as shown on shop drawings.
- B. Beginning of installation means acceptance of existing substrate.

3.2 INSTALLATION

- A. Install per manufacturer's published instructions.
- B. Cover substrate with underlayment membrane per manufacturer's instructions.
- C. All siding to be plumb, level and square. Layout siding vertically in a board on board pattern.
- D. Attach panels with fasteners at 6" on center horizontal and 32" on center vertical.
- E. Install vinyl trim as shown on drawings.
- F. Cut all siding with a circular saw or shear. Sand all edges after cut.
- G. Cut material neatly around all projections and seal space between panel and projection.
- H. Leave 1/16 inch maximum gap between all siding joints. Apply sealant to installed trim prior to setting next panel. Wipe off excess sealant squeezed out of joint.
- I. All workmanship shall conform to finish carpentry requirements of the Woodwork Institute.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Provide galvanized steel flashing and sheet metal including accessories as required for complete weather tight installation.
 - 1. Flashing and sheet metal, reglets, and similar fabricated components not covered under Section 07 41 13 – Metal Roof Panels.
 - 2. Provide concealed sealants used in conjunction with installation of metal flashing and sheet metal.
 - 3. Counterflashings at roof mounted mechanical equipment and vent stacks.
 - 4. Provide miscellaneous sheet metal flashing and reglets not provided by other trades or suppliers.
 - a. Where reglets are to be installed in conjunction with other work, provide in adequate time for installation.
- B. Related Sections:
 - 1. Section 07 41 13: Metal roof panels.
 - 2. Section 09 90 00: Prime and finish painting.

1.2 SYSTEM DESCRIPTION

- A. Design Requirements: Allow for movement of components without causing buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to 100 year seasonal temperature ranges.

1.3 REFERENCES

- A. Sheet Metal and Air Conditioning Contractors National Association (SMACNA): Architectural Sheet Metal Manual, Fifth Edition.
- B. ANSI/ASTM B32 - Solder Metal.
- C. ASTM A525 - Steel Sheet, Zinc Coated, Galvanized by the Hot-Dip Process.
- D. FS O-F-506 - Flux, Soldering, Paste and Liquid.
- E. FS QQ-S-571 - Solder, Tin Alloy.
- F. FS SS-C-153 - Cement, Bituminous, Plastic.
- G. NAAMM - Metal Finishes Handbook.
- H. NRCA (National Roofing Contractors Association) - Roofing Manual.

1.4 QUALITY ASSURANCE

- A. Applicator: Company specializing in sheet metal flashing work with 5 years minimum experience.

1.5 SUBMITTALS

All submittals shall be made under the provisions of Section 01 33 00.

- A. Submittal No. 07 62 00A – Shop Drawings
 - 1. Clearly indicate dimensioning, layout, general construction details including closures, flashings, locations and types of sealants, anchorages, and method of anchorage.
- B. Submittal No. 07 62 00B – Product Data
 - 1. Submit product data for each specified item.
 - 2. Describe material profile, jointing pattern, jointing details, fastening methods, and installation details.
- C. Submittal No. 07 62 00C – Installation Instructions
 - 1. Submit manufacturer's installation instructions.
- D. Submittal No. 07 62 00D– Samples for Verification
 - 1. Provide full sized sample of metal flashing illustrating typical seam, external corner, internal corner, junction to vertical dissimilar surface, material, and finish.

1.6 WARRANTY

- A. Special Warranty: Provide for correcting failure of metal flashing system to resist penetration of water and damage from wind.
 - 1. Special Warranty Period: Two years.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Galvanized Steel: ASTM A525, G90; core steel. 24 gauge unless noted otherwise on Drawings.
- B. Aluminum: ASTM B209 minimum thickness .0603".

2.2 ACCESSORIES

- A. Flashing and Sheet Metal:
 - 1. Provide heavier gage metal where recommended by SMACNA Manual for size of component.
 - 2. Mill phosphatized where indicated to be field painted.

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

- B. Manufactured Reglets: Snap-on type, for two piece flashing; metal to match flashing and sheet metal.
 - 1. Manufacturers:
 - a. Fry Reglet Corp./Springlok System.
 - b. MM Systems Corp./Snap-Tite System.
 - c. W.P. Heckman Co./The Leading Edge Drive Lock System.
 - d. Substitutions: Refer to Section 01 62 00.
- C. Solder and Fasteners: As recommended by SMACNA and complying with applicable codes and regulations; hot dipped galvanized minimum coating comparable to G90.
- D. Reglets: 24 ga. G.I., Type MA W 1-1/2" wide top flange; manufactured by Fry or equal.
- E. Concealed Sealant: Butyl type for use in conjunction with sheet metal; non-staining; non-corrosive; non-shrinking and non-sagging; ultra-violet and ozone resistant for exterior concealed applications.
- F. Splash Blocks: Precast concrete of size and profile as approved by Architect; minimum 2000 psi at 28 days with minimum 5% air entrainment.
- G. Bituminous Paint: Acid and alkali resistant type; black color; asbestos free.
- H. Plastic Cement: Cutback asphaltic type; asbestos free.
- I. Sealing Compound: Type recommended by roofing manufacturer; asbestos free.
- J. Soffit Vent: Model DCS-625-V-300 as manufactured by Fry.

2.3 FABRICATION

- A. Fabricate sheet metal in accordance with SMACNA Architectural Sheet Metal Manual.
- B. Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
 - 1. Fabricate corners and intersections in shop with solder joints; watertight fabrication.
- C. Form sections in longest practical lengths; make allowance for expansion at joints.
- D. Hem exposed edges on underside 1/2"; miter and seam corners. .
- E. Backpaint flashings with heavy bodied bituminous paint to a minimum dry film thickness of 15 mil. where in contact with cementitious materials or dissimilar metals.
- F. Form pitch pans watertight, with minimum 4" upstand and 4" flanges; form pans minimum 6" wider than item passing through roof membrane.
- G. Form umbrella flashings with minimum 2" overhang, to shed water away from pitch pans.
- H. Form material with standing seam. Solder and seal metal joints. After soldering, remove flux. Wipe and wash solder joints clean.
- I. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install metal flashing and sheet metal in accordance with SMACNA Architectural Sheet Metal Manual.
 - 1. Install tight in place, with corners square, surfaces true and straight in planes, and lines accurate to profiles as indicated on Drawings.
 - 2. Install starter and edge strips, and cleats before starting installation.
 - 3. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.
 - 4. Lap joints in direction of water flow.
 - 5. Hold downspouts in position, clear of wall, by hangers spaced not more than 10'-0" on center; securely fasten hangers to wall without exposed damage to wall surface.
- B. Exercise care when cutting materials on site, to ensure cuttings do not remain on finished surfaces.
- C. Provide expansion joints concealed within system.
- D. Solder metal joints watertight for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.
- E. Use concealed fasteners, continuous cleat type, except where specifically approved by Architect.
 - 1. Exposed fasteners may be used, where clearly indicated on shop drawings and approved by Architect, at areas not exposed at exterior walls nor in sight of interior spaces.
- F. Apply sealing compound at junction of metal flashing and felt flashing.
- G. Lock seams and end joints; fit flashing tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- H. Counter-flash mechanical and electrical items projecting through roof membrane.
- I. Install sealants where required to prevent direct weather penetration.
- J. Completed installation shall be free of rattles, noise due to thermal and air movement, and wind whistles.
- K. Install splash blocks at locations to interrupt fall of water and direct water flow as indicated on Drawings.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Provide joint sealers, for exterior joints not specified elsewhere, with backing rods and accessories as required for complete installation.
 - 1. Joint sealers include sealants and caulking as indicated.
- B. Related Sections:
 - 1. Section 07 62 00: Flashing and sheet metal concealed sealants.

1.2 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Select materials for compatibility with joint surfaces and indicated exposures.
 - 2. Where not indicated, select modulus of elasticity and hardness or grade recommended by manufacturer for each application indicated.
 - 3. Comply with applicable limitations on volatile organic compound (VOC) emissions.

1.3 SUBMITTALS

All submittals shall be made under the provisions of Section 01 33 00.

- A. Submittal No. 07 90 00A – Product Data
 - 1. Submit product data for all specified products.
 - 2. Submit product data indicating sealant chemical characteristics, performance criteria, limitations, and color availability.
- B. Submittal No. 07 90 00B – Installation Instructions
 - 1. Submit manufacturer's installation instructions
 - 2. Submit manufacturer's certificate under provisions of Section 01 33 00 that products meet or exceed specified requirements.
 - 3. Furnish certification indicating installers are trained in proper use of specified products, qualified, and familiar with proper installation techniques.
- C. Submittal No. 07 90 00C – Samples for Verification
 - 1. Submit samples of specified products.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Firm with minimum five years successful experience on projects of similar type and size, using specified products.

1. Installers shall be familiar with proper application procedures to ensure maximum joint sealer expansion and contraction capabilities.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration period for use, cure time, and mixing instructions. Expired materials shall not be used.

1.6 SITE CONDITIONS

- A. Do not proceed with installation of joint sealers under unfavorable weather conditions.
- B. Install elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer.
- C. Do not install solvent curing sealants in enclosed building spaces.

1.7 WARRANTY

- A. Special Warranty: Repair or replace joint sealers that fail to perform as intended, because of leaking, crumbling, hardening, shrinkage, bleeding, sagging, staining and loss of adhesion.
 1. Special Warranty Period: Three years.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Elastomeric Sealants:

1. Single Component Low Modulus Silicone Sealant: ASTM C920 Type S, Class 25, Grade NS; minimum 50% expansion and compaction capability.
 - a. Provide at exterior locations not exposed to traffic.
 - b. Manufacturers:
 - 1) General Electric Co./Silpruf, Silglaz or GESIL.
 - 2) Dow Corning Corp./790 or 795.
 - 3) Pecora Corp./864 Architectural Silicone.
 - 4) Tremco/Spectrum 3.
 - 5) Substitutions: Refer to Section 01 62 00.
2. Multi-Component Polyurethane Sealant: ASTM C920, Type M, Grade P, Class 25, self-leveling; minimum 25% expansion and compaction capability.
 - a. Provide following at traffic bearing locations.
 - b. Manufacturers:
 - 1) Pecora Corp./NR-200 Urexpan.
 - 2) Tremco/Vulkem 245.
 - 3) Sonneborn Division of ChemRex /SL 2
 - 4) Substitutions: Refer to Section 01 62 00.

- B. Miscellaneous Materials:
1. Primers/Sealers: Non-staining types recommended by joint sealer manufacturer for joint surfaces to be primed or sealed.
 2. Joint Cleaners: Non-corrosive types recommended by joint sealer manufacturer; compatible with joint forming materials.
 3. Bond Breaker Tape: Polyethylene tape as recommended by joint sealer manufacturer where bond to substrate or joint filler must be avoided for proper performance of joint sealer.
 4. Sealant Backer Rod: Compressible polyethylene foam rod or other flexible, permanent, durable non-absorptive material as recommended by joint sealer manufacturer for compatibility with joint sealer.
 - a. Oversize backer rod minimum 30% to 50% of joint opening.
- C. Colors: Provide colors indicated or as selected by Architect from manufacturer's full range of colors.
1. Custom Colors: Custom colors may be required at exterior walls.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare joint surfaces in accordance with ASTM C1193 and as recommended by joint sealer manufacturer.
- B. Clean joint surfaces immediately before installation of joint sealer; remove dirt, insecure materials, moisture and other substances that could interfere with bond of joint sealer.
- C. Prime or seal joint surfaces where recommended by joint sealer manufacturer; do not allow primer/sealer to spill or migrate onto adjoining surfaces.
- D. Ensure protective coatings on surfaces in contact with joint sealers have been completely stripped.

3.2 INSTALLATION

- A. Comply with manufacturer's printed instructions and ASTM C1193, except where more stringent requirements are shown or specified.
- B. Set sealant backer rods at proper depth or position in joint to coordinate with other work, including installation of bond breakers and sealant; do not leave voids or gaps between ends of backer rods.
 1. Do not stretch, twist, puncture or tear backer rods.
- C. Install bond breaker tape where required by manufacturer's recommendations to ensure joint sealers will perform properly.
- D. Size materials to achieve required width/depth ratios.

Section 07 90 00
JOINT PROTECTION

- E. Employ installation techniques that will ensure joint sealers are deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of bond surfaces equally on opposite sides.
- F. Joint Configuration: Fill sealant joint to a slightly concave surface, slightly below adjoining surfaces, unless otherwise indicated.
- G. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture or dirt.
- H. Install joint sealers to depths recommended by joint sealer manufacturer but within the following general limitations, measured at center (thin) section of bead.
 - 1. Horizontal Joints: 75% width with minimum depth of 3/8".
 - 2. Elastomeric Joints: 50% width with minimum depth of 1/4".
 - 3. Non-Elastomeric Joints: 75% to 125% of joint width.
- I. Spillage: Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into voids of adjoining surfaces.
 - 1. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.
- J. Cure joint sealers in compliance with manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.
- K. Maintain finished joints free of embedded matter, ridges and sags.

3.3 CLEANING AND REPAIRING

- A. Clean all work and adjacent soiled surfaces.
- B. Repair or replace defaced or disfigured finishes caused by work of this Section.

3.4 PROTECTION OF FINISHED WORK

- A. Protect sealants until cured.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Provide gypsum board systems including gypsum board, joint treatment, acoustical accessories, and general accessories for complete installation.

1.2 REFERENCES

- A. ASTM C754: Installation of Steel Framing Members to Receive Screw-Attached Gypsum Wallboard, Backing Board, or Water-Resistant Backing Board.
- B. ASTM C840: Application and Finishing of Gypsum Board.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: Perform gypsum board systems work in accordance with recommendations of ASTM C754 and ASTM C840 unless otherwise specified.
 - 1. Loads: Comply with California Building Code requirements for design of metal framing for gypsum board systems.
 - a. Deflection: Maximum L/240 typical, L/360 where plaster or tile is indicated.
 - 2. Seismic Requirements: Comply with code requirements for seismic bracing.
- B. Systems Responsibility: Provide products manufactured by or recommended by manufacturer of gypsum board to maintain single-source responsibility for system.
- C. Openings: Obtain dimensions and locations from other trades and provide openings and enclosures for accessories, specialties, equipment, and ductwork.

1.4 SUBMITTALS

All submittals shall be made under the provisions of Section 01 33 00.

- A. Submittal No. 09 21 16A – Product Data
 - 1. Provide product data on metal framing, gypsum board, joint tape, and decorative finish.
 - 2. Furnish manufacturer's certification indicating products comply with Contract Documents and applicable codes.

1.5 PROJECT CONDITIONS

- A. Do not begin installation of interior gypsum board until space is enclosed, space is not exposed to other sources of water, and space is free of standing water.
- B. Maintain areas to receive gypsum board at minimum 50 degree F for 48 hours prior to application and continuously after application until drying of joint compound is complete; comply with ASTM C840.

**SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES**

- C. Immediately remove from site gypsum board for interior use exposed to water, including gypsum board with water stains, with signs of mold, and gypsum board with mildew.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. United States Gypsum Co., USG Corp.
- B. Georgia-Pacific Corp.
- C. National Gypsum Co.
- D. Substitutions: Refer to Section 01 62 00.

2.2 MATERIALS

- A. Gypsum Board – Mold & Mildew Resistant
 - 1. Comply with ASTM C1396 and D3273, 5/8" thick TYPE X panels with tapered edges with mold/mildew resistant core encased in mold/mildew resistant paper face and back.
- B. Gypsum Board Accessories: Comply with ASTM C840.
 - 1. Gypsum board sealer: Provide one Coat "Hamilton Prep Coat Plus" prior to application of gypsum board texture.
 - 2. Provide protective coated steel corner beads and edge trim; type designed to be concealed in finished construction by tape and joint compound.
 - 3. Corner Beads: Manufacturer's standard metal beads.
 - 4. Edge Trim: "J", "L", "LK", or "LC" casing beads – manufacturer's standard.
 - 5. Reinforcing Tape, Joint Compound, Adhesive, Water, Fasteners: Types recommended by system manufacturer and conforming to ASTM C475.
 - a. Typical Joint Compound: Chemical hardening type for bedding and filling, ready-mixed or powder vinyl type for topping.
 - 6. Control Joints: Back to back casing beads.
 - a. Back control joints with 4 mil thick polyethylene air seal.
 - 7. Reveals: Extruded aluminum special trim pieces in manufacturer's standard or custom shapes to conform to configurations and dimensions indicated.
 - a. Manufacturers:

**SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES**

- 1) Fry Reglet Corp./Drywall Moldings.
 - 2) MM Systems Corp./Drywall Moldings.
 - 3) Gordon Inc./Final Forms I Drywall Trims.
 - 4) Substitutions: Refer to Section 01 62 00.
- I. Gypsum Board Texture: Equal to USG "Sheetrock Brand" ready mixed wall and ceiling spray texture.
- 2.3 Acoustic Sealant: Serious Energy "Quiet Seal Pro", non-hardening, gun grade sealant per ASTM C834.

PART 3 - EXECUTION

- A. Gypsum Board Installation: Install in accordance with ASTM C840 and manufacturer's recommendations.
1. Use screws when fastening gypsum board to furring and to framing.
 2. Erect gypsum board with ends and edges occurring over firm bearing.
 - a. Ensure joints of second layer do not occur over joints of first layer in double layer applications.
 3. For fire rated systems comply with requirements for fire ratings.
 - a. Provide "five-sided" gypsum board boxes at all breaches in the envelope of fire rated wall or ceiling assemblies larger than 16 square inches. Some items causing this condition may be electrical receptacles or switches, recessed lights, fire extinguishers, medical gas outlets, equipment panels, recessed film illuminators, etc.
 4. Place control joints to be consistent with lines of building spaces and as directed by Architect.
 - a. Provide where system abuts structural elements.
 - b. Provide at dissimilar materials.
 - c. Lengths exceeding 30'-0" in partitions.
 - d. Ceiling areas exceeding 50'-0" or 2500 square feet.
 - e. Wings of "L", "U" and "T" shaped ceilings.
 5. Place corner beads at external corners; use longest practical lengths.
 6. Place edge trim where gypsum board abuts dissimilar materials.
 7. Tape, fill, and sand exposed joints, edges, corners and openings to produce surface ready to receive finishes; feather coats onto adjoining surfaces.
 8. Finishing: Comply with Gypsum Association (GA) "Levels of Gypsum Board Finish".
 - a. GA Level 4 (Typical): Provide three coat finishing and sanding is required for surfaces indicated to be painted; provide flush, smooth joints and surfaces ready for applied paint finishes.

**SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES**

- b. Texture:
 - 1) At walls to be painted – provide light orange peel spray texture..
 - 2) Under fabric wall covering – tape and sand only.

- 9. Remove and replace defective work.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide painting and finishing of exposed items and surfaces.
 - a. Specified surface preparation, priming and coats of paint are in addition to shop-priming and surface treatment specified under other sections of work.
 - b. Painting and finishing includes field finishing of select shop finished items where indicated as required to match adjacent surfaces, such as mechanical grilles and registers.
 - c. Field paint exposed bare and covered pipes, ducts, and hangers, exposed steel and iron work, and primed metal surfaces of equipment installed under mechanical and electrical work in occupied spaces.

1.2 SUBMITTALS

All submittals shall be submitted under the provisions of Section 01 33 00.

- A. Submittal No. 09 90 00A – Product Data: Submit product data on all finishing products.
- B. Submittal No. 09 90 00B – Samples for Verification:
 1. Submit two samples 8-1/2 x 11 inch in size illustrating range of colors, textures and level of gloss finish for each surface-finishing product scheduled.
 2. Submit manufacturer's application instructions.
 3. Submit color charts in duplicate for all paints, stains and special coatings.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Furnish materials approved for use by applicable air quality management district for limitations of volatile organic compounds for architectural or special coatings as applicable.
- B. Products shall meet or exceed the following Federal Specifications:
 1. Alkyd Enamel – TT-E-489 QPL
 2. Zinc Oxide Primer – TT-P-641
- C. Provide manufacturers 5 year written performance guarantee for elastomeric paint and application error (materials and labor).

1.4 REGULATORY REQUIREMENTS

- A. Conform to code for flame/fuel/smoke rating requirements for finishes.
- B. Conform to requirements of the Environmental Protection Agency.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label, with:
 - 1. Name of material, color and sheen.
 - 2. Manufacturer's name, stock number and date of manufacture.
 - 3. Contents by volume, for major pigment and vehicle constituents.
 - 4. Thinning and application instructions.

1.6 SITE CONDITIONS

- A. Apply water-base paints when temperature of surfaces and surrounding air are between 50 and 90 degrees F.
- B. Apply solvent-thinned paints when temperature of surfaces and surrounding air are between 45 and 95 degrees F.
- C. Do not apply paint in rain, fog or mist; or when relative humidity exceeds 85 percent; or to damp or wet surfaces.
- D. Painting may be continued during inclement weather if areas to be painted are enclosed and heated within temperature limits specified.
- E. Provide additional temporary ventilation during interior application of paints to eliminate volatile organic compound (VOC) emissions from interior spaces as quickly as possible.

1.7 EXTRA STOCK

- A. Provide a one gallon container, sealed and unopened, of each color and surface texture to Owner.
- B. Label each container with color, texture, and room locations, in addition to the manufacturer's label.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Benjamin Moore & Co.
- B. Sherwin-Williams Co.
- C. P.P.G. Industries, Inc., Coatings and Resins Division.
- D. Dunn-Edwards Corp.
- E. ICI Paints.
- F. Kelly Moore Paint Co.

G. Substitutions: Refer to Section 01 62 00.

2.1 MATERIALS

- A. Definition: "Paint" as used herein means coating systems including primers, emulsions, enamels, stains, sealers and fillers, whether used as prime, intermediate or finish coats.
- B. Material Quality: Provide top line quality commercial grade (professional painter) paints; materials not bearing manufacturer's identification as a best-grade product shall not be acceptable.
1. Primers: Provide premium grade primers recommended by paint manufacturer for substrates indicated and for finish systems specified.
 2. Undercoats and Barrier Coats: Provide undercoat paints produced by same manufacturer as finish coats; use only thinners approved by paint manufacturer, and use only within recommended limits.
 3. Finish Coats: Provide finish coats capable of being washed with mild detergent without loss of color, sheen, or pigments.
 - a. Color pigments: Pure, non-fading, applicable types to suit substrates and service indicated; no lead content permitted.
 4. Finish Coat Coordination: Provide finish coats that are compatible with prime paints, undercoats, and barrier coats used.
 - a. Review other Specification sections in which prime paints are provided; ensure compatibility of total coatings systems.
 - b. Upon request from other trades furnish information on characteristics of finish materials proposed for use.
 - c. Provide barrier coats over incompatible primers or remove and prime as required.
 - d. Notify Architect in writing of any anticipated problems in use of specified coating systems with substrates primed by others.
- C. Colors and Finishes: Prior to commencement of painting work, Architect will furnish color chips for surfaces to be painted.
1. Use of proprietary names in color selection is not intended to imply exclusion of equivalent products of other manufacturers.
 2. Final acceptance of colors will be from samples applied on site.
- D. Volatile Organic Compound (VOC) Emissions: Select materials that generate least amount of pollution; consider pollution and volatile organic compound (VOC) emissions generated during manufacturing, transport, installation, use, and disposal.
1. Avoid materials that contain ozone depleting chemicals and that emit potentially harmful volatile organic compound (VOC) emissions.
 2. Avoid materials that can leach harmful chemicals into ground water; do not allow potentially harmful chemicals to enter sewers nor storm drains.

3. Select materials that can be reused or recycled and materials with significant percentage of recycled content; set specific recycled content percentages for individual materials; avoid materials difficult to recycle.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Inspection: Examine areas and conditions under which painting work is to be applied.
 1. Start of painting work indicates acceptance of surfaces and conditions of surfaces and conditions within any particular area.
 2. Where exposed items or surfaces are not specifically mentioned in Schedules, paint same as adjacent similar materials or areas.
 3. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to a durable paint film.
- B. Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as specified for substrate condition.
- C. Correct minor defects and clean surfaces which affect work of this Section.
- D. Clean surfaces before applying paint; remove oil and grease prior to mechanical cleaning; program cleaning so contaminants from cleaning process do not fall onto wet, newly painted surfaces.
- E. Wood: Clean wood surfaces of dirt, oil, and other foreign substances; sandpaper smooth surfaces exposed to view, and dust off.
 1. Scrape and clean seasoned knots and apply thin coat of recommended knot sealer, before application of priming coat.
 2. Prime, stain, or seal wood required to be job-painted immediately upon delivery to job; prime edges, ends, faces, undersides, and backsides of wood.
 3. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler; sandpaper smooth when dry.
- F. Ferrous Metals: Touch up shop-applied prime coats wherever damaged using same type of primer as applied in shop or barrier coat compatible with finish paint.
 1. Bare Surfaces: Clean surfaces that are not galvanized or shop-coated, of oil, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
 2. Galvanized Surfaces: Clean free of oil and surface contaminants, using non-petroleum based solvent; primer and touch-up primer to be zinc-rich primer.
- G. Mix painting materials in accordance with manufacturer's directions.
- H. Store materials in tightly covered containers; maintain containers used in storage, mixing and application of paint in a clean condition, free of foreign materials and residue.

**SECTION 09 90 00
PAINTING AND COATING**

- I. Stir materials before application to produce mixture of uniform density, and stir as required during application; do not stir surface film into material, if necessary, strain material before using.

3.2 PROTECTION

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.

3.3 APPLICATION

- A. Apply paint in accordance with manufacturer's directions; use applicators and techniques best suited for substrate and type of material being applied.
 1. Apply additional coats when stains or blemishes show through final coat, until paint is a uniform finish, color and appearance.
 2. Provide extra attention to assure dry film thickness at corners and crevices is equivalent to that of flat surfaces.
 3. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces; paint surfaces behind permanently-fixed equipment and furniture with prime coat only.
 4. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.
 5. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 6. Finish doors on tops, bottoms and side edges same as faces.
 7. Sand lightly between each succeeding enamel coat and each varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated or prepared for painting as soon as practicable after preparation.
 1. Allow time between successive coatings to permit proper drying.
 2. Do not recoat until paint feels firm and does not deform or feel sticky under moderate thumb pressure.
- C. Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as recommended by coating manufacturer.
- D. Prime Coats: Apply to items not previously primed; recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat.

**SECTION 09 90 00
PAINTING AND COATING**

- E. Finish Coats: Provide even texture; leave no laps, irregularity in texture, skid marks, or other surface imperfections.
 - 1. Opaque Finishes: Provide opaque, uniform finish, color and coverage; cloudiness, spotting, holidays, brush marks, runs, sags, rope-i-ness, and other surface imperfections are not acceptable.
 - 2. Transparent and Stained Finishes: Produce glass smooth surface film of even luster; provide with no cloudiness, color irregularity, runs, brush marks, orange peel, nail holes, and other surface imperfections.
- F. Completed Work: Match approved samples for color, texture and coverage; remove, refinish or repaint work not accepted.

3.5 PAINTING SYSTEMS

- A. Exterior Work: Provide the following paint systems:
 - 1. General Metal: Semigloss sheen.
 - a. 1st Coat: One coat rust inhibitive DTM primer-white.
 - b. 2nd and 3rd Coat: 100% acrylic Industrial DTM enamel.
 - 2. Steel - Shop Primed: Semigloss sheen.
 - a. One additional coat of rust inhibitive primer.
 - b. Two coats 100% Arcylic DTM Industrial enamel.
 - 3. Steel - Galvanized: Semigloss sheen.
 - a. Solvent wash.
 - b. Galvanized metal primer.
 - c. 2 coats 100% acrylic DTM Industrial enamel.
 - 4. PVC Trim
 - a. 3 coats Sherwin Williams "Vinyl Safe" coating
 - 5. Wood: Satin sheen.
 - a. 1st Coat: Latex Primer.
 - b. 2nd & 3rd Coat: Sherwin Williams "Super Paint"
- B. Interior Work: Provide the following paint systems:
 - 1. Stain or Clear Finished Wood: sheen to match existing surfaces
 - a. 1st Coat: Stain as required to matching existing surfaces
 - b. 2nd Coat: Sanding sealer
 - c. 3rd & 4th Coats: Acrylic modified urethane
 - 2. Interior wall – Gypsum Board or wood panel: sheen to match existing
 - a. One coat "Hamilton Prep Coat Plus" prior to application of gypsum board texture (gypsum board only)
 - b. One coat PVA primer
 - c. Two coats acrylic latex
- C. Sheens: Comply with ASTM D523, reflectance of paint.
 - 1. Flat: 1-10.
 - 2. Satin: 15-30.
 - 3. Eggshell: 30-45.
 - 4. Semigloss: 45-75.
 - 5. Gloss: 75-100.

3.5 SCHEDULE - SURFACES TO BE PAINTED, EXTERIOR

- A. Galvanized metal flashings, copings, etc. (Not factory finished).
- B. Roof mounted mechanical equipment, exhaust fans, flues, vent pipes, etc.
- C. Rain water leaders and brackets.
- D. Wood Siding, Trim, and Fascia.

3.6 SCHEDULE - SURFACES TO BE PAINTED, INTERIOR

- A. Gypsum board or wood paneling wall finish.
- B. Wood trim.

3.7 COLOR SELECTION

- A. Minimum color selections shall be as follows:
 - 1. Misc. Iron, mechanical, electrical and other accessories: all one color.
 - 2. Misc. Accessories: black or wall color
 - 3. Downspouts/Rainwater leaders: match adjacent surfaces.
 - 4. Misc. Flashings: one color
 - 5. Roof mounted equipment, fans, flues, vent pipes: match roof color – one color.
 - 6. Wood trim: one color for painted.

3.8 CLEAN-UP, PROTECTION, AND REPAIR

- A. Clean-Up: During progress of work, remove discarded paint materials, rubbish, cans and rags from site at end of each work day.
 - 1. Clean glass and paint-spattered surfaces immediately by proper methods of washing and scraping, using care not to scratch or damage finished surfaces.
- B. Protection: Protect work of other trades, whether to be painted or not; correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
 - 1. Provide "Wet Paint" signs to protect newly-painted finishes.
 - 2. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.
- C. Repair: At completion of work of other trades, touch-up and restore damaged surfaces or defaced painted surfaces.

END OF SECTION

PART 1 - GENERAL

PART 2 - SUMMARY

- A. This Section includes hot-mix asphalt paving.

2.2 SUBMITTALS

- A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.
- B. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.
- C. Material certificates.

2.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall be registered with and approved by authorities having jurisdiction or the DOT of the state in which Project is located.
- B. Regulatory Requirements: Comply with Cal Trans standard specifications, Section 39 for asphalt paving work.
- C. Asphalt-Paving Publication: Comply with AI MS-22, "Construction of Hot Mix Asphalt Pavements," unless more stringent requirements are indicated.

2.4 PROJECT CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp or if the following conditions are not met:
 - 1. Tack Coat: Minimum surface temperature of 60 deg F.
 - 2. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
 - 3. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials, 50 deg F for water-based materials, and not exceeding 95 deg F.

PART 3 - PRODUCTS

3.1 AGGREGATES

- A. Cal Trans Type B aggregate, ½" maximum size with medium gradation.

3.2 ASPHALT MATERIALS

- A. Asphalt Binder: AR 4000.
- B. Tack Coat: CSS 1 h asphalt emulsion.

3.3 AUXILIARY MATERIALS

- A. Herbicide: Commercial chemical for weed control, registered by the EPA. Provide in granular, liquid, or wettable powder form.
- B. Pavement-Marking Paint: Alkyd-resin type, lead and chromate free, ready mixed, complying with FS TT-P-115, Type I or AASHTO M 248, Type N.
 - 1. Color: White.
- C. Wheel Stops: Precast, air-entrained concrete, 2500-psi minimum compressive strength, 4-1/2 inches high by 9 inches wide by 72 inches long. Provide chamfered corners and drainage slots on underside and holes for anchoring to substrate.
 - 1. Dowels: Galvanized steel, 3/4-inch diameter, 10-inch minimum length.

3.4 MIXES

- A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix asphalt plant mixes approved by Caltrans or equivalent and complying with the following requirements:
 - 1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.

PART 4 - EXECUTION

4.1 SURFACE PREPARATION

- A. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.
- B. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
 - 1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.
- C. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
- D. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).

**SECTION 32 12 16
ASPHALT PAVING**

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

4.2 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
 1. Spread mix at minimum temperature of 250 deg F.
 2. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

4.3 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
 1. Complete compaction before mix temperature cools to 185 deg F.
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 1. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- F. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

4.4 INSTALLATION TOLERANCES

- A. Thickness: Compact each course to produce the thickness indicated within the following tolerances:
 - 1. Base Course: Plus or minus 1/2 inch.
 - 2. Surface Course: Plus 1/4 inch, no minus.

- B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:
 - 1. Surface and Base Course: 1/4 inch.
 - 2. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

4.5 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow paving to age for 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

4.6 WHEEL STOPS

- A. Securely attach wheel stops into pavement with not less than two galvanized steel dowels embedded at one-quarter to one-third points. Securely install dowels into pavement and bond to wheel stop. Recess head of dowel beneath top of wheel stop.

4.7 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.
- B. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- C. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

4.8 DISPOSAL

- A. Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes exterior cement concrete pavement for the following:
 - 1. Walkways.
 - 2. Stairs.
 - 3. Ramps.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete pavement mixture.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- C. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.
- D. Plain Steel Wire: ASTM A 82, as drawn.
- E. Deformed-Steel Wire: ASTM A 496.
- F. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice."

2.2 CONCRETE MATERIALS

- A. Cementitious Material: Use one of the following cementitious materials, of the same type, brand, and source throughout the Project:

College of the Redwoods
Residence Hall Re-Roof
NMR Project No. 10-2529.00

1. Portland Cement: ASTM C 150, gray. Supplement with the following:
 - a. Fly Ash: ASTM C 618, Class C.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4S coarse aggregate, uniformly graded. Provide aggregates from a single source.
- C. Water: ASTM C 94/C 94M.
- D. Air-Entraining Admixture: ASTM C 260.
- E. Chemical Admixtures: ASTM C 494/C 494M, of type suitable for application, certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

2.3 FIBER REINFORCEMENT

- A. Synthetic Fiber: Monofilament polypropylene fibers engineered and designed for use in concrete pavement, complying with ASTM C 1116, Type III, 1-1/2 inches maximum long.

2.4 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- E. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
- F. White Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B.

2.5 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.
- B. Stair Tread Nosing: Specter Safety Treads #WP36 aluminum body with abrasive filler by Wooster Products, Inc., Wooster, Ohio. Color to be black.

2.6 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301, with the following properties:
 1. Compressive Strength (28 Days): 2500 psi.
 2. Slump Limit: 5 inches, plus or minus 1 inch.
 3. Air Content: 4-1/2 percent plus or minus 1.5 percent.
 4. Cement content 5 sacks/CY

- B. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd.

2.7 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C. Furnish batch certificates for each batch discharged and used in the Work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.
- C. Place stair nosing into concrete prior to initial set. Puddle concrete around nosing to insure correct anchorage.

3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness to match jointing of existing adjacent concrete pavement.

- E. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 3/8-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

3.5 CONCRETE PLACEMENT

- A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.
- B. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- D. Screed pavement surfaces with a straightedge and strike off.
- E. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.6 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 - 1. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture. Utilize at slopes up to 6%.
 - 2. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic. Utilize at slopes greater than 6%.

3.7 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darning concrete, but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by curing compound.

3.8 PAVEMENT TOLERANCES

- A. Comply with tolerances of ACI 117 and as follows:
 - 1. Elevation: 1/4 inch.
 - 2. Thickness: Plus 3/8 inch, minus 1/4 inch.
 - 3. Surface: Gap below 10-foot- long, unlevelled straightedge not to exceed 1/4 inch.
 - 4. Joint Spacing: 3 inches.
 - 5. Contraction Joint Depth: Plus 1/4 inch, no minus.
 - 6. Joint Width: Plus 1/8 inch, no minus.

3.9 REPAIRS AND PROTECTION

- A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.
- B. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement.
- C. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes gravity-flow, non-pressure storm drainage outside the building, with the following components:
 - 1. Cleanouts.
 - 2. Precast concrete manholes.
 - 3. Downspout connection boxes.
 - 4. Area drains.

1.2 PERFORMANCE REQUIREMENTS

- A. Gravity-Flow, Non-pressure, Drainage-Piping Pressure Rating: 10-foot head of water.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For manholes, drop inlets and catch basins. Include plans, elevations, sections, details, and manhole frames and covers and catch basin frames and grates.
- C. Coordination Drawings: Show pipe sizes, locations, and elevations.
- D. Field quality-control test reports. Product Data: For each type of product indicated.
- E. Submit affidavit of compliance with referenced standards (e.g., AWWA, ANSI, ASTM, etc.).
- F. Submit certified copies of mill test reports for bolts and nuts, including coatings if specified. Provide recertification by an independent domestic testing laboratory for materials originating outside of the United States.
- G. Submit manufacturer's data sheet for gasket supplied showing dimensions and bolting recommendations.
- H. Submit manufacturer's data sheet for insulating unions, showing recommended installation procedures.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

**SECTION 33 41 00
STORM UTILITY DRAINAGE PIPING**

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 PIPING MATERIALS

- A. Refer to Part 3 "Piping Applications" Article for applications of pipe, fitting, and joining materials.

2.3 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS

- A. Pipe and Fittings: ASTM A 74, Service class.
- B. Gaskets: ASTM C 564, rubber.
- C. Calking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

2.4 PE PIPE AND FITTINGS

- A. Corrugated PE Drainage Pipe and Fittings NPS 10 and Smaller: AASHTO M 252M, Type S, with smooth waterway for coupling joints.
 1. Soiltight Couplings: AASHTO M 252M, corrugated, matching tube and fittings.
 2. Corrugated PE Pipe and Fittings NPS 12 and Larger: AASHTO M 294M, Type S, with smooth waterway for coupling joints.
 3. Soiltight Couplings: AASHTO M 294M, corrugated, matching pipe and fittings.

2.5 PVC PIPE AND FITTINGS

- A. PVC Sewer Pipe and Fittings, NPS 15 and Smaller: ASTM D 3034, SDR 35, with bell-and-spigot ends for gasketed joints with ASTM F 477, elastomeric seals.
- B. PVC Sewer Pipe and Fittings, NPS 18 and Larger: ASTM F 679, T-1 wall thickness, with bell-and-spigot ends for gasketed joints with ASTM F 477, elastomeric seals.

2.6 NON-PRESSURE TYPE PIPE COUPLINGS

- A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground non-pressure piping. Include ends of same sizes as piping to be joined and corrosion-resistant-metal tension band and tightening mechanism on each end.
- B. Sleeve Materials:
 1. For Cast-Iron Soil Pipes: ASTM C 564, rubber.
 2. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
 3. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

2.7 CLEANOUTS

- A. Gray-Iron Cleanouts: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.
1. Available Manufacturers:
 - a. Josam Company.
 - b. MIFAB Manufacturing Inc.
 - c. Smith, Jay R. Mfg. Co.
 - d. Wade Div.; Tyler Pipe.
 - e. Watts Industries, Inc.
 - f. Watts Industries, Inc.; Enpoco, Inc. Div.
 - g. Zurn Industries, Inc.; Zurn Specification Drainage Operation.
 2. Top-Loading Classification(s): Heavy duty.
 3. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, cast-iron soil pipe and fittings.

2.8 MANHOLES

- A. Standard Precast Concrete Manholes: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
1. Diameter: 48 inches minimum, unless otherwise indicated.
 2. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
 3. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section, and having separate base slab or base section with integral floor.
 4. Riser Sections: 4-inch minimum thickness, and of length to provide depth indicated.
 5. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated. Top of cone of size that matches grade rings.
 6. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
 7. Resilient Pipe Connectors: ASTM C 923, cast or fitted into manhole walls, for each pipe connection.
 8. Steps: Deformed, 1/2-inch steel reinforcing rods encased in ASTM D 4101, wide enough to allow worker to place both feet on 1 step and designed to prevent lateral slippage off of step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
 9. Adjusting Rings: Interlocking rings with level or sloped edge in thickness and diameter matching manhole frame and cover. Include sealant recommended by ring manufacturer.
 10. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match diameter of manhole frame and cover.
 11. Manhole Frames and Covers: Ferrous; 24-inch ID by 7- to 9-inch riser with 4-inch-minimum width flange and 26-inch- diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "STORM SEWER."
 - a. Material: ASTM A 536, Grade 60-40-18 ductile iron, unless otherwise indicated.

2.9 CONCRETE

- A. General: Cast-in-place concrete according to ACI 318/318R, ACI 350R, and the following:
 - 1. Cement: ASTM C 150, Type II.
 - 2. Fine Aggregate: ASTM C 33, sand.
 - 3. Coarse Aggregate: ASTM C 33, crushed gravel.
 - 4. Water: Potable.

- B. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water-cementitious materials ratio.
 - 1. Reinforcement Fabric: ASTM A 185, steel, welded wire fabric, plain.
 - 2. Reinforcement Bars: ASTM A 615/A 615M, Grade 60, deformed steel.

2.10 AREA DRAINS/CATCH BASINS

- A. Standard Precast Concrete Catch Basins: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
 - 1. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section, and having separate base slab or base section with integral floor.
 - 2. Top Section: Eccentric-cone type unless flat-slab-top type is indicated.
 - 3. Joint Sealant: ASTM C 990, bitumen or butyl rubber.

- B. Frames and Grates: ASTM A 536, Grade 60-40-18, ductile iron designed for A-16, structural loading. Include 24-inch ID by 7- to 9-inch riser with 4-inch minimum width flange, and 26-inch-diameter flat grate with small square or short-slotted drainage openings.
 - 1. Grate Free Area: Approximately 50 percent, unless otherwise indicated.

2.11 DOWNSPOUT CONNECTION BOX

- A. Precast concrete pipe, bell end with cast concrete lid per details and drawings.

PART 3 - EXECUTION

3.1 PIPING APPLICATIONS

- A. Pipe couplings and fittings with pressure ratings at least equal to piping rating may be used in applications below, unless otherwise indicated.
 - 1. Use nonpressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping, unless otherwise indicated.
 - a. Unshielded flexible couplings for same or minor difference OD pipes.
 - b. Unshielded, increaser/reducer-pattern, flexible couplings for pipes with different OD.
 - c. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

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- B. Gravity-Flow, Nonpressure Sewer Piping: Use any of the following pipe materials for each size range:
1. NPS 3 to NPS 6: Corrugated PE drainage pipe and fittings, soiltight couplings, and coupled joints.
 2. NPS 8 to NPS 15: Corrugated PE drainage pipe and fittings, soiltight couplings, and coupled joints.
 3. NPS 18 to NPS 30: Corrugated PE pipe and fittings, soiltight couplings, and coupled joints.

3.2 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.
- C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. Install gravity-flow, nonpressure drainage piping according to the following:
1. Install piping pitched down in direction of flow, at minimum slope of 2 percent, unless otherwise indicated.
 2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
 3. Install piping below frost line.
 4. Install sewer piping according to ASTM D 2321 and ASTM F 1668.
- F. Clear interior of piping and manholes of dirt and superfluous material as work progresses.

3.3 PIPE JOINT CONSTRUCTION

- A. Where specific joint construction is not indicated, follow piping manufacturer's written instructions.
- B. Join gravity-flow, nonpressure drainage piping according to the following:
1. Join sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-gasket joints.
 2. Join dissimilar pipe materials with nonpressure-type flexible couplings.

3.4 CLEANOUT INSTALLATION

- A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts and cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.
 - 1. Use light-duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.
 - 2. Use heavy-duty, top-loading classification cleanouts in vehicle-traffic service areas.
- B. Set cleanout frames and covers in earth in cast-in-place-concrete block, 18 by 18 by 12 inches deep. Set with tops 1 inch above surrounding grade.
- C. Set cleanout frames and covers in concrete pavement with tops flush with pavement surface.

3.5 MANHOLE INSTALLATION

- A. General: Install manholes, complete with appurtenances and accessories indicated.
- B. Install precast concrete manhole sections with sealants according to ASTM C 891.
- C. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere, unless otherwise indicated.

3.6 CATCH BASIN INSTALLATION

- A. Set frames and grates to elevations indicated.

3.7 CONNECTIONS

- A. Connect nonpressure, gravity-flow drainage piping to building's storm building drains specified in Division 22 Section "Facility Storm Drainage Piping."
- B. Make connections to existing piping and underground manholes.
 - 1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.

3.8 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
 - 1. Submit separate report for each system inspection.
 - 2. Defects requiring correction include the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
 - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Crushed, broken, cracked, or otherwise damaged piping.

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- d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
 4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
1. Do not enclose, cover, or put into service before inspection and approval.
 2. Test completed piping systems according to requirements of authorities having jurisdiction.
 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
 4. Submit separate report for each test.
 5. Air Tests: Test storm drainage according to requirements of authorities having jurisdiction, UNI-B-6, and the following:
 - a. Option: Test plastic gravity sewer piping according to ASTM F 1417.
- C. Leaks and loss in test pressure constitute defects that must be repaired.
- D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.9 STORM SEWER ABANDONMENT

- A. When sewers are to be abandoned, place standard sewer plugs according to Detail 33 on sheet C14. Prior to placing the plug, ensure that the line is not in use. If noted on the plans, fill the line with gravity flow of pump the line full of flowable mortar or controlled low strength material as follows:

- Flowable Mortar:

1. Approximate quantities per cubic yard;

- | | |
|-----------------------|--------------|
| a. Cement | 100 pounds |
| b. Fly ash | 300 pounds |
| c. Fine aggregate | 2,600 pounds |
| d. Water, approximate | 70 gallons |

2. Compressive strength at 28 days; 100 psi to 200 psi.

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- Controlled Low Strength Material (CLSM):
 1. Approximate quantities per cubic yard;
 - a. Cement 50 pounds
 - b. Fly ash 250 pounds
 - c. Fine aggregate 2910 pounds
 - d. Water, approximate 60 gallons
 2. Compressive strength at 28 days 50 psi.

END OF SECTION

SCOPE OF ABATEMENT WORK

1. SCOPE OF WORK

THE WORK: Briefly, and without force and effect upon the Contract Documents, the Scope of Abatement Work under this Contract includes the removal and disposal of asbestos-containing roofing materials (ACM's) and related demolition materials from the College of the Redwoods, Residence Hall "Mendocino", 7351 Tompkins Hill Road Eureka, California. The abatement of ACM's and demolition materials is required prior to the completion of the roof replacement project.

The Scope of Abatement Work will be conducted in conjunction with, and under single Contract with, a roof replacement project. The Redwoods Community College District (Owner) reserves the right to change project schedule in order to obtain the required qualifications for the Project Scope of Work. The abatement and demolition work specified in the Scope of Abatement Work shall be executed by the general (roof) contractor and any subcontractors as necessary to perform the asbestos-related work. The Owner will determine the project schedule.

PROJECT SCOPE OF WORK:

GENERAL CONDITIONS

ROOF ABATEMENT-RESIDENCE HALL "MENDOCINO"

The Project generally includes the removal of asbestos-containing roofing (ACM) and related non-asbestos demolition materials from the entire Residence Hall building.

Asbestos Abatement & Demolition Tasks:

1. Remove and recycle wood roof shakes from the entire Residence Hall building. Contractor shall be advised that multiple layers of shakes are present. Contractor shall coordinate disposal of wood shakes with a recycler.

It is the intent of this task that wood shake debris be handled as a wood waste suitable for recycling. The Contractor shall notify the District if wood wastes cannot be recycled. The Contractor will be solely responsible for the disposal of all wood shake roofing debris as construction waste if waste cannot be recycled.

2. Remove, and dispose as asbestos-containing material (ACM), all remaining roof materials from the entire Residence Hall building. It is the intent of this task that all

roof related materials be removed to the wood roof deck. This task includes the removal of all felt layers, mastics, flashing, roof jacks, pipe vent and HVAC system flashings and other related roof materials. The metal flashing (jack) on the fireplace stack shall be cleaned and left intact and undamaged.

3. Contractor shall remove and dispose of all rain gutters, leaders, hangars and related drainage system components from the entire Residence Hall building as part of this task.

Contractor shall scrape and dispose of all loose and flaking surfacing coatings (LCM) from the fascia boards on the building. It is the intent of this task to remove all loose and flaking LCM. All surface coatings are known or presumed to contain lead. Debris generated as a result of this task shall be presumed to contain lead and shall be

securely stored in labeled 55 gallon metal drums pending disposal. It is the responsibility of the Contractor to label drums as containing lead waste. All drum contents shall be disposed as lead-containing waste without exception using State hazardous waste manifest transportation and disposal procedures.

4. Contractor shall thoroughly clean roof deck surfaces and pull all nails and other fasteners. Contractor shall not pull any roof fastening equipment in such a manner that the roof deck is damaged. Contractor shall be responsible for replacing any roof deck materials that are damaged during abatement.
5. Contractor shall thoroughly HEPA vacuum entire roof surface upon completion of the abatement project.
6. The Contractor is required to closely work with the Owner, Architect and Roof Contractor during the roof abatement project. It is the intent of Owner that the roof abatement occur in a manner that facilitates installation of a new roof in order to protect building from rain damage.
7. The Contractor shall be required to weather protect all roof sections that are under abatement during the project. The Contractor shall not be responsible for those portions of the roof that have not been abated or have been released to the Roof Contractor. The Contractor shall only be released from a roof area that has been abated when the Owner, and Owner's Representative, have determined that abatement has been successfully completed in accordance with the Contract Documents and Specifications. The Owner shall have the sole authority to determine when the roof abatement phase is complete.
8. Contractor shall cover exposed roof areas at the end of each shift to prevent water damage to the building. Foggy conditions in the school area generate significant moisture during summer months. It is the intent of this task that the Contractor protect the roof deck and interior of the building at all times while the abatement project is underway.
9. Contractor shall not be permitted to abate roof materials when rain is forecast within 72 hours of intended abatement. Contractor shall immediately cease roof abatement in the event of imminent rain or when requested to do so by Owner or Owner's Representative. Contractor shall immediately weather protect roof areas under abatement and roofs not yet released to the Roof Contractor when rain is imminent.
10. Contractor shall remove all poly sheeting from the exterior perimeter of the building and cleanup all roof debris at the end of each shift and prior to demobilization from the area.

**SEE SPECIAL CONDITIONS SECTION THAT FOLLOWS FOR ADDITIONAL
REQUIREMENTS FOR ABATEMENT OF ASBESTOS-CONTAINING MATERIALS.**

SPECIAL CONDITIONS

These **Special Conditions** shall apply to all asbestos abatement and demolition work specified in these Contract Documents for Residence Hall "Mendocino".

- A. Contractor shall not commence any abatement or demolition phase without prior notification of and authorization by Owner and Owner's Consultant. The notification must occur at least 72 hours prior to start of work.
- B. Contractor's workers shall wear protective clothing and appropriate level of respiratory protection for each class of work per federal and state OSHA requirements. Workers are not be permitted to remove Tyvek suits or respirators during abatement or demolition activities. Workers without suits or respirators will be required to leave the work site.
- C. Contractor shall be required to conduct a safety meeting prior to the start of each work shift to review regulatory requirements for fall protection, use of ladders and scaffolding, prevention of electrical hazards, respiratory protection and other safety issues. Contractor is solely responsible for compliance with federal and state regulatory requirements during the entire project.
- D. Contractor shall seal all openings and penetrations in each work area with critical barriers prior to abatement. Openings and penetrations include, but are not limited to: roof HVAC and ventilation openings, and plumbing, electrical and mechanical systems penetrations. . 6 mil fire resistant poly sheeting shall be used for critical barrier seals.
- E. Contractor shall be required to provide a three-stage decontamination unit with hot and cold water for the project. The unit shall include a discrete shower and change room to prevent area residents, district personnel and others from observing Contractor's employees dressing or showering. The unit must be removed at the end of each shift.
- F. Electrical power supply will be available within the building during the work. Contractor shall be required to provide own lighting on the roof during abatement if required. The Contractor will be required to obtain the services of a California Licensed Electrical Contractor at his/her own expense to install any special electrical supply panels or power supply boxes necessary to power vacuums and or other equipment. Contractor shall be solely responsible for any electrical power failures or interruptions caused by operation of Contractor's equipment, and shall be responsible for providing an emergency power supply when requested to do so by Owner's Representative.
- G. Owner shall supply water. Contractor shall provide a hot water heater for decontamination units and other uses during all phases of the project.
- H. Contractor shall thoroughly pre-clean the area around the entire Residence Hall to remove existing roof debris prior to starting abatement. All roof debris shall be bagged and sealed for disposal as ACM.
- I. Contractor shall install a 6-mil poly barrier around the perimeter of the building during wood shake removal and roof abatement. Barrier shall extend a minimum distance of 20 feet from the base of the building. Barrier shall be secured to building by duct tape. Weights or other means shall be used to secure the poly sheeting until removed. The poly barrier, including all roof debris, shall be removed at the end of each shift.
- J. Contractor shall maintain a regulated area around project site during roof abatement. All roof materials shall be bagged and sealed on the roof prior to placement in "dumpster". Wet methods shall be observed at all times to minimize dust. Owner or Owner's Representative shall have the authority to

suspend operations if in their opinion the roof abatement project is generating excess dust or is otherwise resulting in roof debris not being contained. Contractor shall maintain a clean building perimeter at all times. All bags containing roofing wastes shall be sealed on the roof prior to deposition in waste container. Contractor is responsible for the prompt cleanup of any roofing debris generated during the project.

- K. Contractor is responsible for controlling roofing debris in the building attic spaces. Contractor shall monitor all attic spaces during roof abatement and take preventive measures to protect attic insulation and areas above ceilings. Contractor shall suspend roof operations and promptly cleanup any roof debris observed in the attic spaces.
- L. Contractor shall immediately suspend roof abatement when windy conditions occur that result in roofing debris not being controlled within the projects regulated area.
- M. Contractor shall provide own sanitary facilities for his/her employees for the duration of the Project. Contractor shall place and secure chemical toilet unit at location approved by Owner. Contractor shall not be permitted to start project until sanitary facilities have been placed on site. Contractor's employees will not be permitted to use building restrooms.
- N. Contractor and his/her employees shall park all vehicles in location designated by Owner.
- O. Contractor shall be permitted to use waste dumpsters during the abatement and wood shake removal phases. Contractor shall not use District garbage cans or dumpsters. Dumpsters shall only be placed at locations approved by the Owner. All dumpsters, trucks, or containers shall be covered and secured when not in use. All covers shall be rainproof.
- P. Contractor shall be required to placed asbestos warning signs on all four sides of waste dumpsters, containers or trucks where asbestos-containing wastes are stored pending disposal. This requirement includes all roofing materials except wood shakes.
- Q. Contractor shall be required to notify disposal site operator when roof wastes contain asbestos. It is the intent of this requirement that disposal site operators are notified of waste stream content and can take appropriate measures to segregate and dispose of wastes appropriately. It is the Contractor's sole responsibility to contact disposal site or landfill operator prior to submitting a bid and or commencing project to make arrangements for waste disposal. Owner will not be responsible for additional disposal fees the Contractor incurs as a result of the failure to make disposal arrangements prior to submitting a bid for this project.
- R. Contractor shall be advised that the use of alcoholic beverages, tobacco products and or drugs are expressly prohibited. Contractor agrees, by submitting a Bid for this Project, that failure of any of Contractor's employees to observe these requirements will result in a request by Owner's Consultant to have that employee immediately dismissed from the site. Contractor shall immediately comply with the request for removal of that employee(s).

DIMENSIONS, LOCATIONS AND QUANTITIES OF MATERIALS PROVIDED FOR THESE PROJECTS ARE APPROXIMATIONS ONLY. IT IS THE RESPONSIBILITY OF EACH CONTRACTOR SUBMITTING A BID TO CONDUCT HIS OR HER OWN MEASUREMENTS.

END OF SPECIAL CONDITIONS FOR ASBESTOS ABATEMENT WORK AT RESIDENCE HALL "MENDOCINO".

SECTION 4-TECHNICAL SPECIFICATIONS

SECTION 01043 - PROJECT COORDINATION

THE ROOF ABATEMENT PROJECT AT COLLEGE OF THE REDWOODS, RESIDENCE HALL "MENDOCINO", SHALL NOT BE COMMENCED BY THE ASBESTOS ABATEMENT CONTRACTOR UNTIL OWNER'S REPRESENTATIVE HAS BEEN NOTIFIED IN ADVANCE IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS. THE ABATEMENT CONTRACTOR SHALL NOT COMMENCE ANY WORK AT THE SITE UNTIL WRITTEN AUTHORIZATION TO PROCEED HAS BEEN ISSUED BY THE OWNER AND OWNER'S REPRESENTATIVE.

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Special Conditions and other Division-1 Specification Sections, apply to this section.

SUMMARY

This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

Administrative and supervisory personnel.

Progress Meetings

Pre-Construction Conference

Daily Log

Special reports

Contingency Plans

Notifications to other entities at job site

Requirements for the Contractor's Construction Schedule are included in Section "Submittals".

ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

General Superintendent: Provide a full-time General Superintendent who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Contractor's Representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to asbestos-containing materials.

Experience and Training: The General Superintendent must have completed a course at an EPA Training Center

or equivalent certificate course in asbestos abatement procedures, and have had a minimum of two (2) years on- the-job training in asbestos abatement procedures.

Competent Person: The General Superintendent is to be a Competent Person as required by OSHA in 29 CFR 1926.

Accreditation: The General Superintendent is to be accredited as an Asbestos Abatement Supervisor in accordance with the AHERA regulation 40 CFR Part 763, Subpart E, Appendix C.

PROGRESS MEETINGS:

General: In addition to specific coordination and pre- installation meetings for each element of work, and other regular project meetings held for other purposes, Owner's Representative will hold general progress meetings as required. These meeting will be scheduled, where possible, at time of preparation of payment request. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting.

PRE-CONSTRUCTION CONFERENCE:

An initial progress meeting, recognized as "Pre-Construction Conference" will be convened by the Owner's Representative (Asbestos Consultant) prior to start of any work. Abatement Contractor shall notify Owner's Representative a minimum of 72 hours prior to commencing any work at the project site. The meeting shall include Abatement Contractor's Superintendent, Owner, Owner's Representative, Project Administrator, and other entities concerned with the asbestos abatement work.

72 hours advance notice will be provided to all participants prior to convening Pre-Construction Conference.

This is an organizational meeting, to review responsibilities and personnel assignments and to locate the containment and decontamination areas and temporary facilities including power, light, water, etc.

DAILY LOG:

Daily Log: Maintain within the Decontamination Unit a daily log documenting the dates and time of but not limited to, the following items:

Meetings; purpose, attendees, brief discussion

Visitations; authorized and unauthorized

Personnel, by name, entering and leaving the work area
Special or unusual events, i.e. barrier breaching, equipment failures, accidents

Air monitoring tests and test results

Documentation of Contractor's completion of the following:

Inspection of work area preparation prior to start of removal and daily thereafter

Removal of any sheet plastic barriers

Contractor's inspections prior to spray back, lock back, encapsulation, enclosure or any other operation that will conceal the condition of asbestos-containing materials or the substrate from which such materials have been removed.

Removal of waste materials from work area

Decontamination of equipment (list items)

Contractors final inspection/final air test analysis

Provide two (2) copies of this log to Project Administrator on a daily basis.

Submit copies of this log at final closeout of project as a project close-out submittal.

SPECIAL REPORTS:

General: Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Owner's Representative and others affected by occurrence.

Reporting Unusual Events: When an event of unusual and significant nature occurs at site (examples: failure of pressure differential system , rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.

Reporting Accidents: Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

Report Discovered Conditions: When an unusual condition of the building is discovered during the work (e.g. leaks, termites, corrosion) prepare and submit a special report indicating condition discovered.

CONTINGENCY PLAN:

Contingency Plan: Prepare a contingency plan for emergencies including fire, accident, power failure, pressure differential system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation procedures. Include in plan specific procedures for decontamination or work area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

Post: In clean room of Personnel Decontamination Unit telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, and telephone company.

NOTIFICATIONS

Notify other entities at the job site of the nature of the asbestos abatement activities, location of asbestos- containing materials, requirements relative to asbestos set forth in these specifications and applicable regulations.

Notify emergency service agencies including fire, ambulance, police or other agency that may service the abatement work site in case of an emergency. Notification is to include methods of

entering work area, emergency entry and exit locations, modifications to fire notification or fire fighting equipment, and other information needed by agencies providing emergency services.

Notifications of Emergency: Any individual at the job site may notify emergency service agencies if necessary without effect on this Contract or the Contract Sum.

SUBMITTALS

Before the Start of Work: Submit the following to the Owner's Representative for review a minimum of 5 days prior to start of work. No work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

Contingency Plans: For emergency actions.

Telephone Numbers: and location of emergency services.

Notifications: Sent to other entities at the work site.

Notifications: Sent to emergency service agencies.

Resume: Of general superintendent.

Accreditation: Submit evidence in form of training course certificate of accreditation of General Superintendent as an asbestos abatement supervisor.

Staff Names: Within 5 days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

Post copies of the list in the project meeting room, the temporary field office, and each temporary telephone.

END OF SECTION - 01043

SECTION 01092 - CODES, REGULATIONS, AND STANDARDS

PART 1 - GENERAL

RELATED DOCUMENTS:

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

SUMMARY

This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.

Requirements include adherence to work practices and procedures set forth in applicable codes, regulations and standards.

Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

CODES AND REGULATIONS

General Applicability of Codes and Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

Local Requirements: Abide by all local requirements that govern asbestos abatement work or hauling and disposal of asbestos waste materials.

STANDARDS:

General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all laws, regulations and standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to

the site. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable standard on the part of himself, his employees, or his subcontractors.

Standards: which apply to asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

American National Standards Institute (ANSI)
1430 Broadway
New York, New York 10018
(212)354-3300

Fundamentals Governing the Design and Operation of Local Exhaust Systems
Publication Z9.2-79

Practices for Respiratory Protection Publication Z88.2-80

American Society for Testing and Materials (ASTM)
Safety and Health Requirements Relating to Occupational Exposure to Asbestos
E 849-82

1916 Race Street
Philadelphia, PA 19103
(215) 299-5400

NOTICES:

Refer to Division One.

PERMITS:

Permit: All friable asbestos containing waste is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for asbestos-containing materials, as required for transportation of waste asbestos-containing materials to a disposal site.

LICENSES:

Licenses: Obtain and maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

PATENTS

Patents: Contractor shall pay all royalties and license fee required for the performance of the work. Contractor shall defend suits or claims resulting from contractor's or any subcontractor's infringement of patent rights and shall indemnify Owner and Owner's Representative from losses on account thereof.

POSTING AND FILING OF REGULATIONS

Posting and Filing of Regulations: Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulations and standards. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

SUBMITTALS:

Before Start of Work: Submit the following to the Owner's Representative for review a minimum of 5 days prior to start of work. No work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:

State and Local Regulations: Submit copies of codes and regulations applicable to the work.

Notices: Submit notices required by federal, state and local regulations together with proof of timely transmittal to agency requiring the notice.

Permits: Submit copies of current valid permits required by state and local regulations.

Licenses: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

END OF SECTION – 01092

SECTION 01301 - SUBMITTALS

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1, Division-2 and Division-3 Specification Sections, apply to this Section.

SUMMARY

This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:

Contractor's construction schedule.

Submittal schedule.

Daily construction reports.

Shop Drawings.

Product Data.

Samples.

Miscellaneous Submittals.

Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:

Applications for payment

Insurance certificates

List of Subcontractors

SUBMITTAL PROCEDURES

Submittals shall be processed under the requirements of Specification Section 01 33 00 of these Project documents for Electronic Submittal. Where information in this section is redundant, or in conflict, with Section 01 33 00, Section 01 33 00 shall take precedence.

Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

Coordinate transmittal of different types of submittals for related elements of the work so processing will not be delayed by the need to review submittals concurrently for coordination.

The Owner's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.

Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Owner's Representative will promptly advise the Contractor when a submittal being processed must be delayed for coordination.

If an intermediate submittal is necessary, process the same as the initial submittal.

Allow two weeks for reprocessing each submittal.

No extension of Contract Time will be authorized because of failure to transmit submittals to the Owner's Representative sufficiently in advance of the work to permit processing.

Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken. Include the following information on the label for processing and recording action taken.

Project name.

Date.

Name and address of Owner's Representative.

Name and address of Contractor.

Name and address of subcontractor.

Name and address of supplier.

Name of manufacturer.

Number and title of appropriate Specification Section.

Drawing number and detail references, as appropriate.

Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Owner's Representative using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

On the transmittal record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

Transmittal Form: Use AIA Document G 810.

CONTRACTOR'S CONSTRUCTION SCHEDULE

Schedule: Provide proposed detailed schedule including work dates, work shift time, number of employees, dates of start and completion including dates of preparation work, removals and final inspection dates.

Indicate completion and Clearance of each Work Area in advance of the date established for Substantial Completion. Allow time for testing and other Owner's Representative's procedures necessary for certification of Clearance and Substantial Completion.

Work Stages: Indicate important stages of construction for each major portion of the work, including testing and installation. Include indication of start and finish times for the following:

Non-asbestos demolitions.

Preparation of the Work Area.

Asbestos removal.

Clearance inspection.

Substantial Completion.

Refer to Section "Applications for Payment" for cost reporting and payment procedures.

Distribution: Following response to the initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project Administrator's field office, project meeting room and temporary field office.

When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

SUBMITTAL SCHEDULE

Listing: At the end of this section is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.

Distribution: Following response to initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the project meeting room and field office.

When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.

PRODUCT DATA

Collect Product Data into a single submittal. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves.

Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information.

Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.

Submittals: Submit 3 copies of each required submittal. The Owner's Representative will retain two, and will return the one marked with action taken and corrections or modifications required.

Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.

Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.

MISCELLANEOUS SUBMITTALS:

Material Safety Data Sheets: Process material safety and data sheets as "product data."

Records of Actual Work: Furnish 4 copies of records of actual work, one of which will be returned for inclusion in the record documents as specified in section "Project Closeout".

Closeout Submittals: Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.

Record Documents: Furnish set of original documents as maintained on the project site.

OWNER'S REPRESENTATIVE'S ACTION

Except for submittals for record, information or similar purposes, where action and return is required or requested, the Owner's Representative will review each submittal, mark to indicate action taken, and return promptly.

Compliance with specified characteristics is the Contractor's responsibility.

Action Stamp: The Owner's Representative will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

Final Unrestricted Release: Where submittals are marked "Approved," that part of the work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.

Final-But-Restricted Release: When submittals are marked "Approved as Noted," that part of 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 acceptance will depend on that compliance.

Returned for Resubmittal: When submittal is marked "Not Approved, Revise and Resubmit," do not proceed with that part of the work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.

Do not permit submittals marked "Not Approved, Revise and Resubmit" to be used at the Project site, or elsewhere where work is in progress.

Other Action: Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned, marked "Action Not Required".

SUBMITTAL CHECKLIST

The submittals required from the Contractor include, but are not limited to the following:

01013 Summary of Work - Asbestos Abatement

Before Start of Work:

***Plan of Action**

01043 Project Coordination - Asbestos Abatement

Before Start of Work:

***Contingency Plans**

***Telephone Numbers**

***Copies of Notifications sent to regulatory agencies and entities at the work site.**

Notifications sent to emergency service agencies.

***Resume: of general superintendent.**

***Accreditation: of accreditation of general superintendent and staff to be used at site**

***Staff Names:**

Periodically During Work:

Daily Logs

Event Reports

Accident Reports

Discovered Condition Reports

01301 Submittals

Before Start of Work:

***Contractors Construction Schedule**

Submittal Schedule

Periodically During Work:

Progress photographs

Record Documents

01513 Temporary Pressure Differential & Air Circulation System (If Required)

Before Start of Work:

***Pressure Differential System Design and patents**

***HEPA Filtered Fan Units: Product data**

***Monitoring Equipment: Product data**

Periodically During Work:

***Pressure Differential Monitoring Results**
(continuous manometer tape or disk)

01526 Temporary Enclosures (If Required)

Before Start of Work:

***Spray Cement: Product data.**

Spray Cement: Manufacturer's installation instructions.

***Spray Cement: Material Safety Data Sheet.**

Sheet Plastic: Test reports on NFPA 701 test.

Signs: Samples

Periodically During Work:

Photograph of existing damage prior to applying coatings.

01527 Regulated Areas

Before Start of Work:

***HEPA Filtered Vacuum Cleaners: product data.**

Signs: samples.

Warning Tape: samples.

01560 Worker Protection - Asbestos Abatement

Before Start of Work:

***AHERA Accreditation: for each worker.**

***State and Local License: for each worker.**

***Historic Airborne Fiber Data.**

***Certificate Worker Acknowledgment: for each worker.**

***Report from Medical Examination: of each worker.**

01562 Respiratory Protection

Before Start of Work:

Product Data.

***NIOSH and MSHA Certifications.**

Type "C": System Diagram.

Type "C": Operating Instruction.

Respiratory Protection Program: written manual.

***Respiratory Protection Program: form at end of section.**

***Historic Airborne Fiber Data.**

Resume information.

01563 Decontamination Units

Before Start of Work:

Personnel Decontamination Unit: shop drawing.

Equipment Decontamination Unit: shop drawing.

Shower Pan: shop drawing.

Shower Walls: product data.

Shower Head and Controls: product data.

***Filters: product data.**

Filters: shop drawing.

Wash Station Shower Stall: product data.

Wash Station Shower Stall: shop drawing.

Elastomeric membrane: product data.

Signs: samples.

01701 Project Closeout - Asbestos Abatement

Before Start of Work:

None

Periodically During Work:

Refer to section 01701

01711 Project Decontamination

Before Start of Work:

None

Periodically During Work:

Fire Test on Lock Back Encapsulants used.

02081 Removal of Asbestos-Containing Materials

Before Start of Work:

***Surfactant: product data.**

***Removal Encapsulant: product data.**

***NESHAPS Certification: on surfactant or removal encapsulant.**

***Material Safety Data Sheet: for each surfactant and encapsulant**

Periodically During Work:

None

02084 Disposal of Asbestos-Containing Waste Material

Before Start of Work:

***Waste Hauler State License and insurance policy**

Waste Hauler Local License

***Name and address of landfill.**

Landfill contact person and telephone number.

Name and address of processor.

Processor contact person and telephone number.

Product data on process to be used.

EPA letter on process as a NESHAPS alternative.

Process parameters or operating conditions.

Chain of Custody form

Disposal Bag: samples.

Periodically During Work:

On a weekly basis: copies of manifests and disposal site receipts.

END OF SECTION 01301 AND SUBMITTAL CHECKLIST

SECTION 01410 - AIR MONITORING - TEST LABORATORY SERVICES (IF REQUIRED BY OWNER)

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Special Conditions and other Specification Sections, apply to work of this section.

Air Monitoring: during work area clearance is described in Section 01711 Work Area Clearance.

DESCRIPTION OF THE WORK

Not in Contract Sum: This section describes work being performed by the Owner. This work is not in the Contract Sum.

This section describes air monitoring carried out by the owner to verify that the building beyond the work area and the outside environment remains uncontaminated. This section also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.

Air monitoring required by OSHA is work of the Contractor and is not covered in this section.

AIR MONITORING: (INSIDE ATTIC SPACES AND OTHER BUILDING AREAS)

Work Area Isolation: The purpose of the Owner's air monitoring is to detect faults in the work area isolation such as:

Contamination of the building outside of the work area with airborne asbestos fibers,

Failure of filtration or rupture in the differential pressure system (when required),

Should any of the above occur, immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Owner's Representative.

Work Area Airborne Fiber Count: The Owner may monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be to detect airborne asbestos concentrations which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.

Work area clearance: To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Owner will sample and analyze air per Section 01714 Work Area Clearance.

The Owner may be conducting air monitoring throughout the course of the project.

STOP ACTION LEVELS:

Inside Work Area: Maintain an average airborne count in the Work Area of less than 0.5 fibers per cubic centimeter. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work

shift or 8 hour period exceeds 0.5 fibers per cubic centimeter, stop all work, leave Pressure Differential System in operation and notify Owner's Representative. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Owner's Representative.

If airborne fiber counts exceed 1.0 fiber per cubic centimeter for any period of time cease all work except corrective action until fiber counts fall below 0.5 fibers per cubic centimeter and notify Owner's Representative. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Owner's Representative.

Outside Work Area: If any air sample taken outside of the Work Area exceeds the base line established below, immediately and automatically stop all work except corrective action. The Owner's Representative will determine the source of the high reading and so notify the Contractor in writing.

If the high reading was the result of a failure of Work Area isolation measures initiate the following actions:

Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, floor).

Decontaminate the affected area in accordance with Section 01712 Cleaning & Decontamination Procedures.

Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for re-occupancy in accordance with Section 01714 Work Area Clearance.

Leave Critical Barriers in place until completion of work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.

If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01563 Decontamination Units at entry point to affected area.

After Certification of Visual Inspection in the Work Area remove critical barriers separating the work area from the affected area. Final air samples will be taken from within the entire area as set forth in Section 01714 Work Area Clearance.

If the high reading was the result of other causes initiate corrective action as determined by the Owner's Representative.

Effect on Contract Sum: Complete corrective work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities. The Contract Sum and schedule will be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

Fibers Counted: The following procedure will be used to resolve any disputes regarding fiber types when a project has been stopped due to excessive airborne fiber counts.

Large Fibers: "Airborne Fibers" referred to above include all fibers regardless of composition as counted by phase contrast microscopy (PCM), unless additional analysis by transmission or scanning electron microscopy demonstrates to the satisfaction of the Owner's Representative that non- asbestos fibers are being counted. "Airborne Fibers" counted in samples analyzed by scanning or transmission electron microscopy shall be asbestos fibers, greater than 5 microns in length and greater than 0.25 microns in diameter. For purposes of stop action levels, subsequent to analysis by electron microscopy, the number of "Airborne Fibers" shall be determined by multiplying the number of fibers, regardless of composition, counted by PCM by a number equal to asbestos fibers counted divided by all fibers counted in the electron microscopy analysis.

Small Structures: "Airborne Fibers" referred to above include asbestos structures (fibers, bundles, clusters or matrices) of any diameter and any length greater than 0.5 microns.

ANALYTICAL METHODS:

The following methods will be used by the Owner in analyzing filters used to collect air samples. Sampling rates may be varied from printed standards to allow for high volume sampling.

Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 method. This analysis will be carried out in a certified laboratory.

Transmission Electron Microscopy will be performed using the analysis method set forth in the AHERA regulation 40 CFR Part 763 Appendix A.

SAMPLE VOLUMES:

General: The number and volume of air samples taken by the Owner will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical method used.

SCHEDULE OF AIR SAMPLES:

Before Start of Work:

The Owner may secure the following Air Samples to establish a base line before start of work.
Sample cassettes: Samples will be collected on 25 mm. cassettes as follows:

PCM: 0.8 micrometer mixed cellulose ester.

TEM: 0.45 micrometer mixed cellulose ester or 0.40 micrometer polycarbonate, with 5.0 micron mixed cellulose ester backing filter.

Sampling sensitivity in the table below refers to:

Detection Limit for PCM analysis as set forth in the analytical method used

Analytical Sensitivity for TEM analysis as set forth in the analytical method used or the AHERA regulation

Location Sampled	Number of Samples	Analysis Method	Sampling Sensitivity Fibers/cc.	Minimum Volume (Liters)	Rate LPM
Each Work Area	1	PCM	0.01	1,200	1-10
Each Work Area	1	hold for TEM	0.005	1,300	1-10
Outside Each Work Area	5	PCM	0.01	1,200	1-10
Outside Each Work Area	1	hold for TEM	0.005	1,300	1-10
Outside Bldg	5	PCM	0.01	1,200	1-10
Outside Bldg	1	hold for TEM	0.005	1,300	1-10

Base Line: an action level expressed in fibers per cubic centimeter which is twenty-five percent greater than the largest of the following:

Average of the PCM samples collected outside each Work Area

Average of the PCM samples collected outside the building

0.01 fibers per cubic centimeter

Samples collected for TEM analysis will be held without analysis. These samples will be analyzed under the conditions and terms set forth in "Fibers Counted" and "Affect On Contract Sum".

Daily:

From start of work of Section 01526 Temporary Enclosures through the work of Section 01711 Project Decontamination, the Owner may be taking the following samples on a daily basis.

Samples will be collected on 25 mm. cassettes with the following filter media:

PCM: 0.8 micrometer mixed cellulose ester.

Location Sampled	Number of Samples	Analysis Method	Sampling Sensitivity Fibers/cc.	Minimum Volume (Liters)	Rate LPM
Each Work Area	2 or as required by conditions	PCM	0.01	1,200	1-10
Outside Each	1	hold for TEM	0.005	1,300	1-10

Work Area at
Critical Barrier

Clean Room	1	PCM	0.01	1,200	1-10
Equip Decon	1	hold for TEM	0.005	1,300	1-10
Outside Bldg	1	PCM	0.01	1,200	1-10
Output Pressure Differential	1	hold for TEM	0.005	1,300	1-10

Additional samples may be taken at Owner's or Owner's Representative's discretion. If airborne fiber counts exceed allowed limits additional samples will be taken as necessary to monitor fiber levels.

LABORATORY TESTING:

The services of a testing laboratory may be employed by the Owner to perform laboratory analyses of the air samples. A technician will be at the job site, and samples will be sent daily by carrier for next day delivery, so that verbal reports on air samples can be obtained within 24 hours. The Contractor will have access to all air monitoring tests and results.

ADDITIONAL TESTING:

The Contractor may conduct his own air monitoring and laboratory testing. If he elects to do this the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner.

PERSONAL MONITORING:

Owner will not be performing air monitoring to meet Contractor's OSHA requirements for personnel sampling or any other purpose.

END OF SECTION - 01410

SECTION 01711 - PROJECT DECONTAMINATION

PART 1 - GENERAL

RELATED DOCUMENTS:

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

DESCRIPTION OF REQUIREMENTS:

General: Decontamination of the Work Area (inside areas) following asbestos abatement.

If the asbestos abatement work is on damaged or friable materials the work is a four step procedure with two cleanings of the Primary Barrier plastic prior to its removal and two cleanings of the room surfaces to remove any new or existing contamination. Unless specifically indicated otherwise all materials are considered damaged or friable for purposes of this section.

RELATED WORK SPECIFIED ELSEWHERE:

Removal of Gross Debris is integral with the performance of abatement work and as such is specified in the appropriate work section(s) of these specifications:

Section 02081 Removal of Asbestos-Containing Materials

Work Area Clearance: Air testing and other requirements which must be met before release of Contractor and re-occupancy of the work area are specified in Section 01714 Work Area Clearance. This section is applicable to work conducted with any building space or area.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

GENERAL:

Work of this section includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:

Primary and Critical Barriers

Decontamination Unit

Pressure Differential System

START OF WORK:

Previous Work: During completion of the asbestos abatement work specified in other sections, the Secondary Barrier of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.

Start of Work: Work of this section begins with the cleaning of the Primary Barrier. At start of work the following will be in place:

Primary Barrier: Two layers of polyethylene sheeting on floor and one layer on walls.

Critical Barrier: An airtight barrier between the Work Area and other portions of the building or the outside.

Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings, computers, surveillance cameras, IT closets, and windows.

Decontamination Units: For personnel and equipment in operating condition.

Pressure Differential System: In operation.

FIRST CLEANING:

First Cleaning: Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (Note: A HEPA vacuum may fail if used with wet material.) Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.

Remove All Filters in Air Handling System(s) and dispose of as asbestos-containing waste in accordance with requirements of Section 02084 Disposal of Asbestos-Containing Waste Material.

Wait 96 Air Changes to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain Pressure Differential System in operation for the entire 96 air change period.

SECOND CLEANING:

Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning.

Removal of Primary Barriers:

Immediately following the second cleaning of the Primary plastic, remove all Primary Barrier sheeting and Material Decontamination Unit, if there is one, leaving only:

Critical Barrier: which forms the sole barrier between the Work Area and other portions of the building or the outside.

Critical Barrier Sheeting: Cover lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.

Decontamination Unit: for personnel, in operating condition.

Pressure Differential System: Maintain in continuous operation.

THIRD CLEANING:

Third cleaning: Carry out a third cleaning of all surfaces in the work area in the same manner as the first cleaning immediately after removal of Primary plastic. This cleaning

is now being applied to existing room surfaces. Take care to avoid water marks or other damage to surfaces.

Contractor's Testing: At the completion of the above cleaning visually inspect all surfaces. Re-clean if any dust, debris, etc. is found. At completion of this inspection sweep entire Work Area including walls, ceilings, ledges, floors and other surfaces in the Work Area with exhaust from forced-air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). Do not direct forced-air equipment at any seal in any Critical Barrier. If any debris or dust is found repeat the cleaning. Continue this process until no debris dust or other material is found while sweeping of all surfaces with forced-air equipment.

Wait 96 Air Changes to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain pressure differential system in operation for the entire 96 air change period.

FINAL CLEANING:

Final Cleaning: Carry out a final cleaning of all surfaces in the Work Area in the same manner as the previous cleaning.

Contractor's Testing: At the completion of the above cleaning visually inspect all surfaces. Re-clean if any dust, debris, etc. is found. At completion of this inspection sweep entire Work Area including walls, ceilings, ledges, floors and other surfaces in the Work Area with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). Do not direct forced air equipment at any seal in any critical barrier. If any debris or dust is found repeat the final cleaning. Continue this process until no debris dust or other material is found while sweeping of all surfaces with forced air equipment.

Wait 96 Air Changes to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of Work Areas during this period. Maintain Pressure Differential System in operation for the entire 96 air change period.

VISUAL INSPECTION:

96 Air Changes After Final Cleaning Perform a Complete Visual Inspection of the entire Work Area including: all surfaces, ceiling, walls, floor, decontamination unit, all plastic sheeting, seals over ventilation openings, doorways, windows, and other openings; look for debris from any sources, residue on surfaces, dust or other matter. During visual inspection sweep entire work area including walls, ceilings, ledges, floors, and other surfaces in the room with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). If any debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure from that point. When the area is visually clean, and if after sweeping of all surfaces with leaf blower, no debris, residue, dust or other material is found, complete the certification at the end of this section. Visual inspection is not complete until confirmed in writing, on the certification, by Project Administrator.

Temporary lighting: Provide a minimum of 100 foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles at 4 feet capable of reaching all locations in work area.

Lifts: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

FINAL AIR SAMPLING TEM:

Transmission Electron Microscopy (TEM): After the work area is found to be visually clean and PCM air sampling completed, TEM air samples may be collected and analyzed in accordance with the procedure for Transmission Electron Microscopy set forth in Section 01714 - Work Area Clearance

If Release Criteria are not met, repeat Final Cleaning and continue Decontamination procedure from that point.

If Release Criteria are met, proceed to Article on Removal of Work Area Isolation.

FINAL AIR SAMPLING PCM:

AHERA air clearance sampling protocols allow for Phase Contrast Microscopy (PCM) analysis under certain conditions pertinent to linear or square footage measurements of work area. Owner's Representative shall determine appropriate air clearance analysis method for each work area established by Contractor. PCM sampling protocols and analysis shall be used in areas that do not require TEM standards.

Phase Contrast Microscopy (PCM): After the work area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedure for Phase Contrast Microscopy set forth in Section 01714 Work Area Clearance:

If Release Criteria are not met, repeat Final Cleaning and continue Decontamination Procedure from that point.

If Release Criteria are met, proceed to work of this Section on Removal of Work Area Isolation.

REMOVAL OF WORK AREA ISOLATION:

After all requirements of this section and Section 01714 Work Area Clearance have been met:

Shut down and remove the Pressure Differential System. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.

Remove Personnel Decontamination Unit.

Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified in Section 01712 Cleaning & Decontamination Procedures.

Remove all equipment, materials, debris from the work site.

Dispose of all asbestos-containing waste material as specified in Section 02084

Disposal of Asbestos Containing Waste Material.

SUBSTANTIAL COMPLETION OF ABATEMENT WORK:

Asbestos Abatement Work is Substantially Complete upon meeting the requirements of this section and Section 01714 Work Area Clearance, including submission of:

Certificate of Visual Inspection

Receipts Documenting proper disposal as required by Section 02084 Disposal of Asbestos-Containing Waste Material.

Punch list detailing repairs to be made and incomplete items.

CERTIFICATE OF VISUAL INSPECTION:

Following this section is a "Certificate of Visual Inspection". This certification is to be completed by the Contractor and certified by the Project Administrator. Submit completed Certificate with Application for Final Payment. Final payment will not be made until this Certification is executed.

END OF SECTION – 01711

CERTIFICATION OF VISUAL INSPECTION

PROJECT:

In accordance with Section 01711 "Project Decontamination" the Contractor hereby certifies that he has visually inspected the Work Area (all surfaces including pipes, beams, ledges, roof deck, walls, ceiling and floor, Decontamination Unit, sheet plastic, etc.) and has found no dust, debris or residue.

Contractor:

Signed by:

Signature_____Date_____

Print Name_____

Title_____

PROJECT ADMINISTRATOR CERTIFICATION

The Project Administrator hereby certifies that he has accompanied the contractor on his visual inspection and verifies that this inspection has been thorough and to the best of his knowledge and belief, the Contractor's Certification above is a true and honest one.

Environmental Consultant:

Signed by:

Signature_____Date_____

Print Name_____

Title_____

SECTION 01712 - CLEANING AND DECONTAMINATION PROCEDURES

PART 1 - GENERAL

RELATED DOCUMENTS:

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

DESCRIPTION OF THE WORK:

The extent of cleaning and decontamination work is the responsibility of the Contractor.

Work Area Clearance: Specified in Section 01714 Work Area Clearance

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

GENERAL:

Complete the following before start of work of this section:

Regulated Areas
Respiratory Protection

WET CLEANING:

Accomplish wet cleaning during decontamination with paper towels or disposable rags:

Immerse paper towel or rag in container of water with surfactant, or diluted removal encapsulant.

Wring out; fold into quarters; wipe surface once and refold to a fresh face of cloth. Proceed in this manner until all available faces of paper towel or rag have been used.

Dispose of paper towel or rag. Do not place rag back in container to rinse out, or for any other purpose. If a used towel or rag comes in contact with water, empty container and refill.

Material adhered to a surface with removal encapsulant may require the application of additional removal encapsulant to facilitate cleaning.

REMOVAL OF ASBESTOS-CONTAINING DEBRIS

It is the abatement contractor's sole responsibility to promptly cleanup any debris, asbestos-containing or otherwise, that is generated by contractor during the project. Remove asbestos-containing debris and decontaminate the area involved using the following sequence:

Shut down all ventilation into room, attic space or other building area.

Seal entry to work area with 6 mil polyethylene. Slit polyethylene for entry. Install a flap to cover the slit automatically; tape slit closed after entry.

Remove all small debris with the HEPA vacuum.

HEPA vacuum surfaces of all pieces too large to be removed by the suction of the HEPA vacuum.

Pick up such pieces and place in the bottom of a 6 mil polyethylene disposal bag conforming to the requirements of Section 02084 Disposal of Asbestos-Containing Waste Material. Place pieces in the bag without dropping and avoiding unnecessary disturbance and release of material.

Remove all remaining visible debris with HEPA vacuum.

HEPA vacuum an area 3 feet beyond the location in which any visible debris was found in two directions each at right angles to the other.

Place a 6 mil polyethylene drop cloth immediately on top of the HEPA vacuumed area before performing any repair work on site from which fall-out occurred.

HEPA vacuum the site from which material fell removing all loose material which can be removed by the vacuums suction.

Repair or remove remaining material.

HEPA vacuum ladder and/or any tools used and pass out of the work area.

HEPA vacuum all surfaces in the room starting at the top of wall and working downward to the floor. Then start at corner of floor farthest from Work Area entrance and work towards entrance.

HEPA vacuum the floor using a floor attachment with rubber floor seals and adjustable floor to attachment height. Adjust the height so that the rubber seals just touch the floor if carpeted and are within 1/16" of hard surface floors. Vacuum the floor in parallel passes with each pass overlapping the previous by one-half the width of the floor attachment. At the completion of one cleaning vacuum the floor a second time at right angles to the first.

CLEANING AND DECONTAMINATING OBJECTS

Perform all work of decontaminating objects wherever possible on a plastic drop sheet installed in conformance with Section 01527.

HEPA vacuum all surfaces of object and immediate area before moving the object.

Pick-up object, if possible, and HEPA vacuum all surfaces.

Hand to off-sheet worker who will wet-clean object, if possible, and place in storage location.

Decontaminate area where object was located by HEPA vacuuming twice, in two perpendicular directions. Wet clean if necessary to remove any debris.

Return object to its original location.

DECONTAMINATION OF ROOMS AND OTHER SPACES:

Shut down all ventilation into space.

Seal entry to Work Area with 6 mil polyethylene. Slit polyethylene for entry. Install a flap to cover the slit automatically; tape slit closed after entry.

Install Differential Pressure System.

HEPA vacuum all surfaces in the room starting at the ceiling, then top of wall and working downward to the floor.

HEPA vacuum the floor using a floor attachment with rubber floor seals and adjustable floor to attachment height. Adjust the height so that the rubber seals just touch the floor if carpeted and are within 1/16" of hard surface floors. Vacuum the floor in parallel passes with each pass overlapping the previous by one half the width of the floor attachment. At the completion of one cleaning, vacuum the floor a second time at right angles to the first.

Operate HEPA filtered fan unit in space for 24 hours minimum.

Secure area from occupancy until air monitoring results per Section 01714 Work Area Clearance indicate area is safe for re-occupancy.

END OF SECTION – 01712

SECTION 01714 - WORK AREA CLEARANCE (IF REQUIRED)

PART 1 - GENERAL

RELATED DOCUMENTS:

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

Visual Inspection: required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.

Air Monitoring: performed by the Owner during abatement work, is described in Section 01410 Test Laboratory Services.

SUMMARY

Not in Contract Sum: This section describes work being performed by the Owner. This work is not in the Contract Sum.

This Section sets forth required post-abatement airborne asbestos concentrations in the Work Area and describes testing procedures the Owner will use to measure these levels.

CONTRACTOR RELEASE CRITERIA:

The Asbestos Abatement Work Area is Cleared when the Work Area is visually clean and airborne asbestos structure concentrations have been reduced to the level specified below.

VISUAL INSPECTION:

Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been certified by the Project Administrator.

AIR MONITORING:

To determine if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the Owner will secure samples and analyze them according to the following procedures.

Aggressive sampling procedures as described below will be followed.

PCM samples will be secured as indicated below. If the area meets the PCM clearance criteria TEM sampling will not proceed.

TEM samples will be secured as indicated below for work areas where TEM samplings are required under AHERA regulations for clearance sampling. Owner's Project Representative shall determine areas requiring TEM clearance sampling.

Work Area Clearance: upon meeting the TEM or PCM Clearance requirements the work of Section 01711 Project Decontamination can continue.

AGGRESSIVE SAMPLING:

All Air Samples will be taken using aggressive sampling techniques as follows:

Before sampling pumps are started the exhaust from forced-air equipment (leaf blower with an approximately 1 horsepower electric motor) will be swept against all walls, ceilings, floors, ledges and other surfaces in the room. This procedure will be continued for 5 minutes per 10,000 cubic feet of room volume.

One 20 inch diameter fan per 10,000 cubic feet of room volume will be mounted in a central location at approximately 2 meters above floor, directed toward ceiling and operated at low speed for the entire period of sample collection.

Air samples will be collected in areas subject to normal air circulation away from room corners, obstructed locations, and sites near windows, doors or vents.

After air sampling pumps have been shut off, fans will be shut off.

SCHEDULE OF AIR SAMPLES:

General: The number and volume of air samples taken and analytical methods used by the Owner will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical instruments used.

PHASE CONTRAST MICROSCOPY:

In each homogeneous Work Area after completion of all cleaning work, a minimum of 7 samples will be taken and analyzed as follows:

Samples will be collected on 25 mm. cassettes with the following filter media:

PCM: 0.8 mixed cellulose ester in a cassette with a conductive extension cowl.

Location Sampled	Number of Samples	Analysis Method	Detection Limit Fibers/cc.	Minimum Volume (Liters)	Rate LPM
Each Work Area	5	PCM	0.01	1,200	1-10
or					
Each Room of Work Area	1 (5 min)	PCM	0.01	1,200	1-10
Work Area Blank	1	PCM	0.01	0	**
Lab Blank	1	PCM	0.01	0	***

** open for 30 seconds

*** do not open

Analysis: Fibers on each filter will be measured using the NIOSH Method 7400 entitled "Fibers" published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987.

Fibers: referred to in this section include fibers regardless of composition as counted by the phase contrast microscopy method used.

Split Sample: One Work Area sample will be split and both halves analyzed separately for duplicate analysis.

Release Criteria: Decontamination of the work site is complete when every Work Area sample is at or below the Detection Limit above. If any sample is above the Detection Limit then the decontamination is incomplete and re-cleaning per section 01711 Project Decontamination is required.

TRANSMISSION ELECTRON MICROSCOPY:

In each homogeneous work area after completion of all cleaning work, a minimum of 13 samples will be taken and analyzed as follows:

Location Sampled	Number of Samples	Analysis Method	Detection Limit	Minimum Volume Fibers/cc.	Rate LPM (Liters)
Each Work Area	5	TEM	0.005	1,300-1,800	1-10
Outside Work Area	5	TEM	0.005	1,300-1,800	1-10
Work Area Blank	1	TEM	0.005	0	**
Outside Blank	1	TEM	0.005	0	**
Lab Blank	1	TEM	0.005	0	***

** open for 30 seconds

*** do not open

Analysis will be performed using the analysis method set forth in the AHERA Regulation 40 CFR Part 763 Appendix A.

Asbestos Structures referred to in this Section include asbestos fibers, bundles, clusters or matrices, as defined by method of analysis.

Release Criteria: Decontamination of the work site is complete if either of the following two sets of conditions are met:

Work Area Samples are below filter background levels

All Work area sample volumes are greater than 1,199 liters for a 25 mm. sampling cassette.

The average concentration of asbestos on the five Work Area Samples does not exceed the filter background level of 70 structures per square millimeters of filter area.

Work Area Samples are not statistically different from Outside Samples.

All sample volumes except for blanks are greater than 560 liters for a 25 mm. sampling cassette.

The average asbestos concentration of the three blanks is below the filter background level of 70 structures per square millimeter of filter area.

Average asbestos concentrations in Work Area Samples are not statistically different from Outside Samples, as determined by the Z-test calculation found in 40 CFR Part 763, Subpart E, Appendix A (Z is less than or equal to 1.65).

If these conditions are not met then the decontamination is incomplete and the cleaning procedures of Section 01711 shall be repeated.

Termination of Analysis: If the arithmetic mean (average) asbestos concentration on the blank filters exceed 70 structures per square millimeter of filter area the analysis will cease and new samples collected.

LABORATORY TESTING:

PHASE CONTRAST MICROSCOPY:

The services of a testing laboratory will be employed by the Owner's Representative to perform laboratory analysis of the air samples. A technician will be at the job site, and samples will be sent daily by overnight delivery, so that verbal reports on air samples can be obtained within 24 hours (next regular laboratory work day).

A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Owner's Representative, the Owner and the Contractor.

TRANSMISSION ELECTRON MICROSCOPY:

Samples will be sent by overnight courier for analysis by Transmission Electron Microscopy. Samples will not be carried on weekends, so that samples shipped on Friday will arrive on the following Monday. Verbal results will normally be available during the 5th working day after receipt of samples by the laboratory. The laboratory is capable of analyzing a maximum of 13 such samples from this project at any one time. All transmission Electron Microscopy results will be available to the Contractor.

EXCEPTION TO COSTS:

Owner shall be responsible for all laboratory costs associated with initial PCM and PCM and or TEM clearance air samples if required for the project. Contractor shall be responsible for all costs associated with PCM and TEM clearance samples for areas of the building that have been impacted by Abatement Contractor's operations. Contractor shall also be responsible for all costs associated with same day delivery of clearance samples to laboratory. Only laboratory approved by Owner's Representative shall be utilized for clearance sample analysis.

Contractor's costs for follow up PCM and TEM clearance sample analysis shall include Consultant, Air Monitoring Technician, sample shipping and laboratory analysis costs. Rates and analysis charges shall be invoiced to Contractor at rates specified in Consultant's agreement with Owner. All sample collection and shipping shall be conducted by Owner's Consultant and submitted to Owner's laboratory for analysis.

END OF SECTION – 01714

SECTION 02081 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

RELATED WORK SPECIFIED ELSEWHERE:

Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.

Project Decontamination procedures after removal of the Secondary Barrier are specified in Section 01711 Project Decontamination.

SUBMITTALS:

Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.

NESHAP Certification: Submit certification from manufacturer of surfactant or removal encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet Asbestos-Containing Materials to which it is applied as required by the National Emission Standard for Hazardous Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).

Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material and solvent proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

PART 2 - PRODUCTS:

Wetting Materials: For wetting prior to disturbance of Asbestos-Containing Materials use either amended water or a removal encapsulant:

Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant

consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.

Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, frosted or black as indicated.

Duct Tape: Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos Containing Waste Material.

Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.

Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

Felt: Standard felt approximately 1/16" thick and 36" to 72" in width.

PART 3 - EXECUTION

SECONDARY BARRIER:

Secondary Barrier: Over the Primary Barrier, install as a drop cloth a clear 6 mil sheet plastic in all areas where asbestos removal work is to be carried out. Completely cover floor with sheet plastic. Where the work is within 10'-0" of a wall extend the Secondary Barrier up wall to ceiling. Support sheet plastic on wall with duct tape, seal top of Secondary plastic to Primary Barrier with duct tape so that debris is unable to get behind it. Provide cross strips of duct tape at wall support as necessary to support sheet plastic and prevent its falling during removal operations.

Install Secondary Barrier at the beginning of each work shift. Install only sufficient plastic for work of that shift.

Remove Secondary Barrier at end of each work shift or as work in an area is completed. Fold plastic toward center of sheet and pack in disposal bags. Keep material on sheet continuously wet until bagged.

Install Walkways of black 6 mil plastic between active removal area and decontamination units to protect Primary Layer from tracked material. Install walkways at the beginning of, and remove at the end of, each work shift.

WORKER PROTECTION:

Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

WET REMOVAL:

Thoroughly wet to satisfaction of Owner's Representative Asbestos Containing Materials to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any installation which has been painted and/or jacketed in order to allow penetration of amended water or removal encapsulant, or use injection equipment to wet material under the covering. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

Remove saturated Asbestos-Containing Material in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit. Evacuate air from disposal bags with a HEPA filtered vacuum cleaner before sealing.

Pipe Insulation: Spray with a mist of amended water or removal encapsulant. Allow amended water or removal encapsulant to saturate material to substrate. If a removal encapsulant is used, use in strict accordance with manufacturer's instructions. Cut bands holding preformed pipe insulation, slit jackets at seams, remove and hand place in a disposal bag. Remove job-molded fitting insulation in chunks and hand place in a disposal bag. Do not drop to floor. Remove any residue on pipe or fitting with stiff bristle nylon hand brush. In locations where pipe fitting insulation is removed from pipe with straight runs insulated with fibrous glass or other non-asbestos-containing fibrous material, remove fibrous material 6" from the point where it contacts the asbestos-containing insulation.

Active Electrical Equipment: Do not wet materials in the vicinity of active electrical equipment. Dry remove any Asbestos-Containing Materials in the vicinity of active electrical equipment.

Restrict Access: Maintain existing access restrictions to areas with active electrical equipment. Allow access to area only to qualified trade persons with prior experience in the installation and repair of involved equipment.

Warning Signs: Post warning signs at the entry point to active electrical equipment as required by OSHA or other applicable regulation.

Personnel: Work on active electrical equipment is to be performed by qualified trade persons with prior experience in the installation or repair of the involved equipment. Restrict access to electrical equipment.

Electrical Isolation: Cover exposed conductors with a minimum 1/8" thick neoprene blanket draped over the conductor and surrounding area.

Protective Equipment: Provide workers working on or in the vicinity of active electrical with appropriate protective equipment including insulating gloves, boots, and non-conductive tools.

Work Procedures: Perform removal work using "Localized Control of Material Release" and "Local Ventilation and Collection System" procedures described below.

END OF SECTION – 02081

SECTION 02084 - DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

Section 01092 Codes and Regulations - Asbestos Abatement describes applicable federal, state and local regulations.

DESCRIPTION OF THE WORK:

This section describes the disposal of Asbestos-Containing Materials. Disposal includes packaging of asbestos- containing waste materials. Disposal may be accomplished either by landfilling or converting asbestos containing materials to non-asbestos waste.

SUBMITTALS:

Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use.

Copy of state or local license for waste hauler.

Name and address of landfill where asbestos-containing waste materials are to be buried. Include contact person and telephone number.

Chain of Custody form and form of waste manifest proposed

Sample of disposal bag and any added labels to be used.

On a weekly basis submit copies of all manifests and disposal site receipts to Owner's Representative.

PART 2 - PRODUCTS:

Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags or other approved containers with following text clearly printed on each bag or container where friable asbestos are present:

DANGER
CONTAINS ASBESTOS FIBERS AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
AVOID BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, ACTINOLITE,
CROCIDOLITE, AMOSITE, OR CHRYSOTILE FIBERS

RQ, ASBESTOS,
CLASS 9
NA 2212

HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBITS IMPROPER
DISPOSAL. IF FOUND, CONTACT THE NEAREST POLICE
OR PUBLIC SAFETY AUTHORITY

PART 3 - EXECUTION

GENERAL:

All waste is to be hauled by a waste hauler with all required licenses from all state and local authority with jurisdiction.

Load all asbestos-containing waste material in disposal bags or leak-tight drums. All materials are to be contained in one of the following

Two 6 mil disposal bags or

Two 6 mil layers of poly or

Two 6 mil disposal bags and a fiberboard drum or

Sealed steel drum with no bag

Label all containers with the name of the owner of the material and the point of origin. Protect interior of truck or dumpster with Critical and Primary Barriers.

Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material. Truck shall be posted with asbestos DANGER warning signs during loading of bags and other containers.

Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.

Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.

Advise the landfill operator, at least ten days in advance of transport, of the quantity of material to be delivered.

At disposal site unload containerized waste:

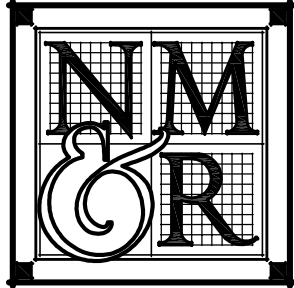
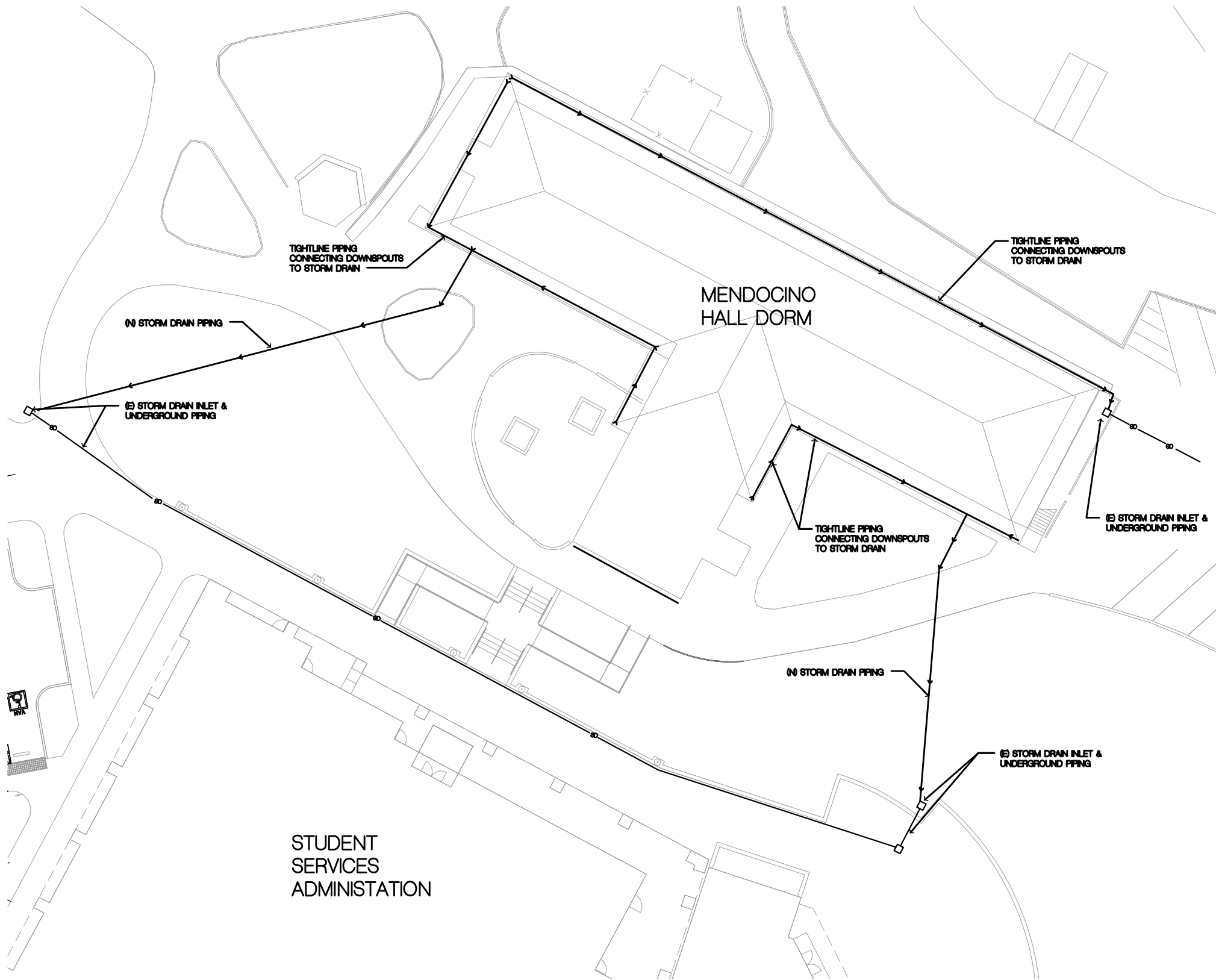
At a disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for re-bagging. Clean entire truck and contents using procedures set forth in section 01711 Project Decontamination.

Retain receipts from landfill for materials disposed of.

At completion of hauling and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to Owner's Representative.

END OF SECTION – 02084

COLLEGE OF THE REDWOODS MENDOCINO HALL RE-ROOF



**NICHOLS
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ROSSETTO**
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**MENDOCINO
HALL
RE-ROOF**

C.O.R.
EUREKA

SITE PLAN

SCOPE OF WORK

ROOF REPLACEMENT PROJECT INCLUDING REMOVAL OF EXISTING ROOF MATERIAL TO THE SHEATHING WITH ASBESTOS ABATEMENT, REPAIR & REPLACEMENT OF FRAMING MEMBERS, REMOVAL OF FIREPLACE CHIMNEY AS AN ADD-ALTERNATE AND THE INSTALLATION OF NEW ROOFING MATERIAL INCLUDING WATERPROOFING AND DETAILING AS INDICATED IN DRAWINGS AND SPECIFICATIONS

SITE UTILITY NOTES

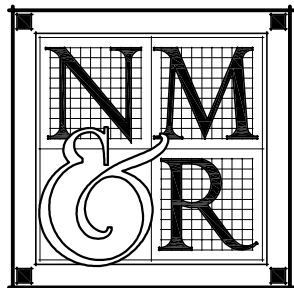
1. CONTRACTOR SHALL PROVIDE UNDERGROUND TIGHTLINE DRAINAGE COLLECTION FOR ALL RAIN DOWNSPOUTS. TIGHTLINE PIPING SHALL CONNECT TO EXISTING CAMPUS STORM DRAIN LINES AS INDICATED. CONTRACTOR SHALL VERIFY ROUTING TO EXISTING STORM DRAINAGE SYSTEM CONNECTIONS AND DEPTHS TO ALLOW FOR PROPER DRAINAGE OF NEW PIPING.

DR.	WT
DT.	12/15/14
SC.	1" = 30'-0"
NO.	10-2529.00

SHT.

A1.0

OF:



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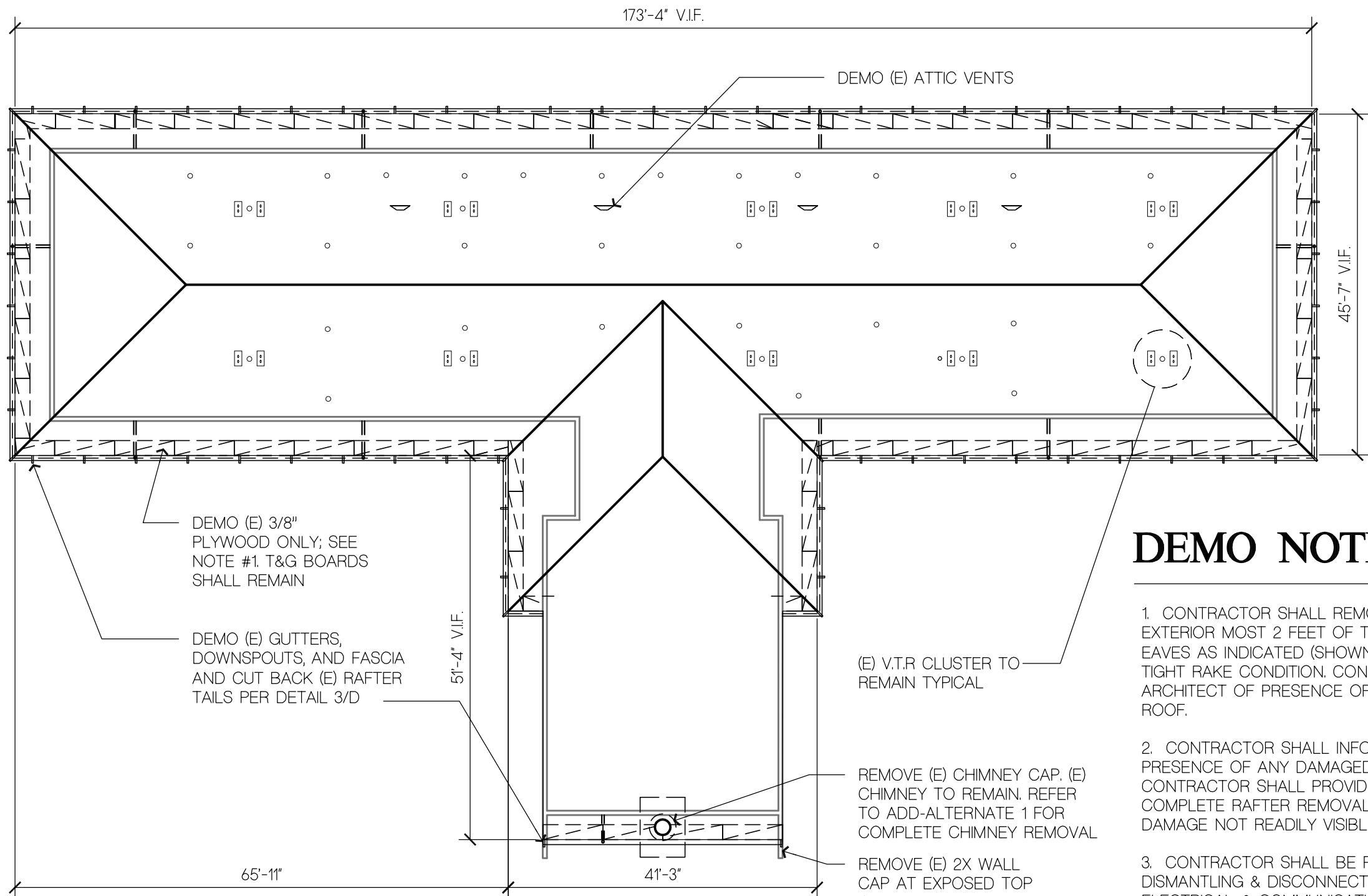
C.O.R.
EUREKA

EUREKA, CA

DEMO ROOF PLAN

DR. BPL/WGK
DT. 12/15/14
SC. AS NOTED
NO. 10-2529.00

SHT.
A1.1
OF:

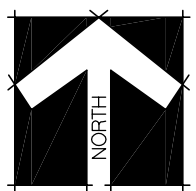
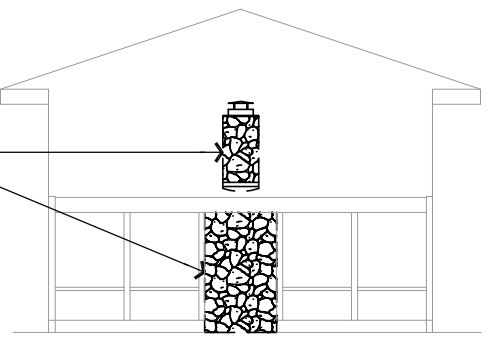


DEMO NOTES

1. CONTRACTOR SHALL REMOVE & REPLACE PERIMETER EXTERIOR MOST 2 FEET OF THE PLYWOOD SHEATHING ALONG EAVES AS INDICATED (SHOWN DASHED). NOT REQUIRED AT TIGHT RAKE CONDITION. CONTRACTOR SHALL INFORM ARCHITECT OF PRESENCE OF DAMAGE WITHIN THE BODY OF ROOF.
2. CONTRACTOR SHALL INFORM ARCHITECT OF THE PRESENCE OF ANY DAMAGED FRAMING WHERE OCCURS. CONTRACTOR SHALL PROVIDE COST ASSOCIATED WITH COMPLETE RAFTER REMOVAL IN THE CASE OF EXTENSIVE ROT DAMAGE NOT READILY VISIBLE UNTIL ROOF IS REMOVED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISMANTLING & DISCONNECTION OF ANY MECHANICAL, ELECTRICAL, & COMMUNICATION EQUIPMENT, CONDUIT, & PIPING AS REQUIRED FOR INSTALLATION OF NEW ROOF

ADD-ALTERNATE 1

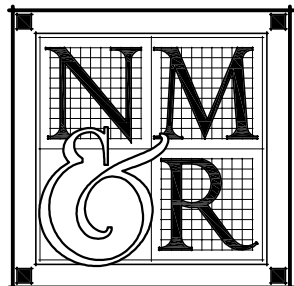
1. COMPLETE REMOVAL OF STONE FIREPLACE & CHIMNEY



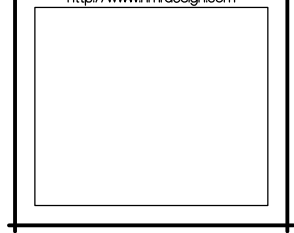
DEMOLITION PLAN

SCALE: 1/16" = 1'-0"

Plot Date: January 13, 2015 - 9:23 am
File Name: N:\Projects\2000\Education\10-2529.00 COR Mendocino Hall Re-Roof\0-0 CAD Files\Construct\plan layouts.dwg



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**MENDOCINO
HALL
RE-ROOF**

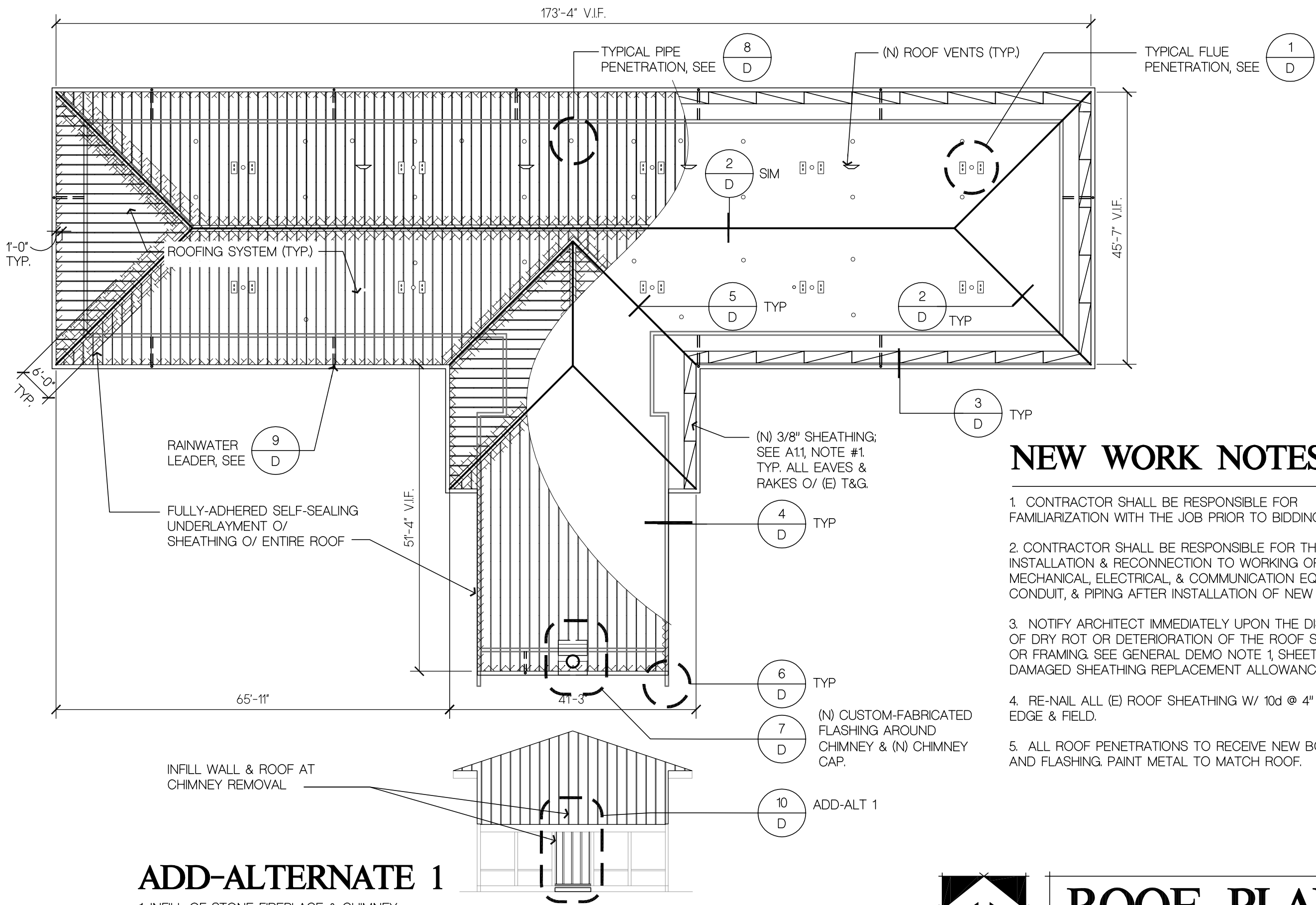
**C.O.R.
EUREKA**

**COLLEGE OF
THE REDWOODS
EUREKA, CA**

ROOF PLAN

DR. BPL/WGK
DT. 12/15/14
SC. AS NOTED
NO. 10-2529.

SHT.
A1.2
OF:

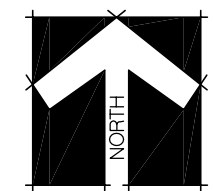


NEW WORK NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZATION WITH THE JOB PRIOR TO BIDDING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION & RECONNECTION TO WORKING ORDER ALL MECHANICAL, ELECTRICAL, & COMMUNICATION EQUIPMENT, CONDUIT, & PIPING AFTER INSTALLATION OF NEW ROOF.
3. NOTIFY ARCHITECT IMMEDIATELY UPON THE DISCOVERY OF DRY ROT OR DETERIORATION OF THE ROOF SHEATHING OR FRAMING. SEE GENERAL DEMO NOTE 1, SHEET A1.1 FOR DAMAGED SHEATHING REPLACEMENT ALLOWANCE.
4. RE-NAIL ALL (E) ROOF SHEATHING W/ 10d @ 4" O.C. @ EDGE & FIELD.
5. ALL ROOF PENETRATIONS TO RECEIVE NEW BOOT/JACK AND FLASHING. PAINT METAL TO MATCH ROOF.

ADD-ALTERNATE 1

1. INFILL OF STONE FIREPLACE & CHIMNEY



ROOF PLAN

SCALE: 1/16" = 1'-0"

(E) FLUE TO REMAIN.
CLEAN AND PAINT TO
MATCH ROOFING

(N) FLEXIBLE ROOF
JACK, SET IN MASTIC
& SECURE W/ SHT
METAL SCREWS PER
MFR SPECS

REMOVE & REPLACE FLUE CAP.
PAINT TO MATCH ROOF. PROVIDE
TRANSITION COLLAR AS NEEDED
TO PROVIDE PROPER FIT & SEAL
TO (E) FLUE PIPE.
(ALTERNATE AS ALLOWED BY
OWNER - RE-USE (E) FLUE CAP.
CONFIRM BIRD PROOFING &
REPAIR OR REPLACE AS NEEDED.
PAINT TO MATCH ROOFING)

(N) SOLDERED V.T.R. FLASHING
PAN PAINTED TO MATCH
ROOFING

(N) PRECOATED METAL ROOFING
SYSTEM

NOTE: VERIFY FLUE DIAMETER FOR ROOF
JACK & FLUE CAP. NON-STANDARD
DIAMETER WILL REQUIRE ADAPTERS &
COUNTERFLASHING TO PROVIDE PROPER FIT
& SEAL

COLLAR SUPPORT (AS NEEDED)

METAL COLLAR (AS NEEDED)

RUN PAN UNDER ROOF PANELS.
SEAL W/ DOUBLE SEALANT TAPE

TURN PAN UP INTO ROOF RIBS
AT EACH SIDE

RUN PAN OVER ROOF PANELS
& BATTENS. SEAL W/
DOUBLE SEALANT TAPE.

PREFINISHED
FLASHING PAN,
MATCH ROOFING

PLUMBING VENT.
SEE 8/D

FLU, TYP OF 4;
SEE ABOVE.

ROOF PANEL

Plot Date: January 12, 2015 - 11:27 am
File Name: N:\Projects\2000\Education\10-2529.00 COR Mendocino Hall Re-Roof\0-0 CAD Files\Constructs\1-D_Flue Penetration.dwg

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FLUE PENETRATION

MENDOCINO HALL REROOF
COLLEGE OF THE REDWOODS

A

1D

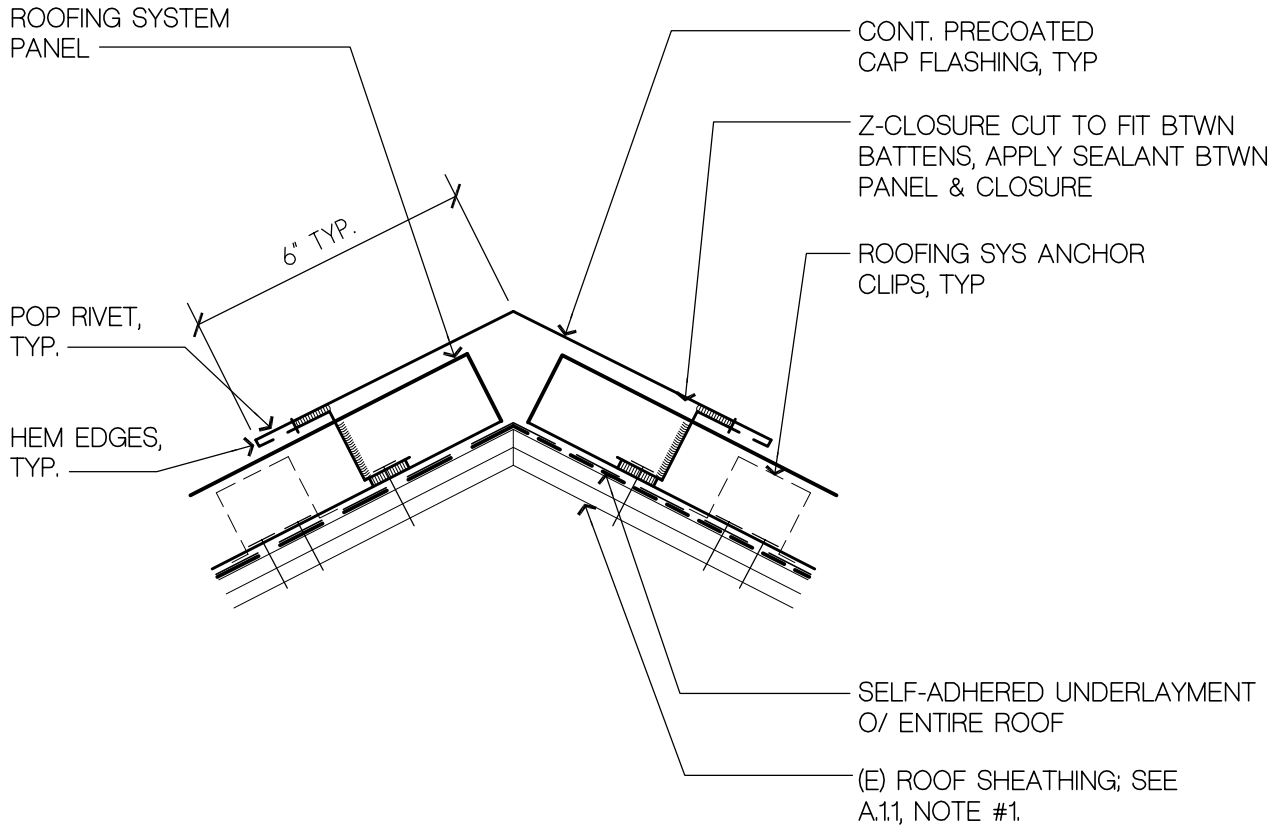
DR. BPL


DT. 12/15/14

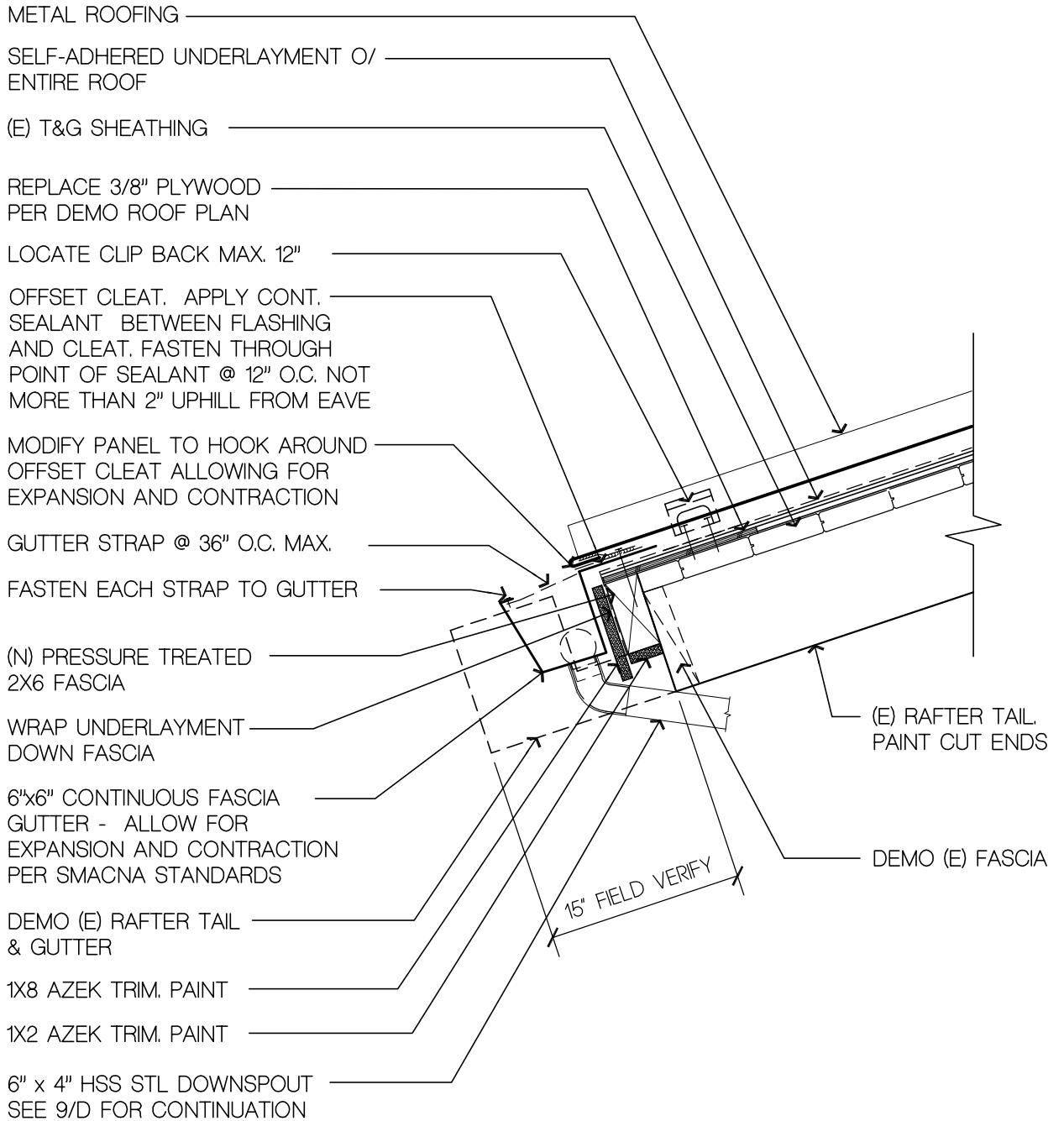
SC. 3" = 1'-0"

NO. 10-2529.00

Plot Date: January 12, 2015 - 11:25 am
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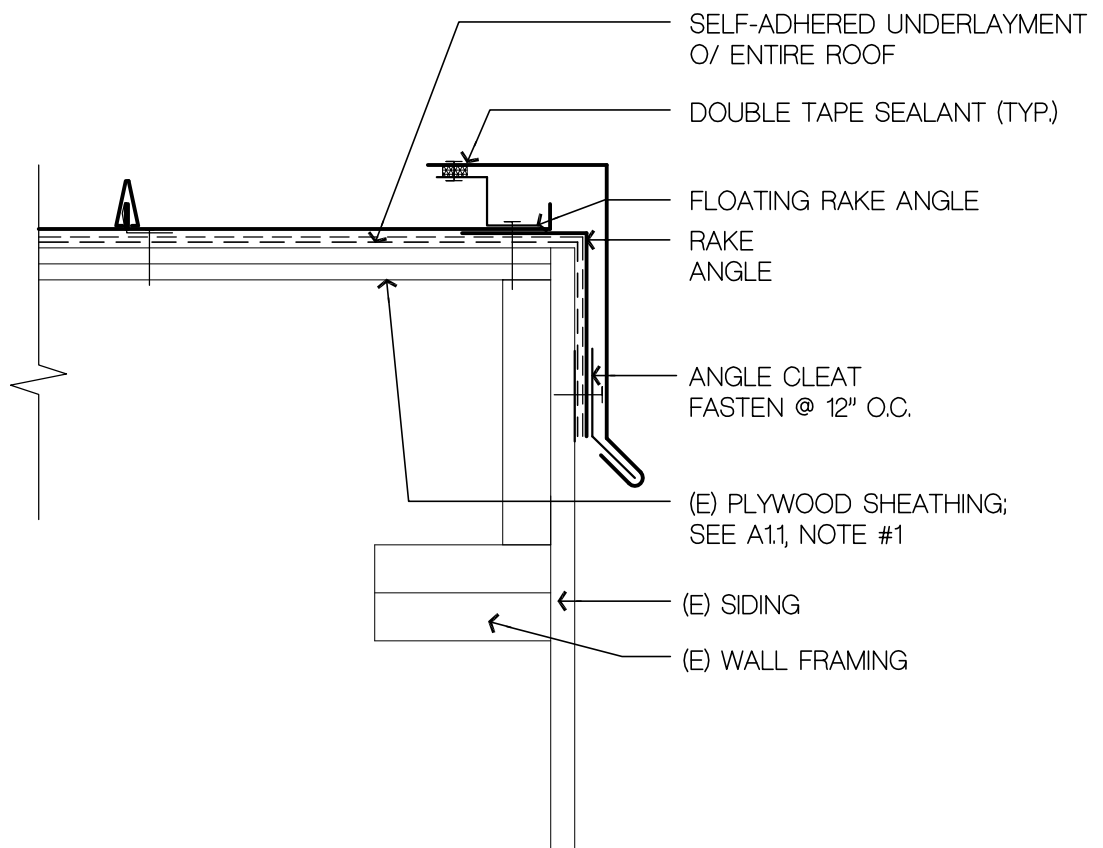
NICHOLS MELBURG  ROSSETTO ARCHITECTS + ENGINEERS 300 KNOLLCREST DRIVE REDDING, CA 96002 (530) 222-3300 (530) 222-3538 FAX	METAL ROOF HIP		A	DR. BPL
	MENDOCINO HALL RE-ROOF COLLEGE OF THE REDWOODS		2D	DT. 12/15/14 SC. 3/16"=1'-0" NO. 10-2529.00




Plot Date: January 12, 2015 - 11:24 am
 File Name: N:\Projects\2000\Education\10-2529.00 COR Mendocino Hall Re-Roof\0-CAD Files\Constructs\3-D_Eavedwg

NICHOLS MELBURG  ROSSETTO ARCHITECTS + ENGINEERS 300 KNOLLCREST DRIVE REDDING, CA 96002 (530) 222-3300 (530) 222-3538 FAX	<h1>EAVE DETAIL</h1>		A	DR. BPL
	MENDOCINO HALL RE-ROOF COLLEGE OF THE REDWOODS		3D	DT. 12/15/14
				SC. 1/8"=1'-0"
				NO. 10-2529.00

Plot Date: January 12, 2015 - 11:23 am
 File Name: N:\Projects\2000\Education\10-2529\00 COR Mendocino Hall Re-Roof\0-0 CAD Files\Constructs\4-D_METAL ROOF RAKE.dwg



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RAKE DETAIL

MENDOCINO HALL RE-ROOF
 COLLEGE OF THE REDWOODS

A

4D

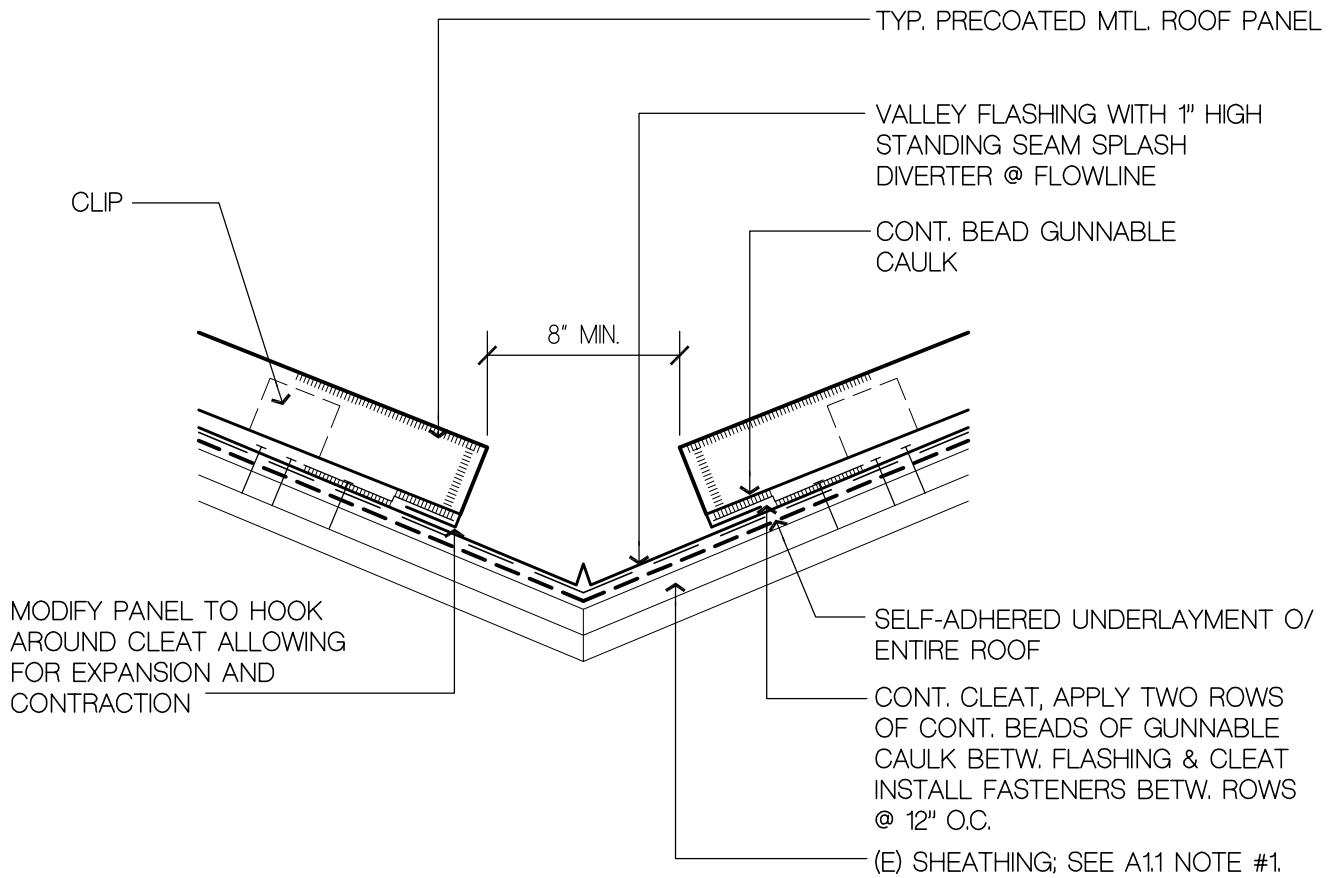
DR. BPL


DT. 12/15/14

SC. NTS

NO. 10-2529.00

Plot Date: January 12, 2015 - 11:14 am
 File Name: N:\Projects\2000\Education\10-2529\00 COR Mendocino Hall Re-Roof\0-0 CAD Files\Constructs\5-D_METAL ROOF VALLEY.dwg



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METAL ROOF VALLEY

**MENDOCINO HALL REROOF
COLLEGE OF THE REDWOODS**

A

5D

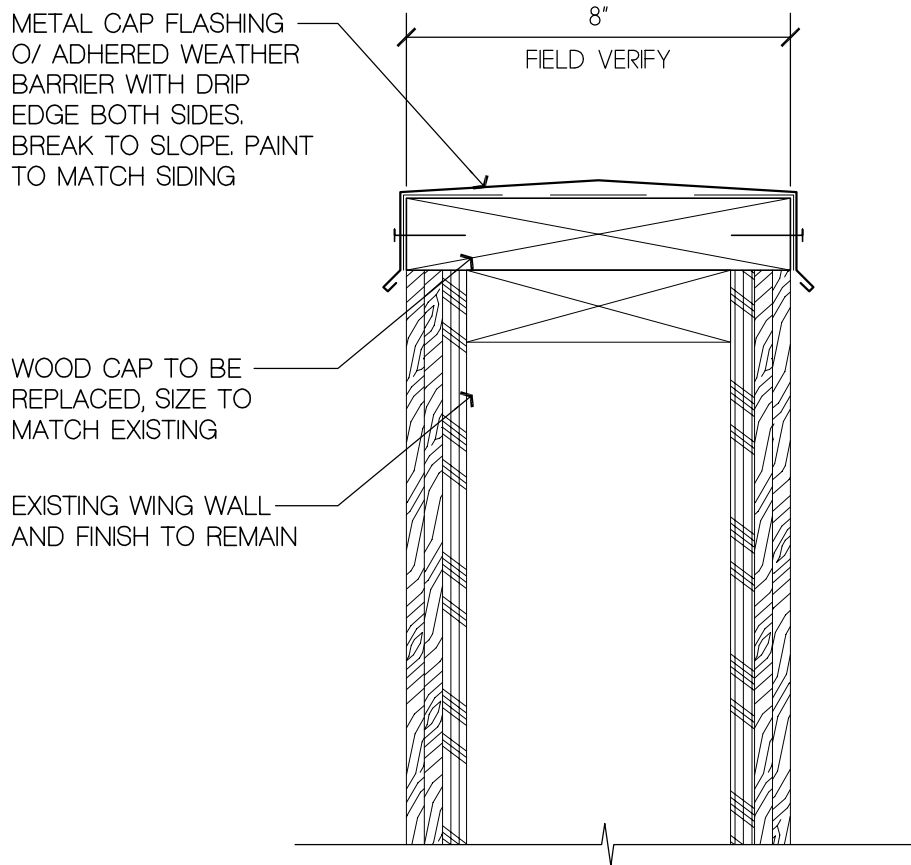
DR. BPL


DT. 12/15/14

SC. 3"-1'-0"

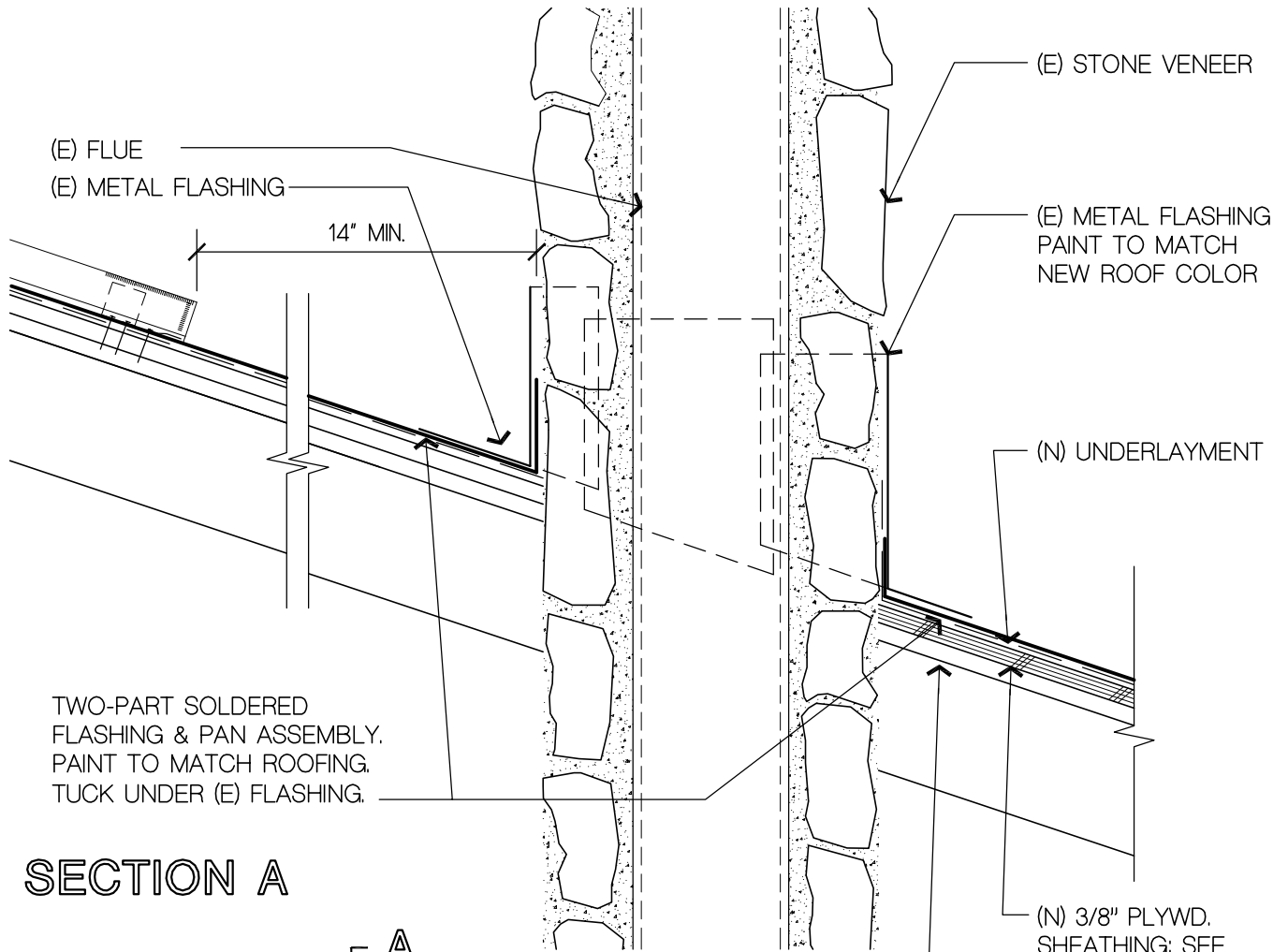
NO. 10-2529.00

Plot Date: January 12, 2015 - 11:11 am
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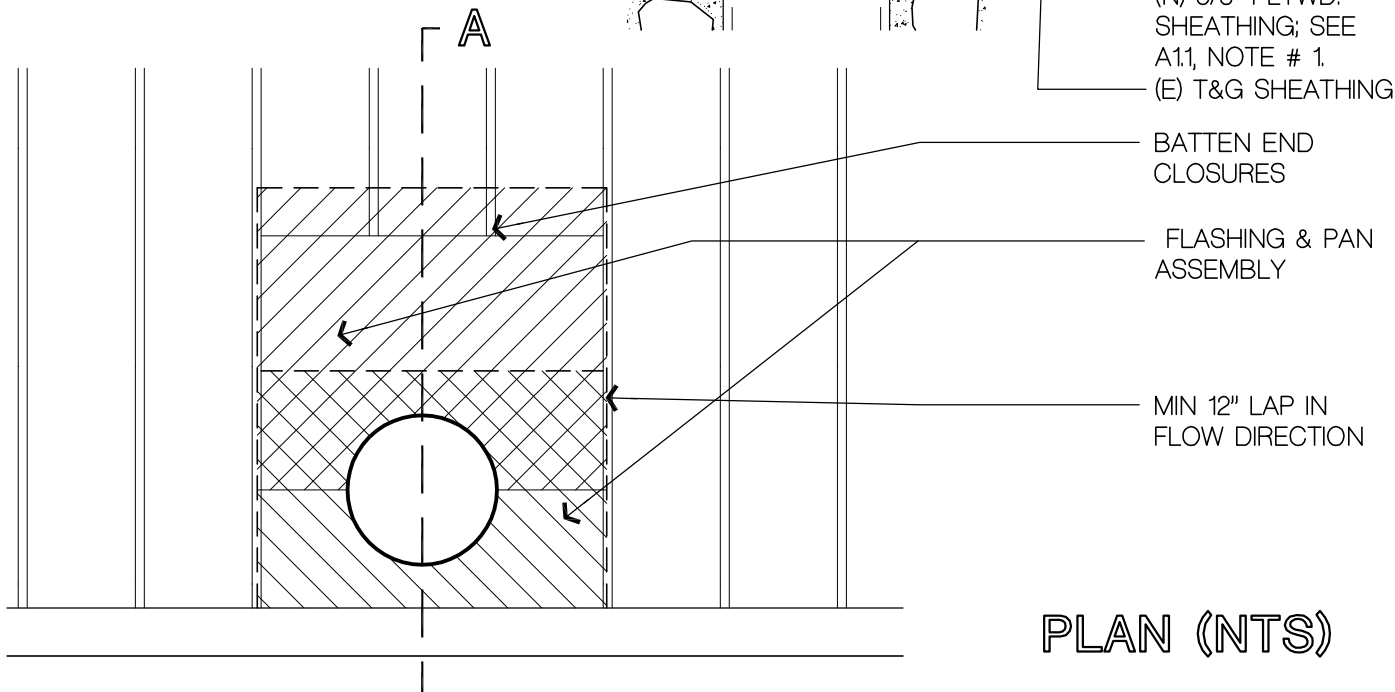


NICHOLS MELBURG  ROSSETTO ARCHITECTS + ENGINEERS 300 KNOLLCREST DRIVE REDDING, CA 96002 (530) 222-3300 (530) 222-3538 FAX	WING WALL CAP		A	DR. MMF
	MENDOCINO HALL REROOF COLLEGE OF THE REDWOODS		6D	DT. 12/15/14 SC. 3/1'-0" NO. 10-2529.00

Plot Date: January 12, 2015 - 10:56 am
 File Name: N:\Projects\2000\Education\10-2529\00 COR Mendocino Hall Re-Roof\0-CAD Files\Constructs\7-D_FLASHING AT CHIMNEY.dwg



SECTION A



PLAN (NTS)

**NICHOLS
MELBURG**

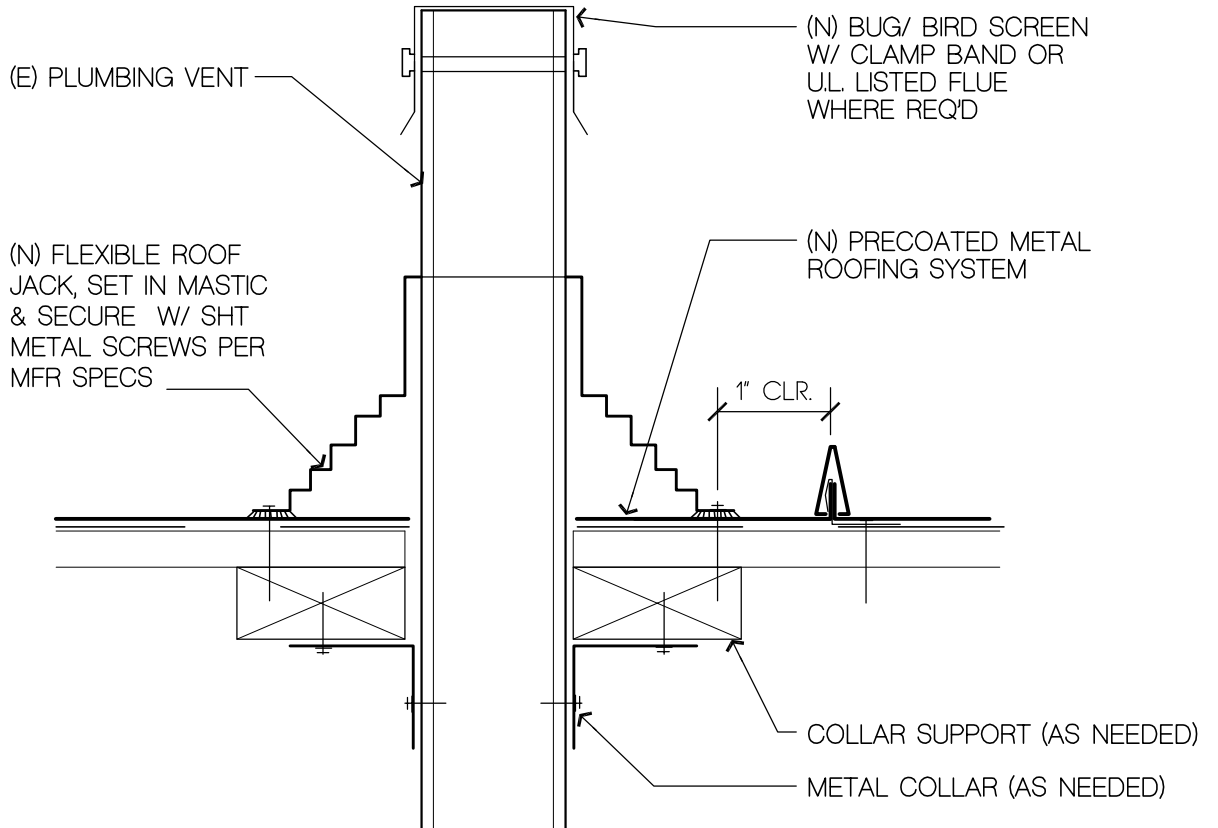
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FLASHING AT CHIMNEY
 MENDOCINO HALL RE-ROOF
 COLLEGE OF THE REDWOODS

A
7D

DR. BPL
DT. 12/15/14
SC. 1-1/2"=1'-0"
NO. 10-2529.00

Plot Date: January 12, 2015 - 11:21 am
 File Name: N:\Projects\2000\Education\10-2529\00 COR Mendocino Hall Re-Roof\0-0 CAD Files\Construct\8-D_PIPE PENETRATION.dwg

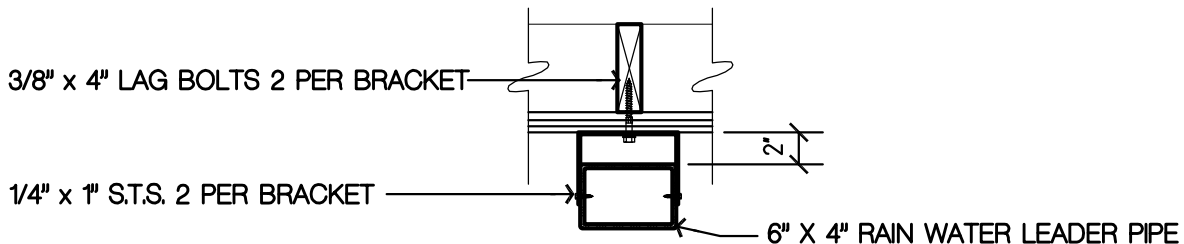


**NICHOLS
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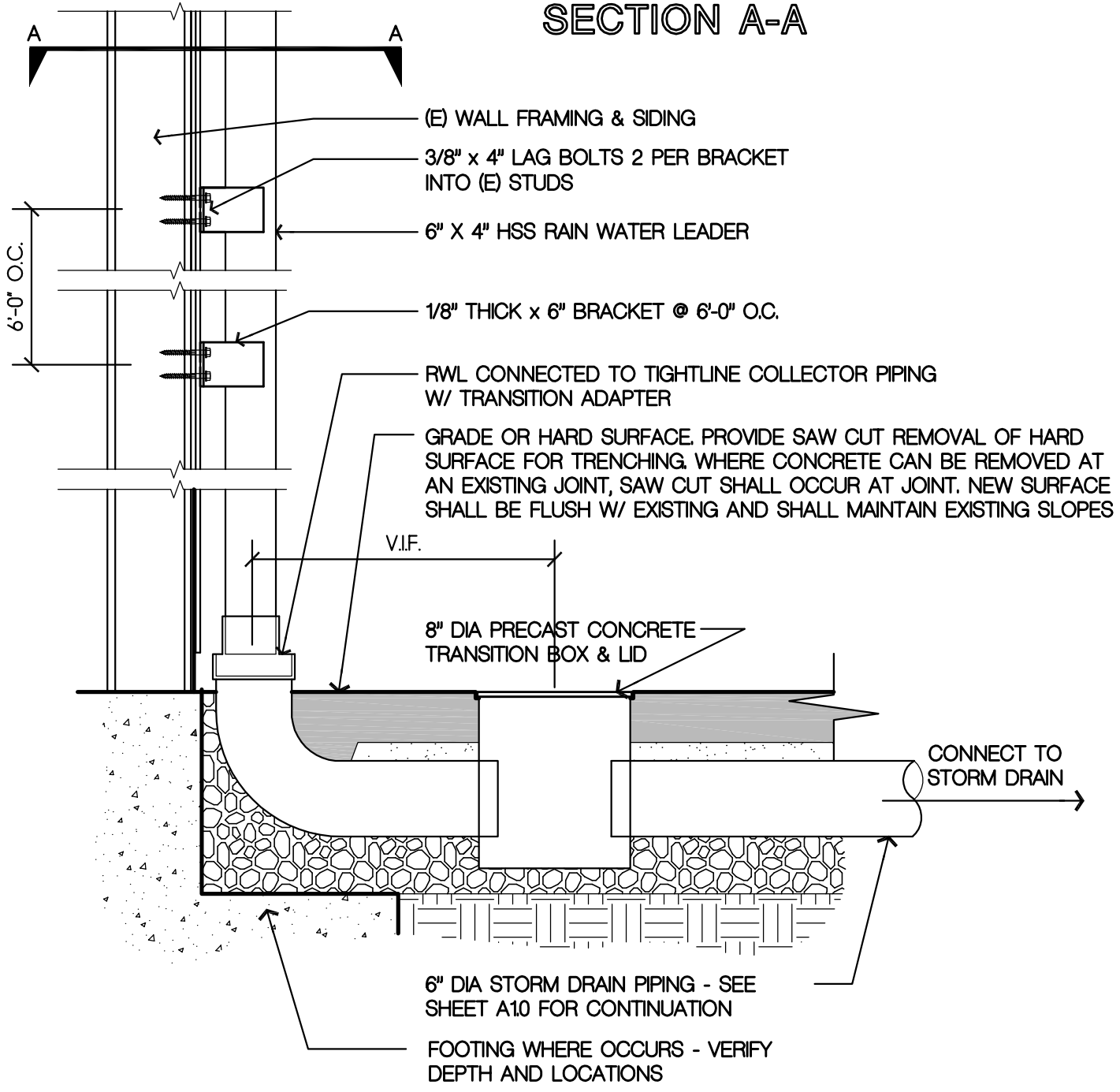
PIPE PENETRATION
MENDOCINO HALL REROOF
COLLEGE OF THE REDWOODS

A
8D


DR. BPL
DT. 12/15/14
SC. 3" = 1'-0"
NO. 09-2477



SECTION A-A



Plot Date: January 12, 2015 - 10:55 am
 File Name: N:\Projects\2000\Education\10-2529.00 COR Mendocino Hall Re-Roof\0-0 CAD Files\Constructs\9-D_Downspout.dwg

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RAIN WATER LEADER

MENDOCINO HALL REROOF
COLLEGE OF THE REDWOODS

A

9D

DR. WT
DT. 12/15/14
SC. 1"=1'-0"
NO. 10-2529.00

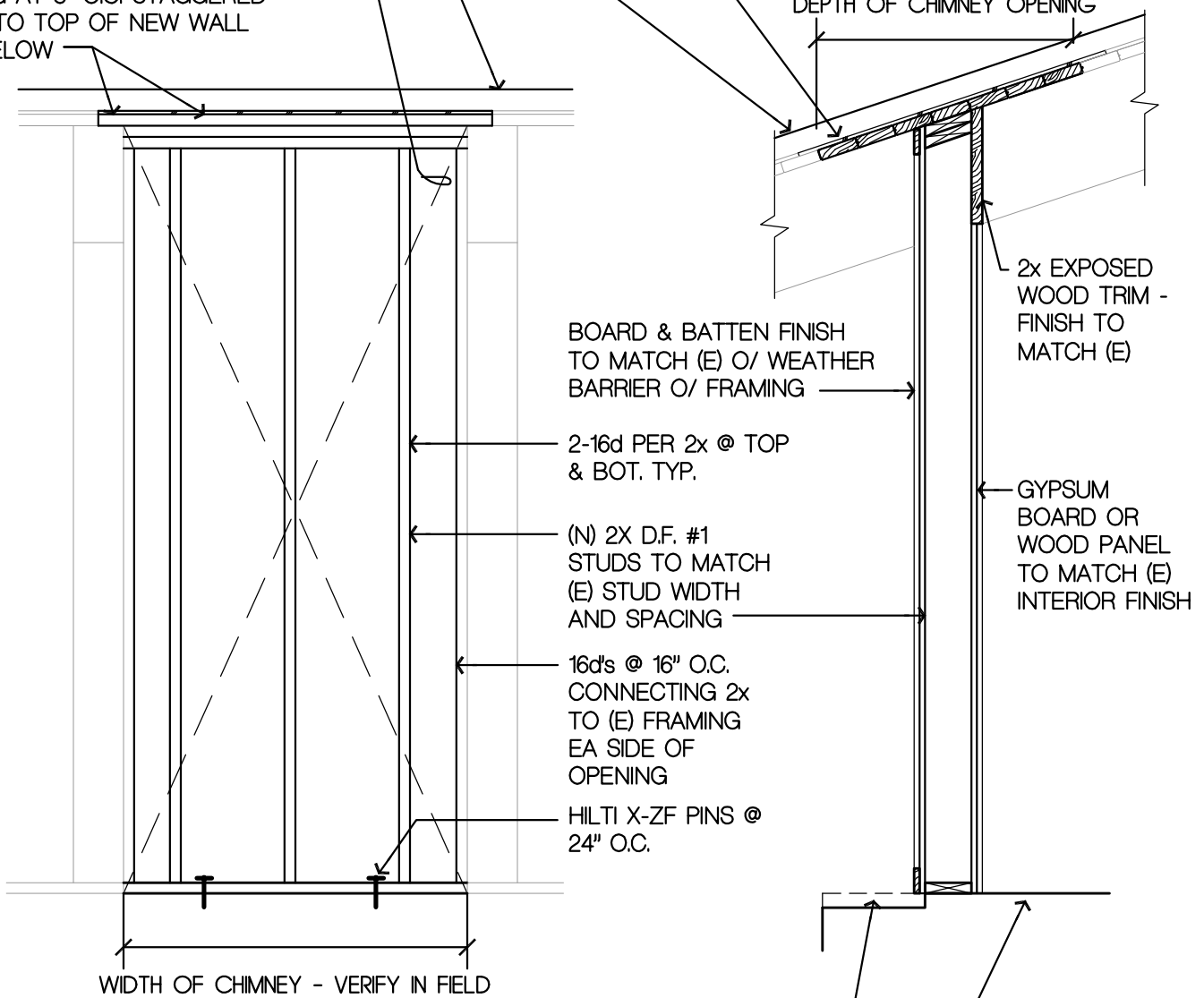
(N) PRECOATED METAL ROOFING SYSTEM

(E) OPENING TO BE INFILLED AT CHIMNEY REMOVAL

T&G W/ 2-16d PER BOARD INTO (E) RAFTER EA SIDE & 16d AT 8" O.C. STAGGERED INTO TOP OF NEW WALL BELOW

PLYWOOD O/ 2x T&G PLANKING - INFILL ROOF DECK AT CHIMNEY PENETRATION. MATCH WOOD SPECIES & INTERIOR CEILING FINISH

DEPTH OF CHIMNEY OPENING



BOARD & BATTEN FINISH TO MATCH (E) O/ WEATHER BARRIER O/ FRAMING

2x EXPOSED WOOD TRIM - FINISH TO MATCH (E)

2-16d PER 2x @ TOP & BOT. TYP.

(N) 2X D.F. #1 STUDS TO MATCH (E) STUD WIDTH AND SPACING

16d's @ 16" O.C. CONNECTING 2x TO (E) FRAMING EA SIDE OF OPENING

HILTI X-ZF PINS @ 24" O.C.

GYPSUM BOARD OR WOOD PANEL TO MATCH (E) INTERIOR FINISH

WIDTH OF CHIMNEY - VERIFY IN FIELD

VERIFY FOUNDATION AT CHIMNEY - WHERE FLUSH CONDITION EXISTS WITH INTERIOR FLOOR LEVEL, THE EXTERIOR PORTION SHALL BE REDUCED IN HEIGHT TO 2" MIN. BELOW INTERIOR FLOOR LEVEL

REDUCE/REMOVE FOUNDATION AT INTERIOR TO ALLOW FOR FLOOR INFILL TO MATCH EXISTING

Plot Date: January 12, 2015 - 11:15 am
File Name: N:\Projects\2000\Education\10-2529.00 COR Mendocino Hall Re-Roof\0-0 CAD Files\Constructs\10-D_wallinfll.dwg

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WALL INFILL - ADD-ALT #1
MENDOCINO HALL REROOF
COLLEGE OF THE REDWOODS

A
10D

DR. WT
DT. 12/15/14
SC. 1"=1'-0"
NO. 10-2529.00