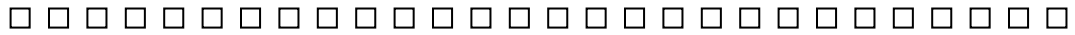


# Project Manual



## Kindergarten Sitework (PHII) at Planz Elementary for:

Greenfield Union School District

Project #

**2019-  
2036.01**

Set #



**GREENFIELD UNION SCHOOL DISTRICT**

**KINDERGARTEN SITEWORK PH II**

**AT PLANZ ELEMENTARY SCHOOL**  
**2400 PLANZ ROAD, BAKERSFIELD, CA 93304**

**DISTRICT**

Greenfield Union School District  
1624 Fairview Road  
Bakersfield, CA 93307

**PROJECT DOCUMENTS PREPARED BY:**

**ARCHITECT**

Ordiz-Melby Architects, Inc.  
5500 Ming Avenue, Suite 280  
Bakersfield, CA 93309

## 01-NOTICE TO CONTRACTORS CALLING FOR BIDS

1. OWNER: Greenfield Union School District
2. PROJECT IDENTIFICATION NAME: Planz Elem - Kindergarten Sitework (Ph II)
3. PROJECT LOCATION: 2400 Planz Road, Bakersfield, CA 93307
4. PROJECT DESCRIPTION: *[attach extra page(s) if necessary]* Sitework (Ph II) for new kindergarten (modular construction). Refer to Spec Section 01 11 00 "Summary of Work for a details.

This project is anticipated to start on approximately June 1, 2021 **[date]** and is anticipated to have a duration of 105 calendar days for completion.

5. BID DEADLINE: Bids are due on November 18, 2020 **[date]** at 2:00 pm **[time]** or at any other date or time as set by Addendum.
6. PLACE OF BID RECEIPT: Ordiz-Melby Architects, 5500 Ming Avenue, Suite 280, Bakersfield, CA 93309
7. METHOD OF BID RECEIPT: Personal delivery, courier, or mailed via United States Postal Service to above address.
8. PLACE PLANS ARE ON FILE: Ordiz-Melby Architects
9. SEALED BID MARKING: Planz Elementary - Kindergarten Sitework
10. ALTERNATES: If alternate bids are called for, the contract will be awarded to the lowest responsive and responsible bidder on the basis indicated below:

*[check only 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.
- ☐ (b) The lowest bid shall be the lowest total of the combined bid prices on the base contract and alternates [specify].
- ☐ (c) The lowest bid shall be the lowest total of the bid prices on the base contract and alternates , taken in order, up to a maximum amount to be publicly disclosed 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 proposed subcontractors or suppliers from being revealed to the public entity before the ranking of all bidders from lowest to highest has been determined.

☒ (e) Not applicable to this project, as no alternates are requested.

11. MANDATORY JOB WALK: Meet at: In front of office  
Date: November 11, 2020 Time: 9:00 am

Location: Planz Elementary School (Main Office);  
2400 Planz Road, Bakersfield, CA 93309

If a job walk is required on this project, attendance at the entire job walk is mandatory and failure to attend the entire job walk may result in your bid being rejected as non-responsive. Contact OWNER for details on required job walks and related documentation.

12. PLAN DEPOSIT REQUIRED: \$100 (Refundable)

13. This is a prevailing wage project. OWNER has ascertained the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute this contract. These rates are on file at OWNER's office, and a copy may be obtained upon request, or at [www.dir.ca.gov](http://www.dir.ca.gov). Contractor shall post a copy of these rates at the job site. ALL PROJECTS OVER \$1,000 ARE SUBJECT TO PREVAILING WAGE MONITORING AND ENFORCEMENT BY THE LABOR COMMISSIONER.

It shall be mandatory upon the contractor to whom the contract is awarded (CONTRACTOR), and upon any SUBCONTRACTOR, to pay not less than the specified rates to all workers employed by them in the execution of the contract.

14. A Payment Bond for contracts over \$25,000 and a Performance Bond for all contracts will be required prior to commencement of work. These bonds shall be in the amounts and form called for in the Contract Documents.

15. Pursuant to the provisions of Public Contract Code Section 22300, CONTRACTOR may substitute certain securities for any funds withheld by OWNER to ensure CONTRACTOR's performance under the contract. At the request and expense of CONTRACTOR, securities equivalent to any amount withheld shall be deposited, at the discretion of OWNER, with either OWNER or a state or federally chartered bank as the escrow agent, who shall then pay any funds otherwise subject to retention to CONTRACTOR. Upon satisfactory completion of the contract, the securities shall be returned to CONTRACTOR.

Securities eligible for investment shall include those listed in Government Code Section 16430, bank and 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 OWNER. CONTRACTOR shall be the beneficial owner of any securities substituted for funds withheld and shall receive any interest on them. The escrow agreement shall be in the form indicated in the Contract Documents.

16. To bid on or perform the work stated in this Notice, CONTRACTOR must possess a valid and active contractor's license of the following classification(s) . No CONTRACTOR or subcontractor shall be qualified to bid on, be listed in a bid proposal, subject to the requirements of § 4104 of the Public Contract Code, for a public works project (submitted on or after March 1, 2015) unless currently registered with the Department of Industrial Relations (DIR) and qualified to perform public work pursuant to Labor Code § 1725.5. No CONTRACTOR or subcontractor may be awarded a contract for public work on a public works project (awarded after April 1, 2015) unless registered with the DIR. DIR's web registration portal is:  
[www.dir.ca.gov/Public-Works/Contractors.html](http://www.dir.ca.gov/Public-Works/Contractors.html)

17. CONTRACTOR and all subcontractors must furnish electronic certified payroll records (eCPR) to the Labor Commissioner [specify weekly, bi-weekly or monthly] in PDF format. Registration at [www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html](http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html) is required to use the eCPR system.

The following notice is given as required by Labor Code Section 1771.5(b)(1): CONTRACTOR and any subcontractors are required to review and comply with the provisions of the California Labor Code, Part 7, Chapter 1, beginning with Section 1720, as more fully discussed in the Contract Documents. These sections contain specific requirements concerning, for example, determination and payment of prevailing wages, retention, inspection, and auditing payroll records, use of apprentices, payment of overtime compensation, securing workers' compensation insurance, and various criminal penalties or fines which may be imposed for violations of the requirements of the chapter. Submission of a bid constitutes CONTRACTOR's representation that CONTRACTOR has thoroughly reviewed these requirements.

18. *[check only one]*

- ☒ (a) OWNER will retain 5% of the amount of any progress payments.
- ☐ (b) OWNER will retain 10% of the amount of any progress payments because the project has been found to be substantially complex on the basis of .

19. This Project ☐ requires ☒ does not require prequalification pursuant to AB 1565 of all general contractors and all mechanical, electrical and plumbing subcontractors. If required, a Prequalification package may be obtained by downloading the necessary forms from . A bid package will not be accepted from any bidder that is required to submit a completed questionnaire and supporting documents pursuant to AB 1565, but has not done so at least ten (10) business days prior to the date fixed for the public opening of sealed bids or that has not been prequalified for at least five (5) business days prior to that date.



## 02-INSTRUCTIONS TO BIDDERS

**WARNING: READ THIS DOCUMENT CAREFULLY  
DO NOT ASSUME THAT IT IS THE SAME AS OTHER  
SIMILAR DOCUMENTS YOU MAY HAVE SEEN  
EVEN IF FROM THE SAME OWNER**

**PROJECT TITLE/BID #: PLANZ ELEMENTARY - KINDERGARTEN SITEWORK PH II  
(2019-2036.01)**

**OWNER: Greenfield School District**

1. Preparation of Bid Form.

The Owner invites bids on the form attached to be submitted at the time and place stated in the Notice to Contractors Calling for Bids. Bids shall be submitted on the prescribed Bid Form, completed in full. All bid items and statements shall be properly and legibly filled out. Numbers shall be stated both in words and in figures where so indicated, and where there is a conflict in the words and the figures, the words shall govern. The signatures of all persons shall be in longhand. Prices, wording, and notations must be in ink or typewritten.

2. Form and Delivery of Bids.

The bid must conform to and be responsive to all Contract Documents and shall be made on the Bid Form provided. The complete bid, together with any additional materials required, shall be enclosed in a sealed envelope, addressed and hand-delivered or mailed to the Owner at the address set forth in the Notice to Contractors Calling for Bids, and must be received on or before the time set for the opening of bids. The envelope shall be plainly marked in the upper left-hand corner with the bidder's name, the project designation, and the date and time for the opening of bids. It is the bidder's sole responsibility to ensure that its bid is received prior to the bid deadline. In accordance with Government Code Section 53068, any bid received after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.

At the time set for the opening of bids, the sealed bids will be opened and publicly read aloud at the place indicated in the Notice to Contractors Calling for Bids. However, if this project calls for prequalification of bidders pursuant to Public Contract Code Section 20111.5, only those sealed bids received from bidders who have been prequalified for at least one day prior to bid opening shall be opened and publicly read aloud.

3. Bid Security.

Each bid shall be accompanied by a bid security in cash, a certified or cashier's check, or bid bond in an amount not less than 10 percent of the total bid price payable to the Owner. The bid security shall be given as a guarantee that if awarded the contract the

bidder will execute and return the Construction Agreement within 10 working days after award of the contract and will furnish on the prescribed forms a satisfactory Payment (labor and material) Bond and separate Performance Bond, in accordance with the Contract Documents and Civil Code Sections 9550 et seq., and certificates evidencing that the required insurance is in effect in the amounts set forth in the Contract Documents. In case of refusal or failure to timely execute the Construction Agreement and furnish the required bonds and insurance certificates, the bid security shall be forfeited to the Owner. If the bidder elects to furnish a bid bond as its bid security, the bidder shall use the bid bond form included in the Contract Documents, unless the Owner elects to waive the use of the form provided, in its sole discretion.

#### 4. Signature.

At the various times such documents are required to be submitted, the Bid Form, all bonds, the Designation of Subcontractors form, all Information Required of Bidder or prequalification forms, Workers Compensation Certificate, Drug-Free Workplace Certification, Non-Collusion Affidavit, Asbestos and Lead Based Paint Certification, Iran Contracting Act Certification, the Construction Agreement, and all Guarantees must be signed in the name of the bidder and must bear the signature of the person or persons duly authorized to sign these documents. Where indicated, if bidder is a corporation, the legal name of the corporation shall first be set forth, together with two signatures: one from among the chairman of the board, president, or vice president, and one from among the secretary, chief financial officer, or assistant treasurer. Alternatively, the signature of other authorized officers or agents may be affixed, if duly authorized by the corporation. Such documents shall include the title of such signatories below the signature and shall bear the corporate seal. Where indicated, if bidder is a joint venture or partnership, the bidder shall submit with the bid certifications signed by authorized officers of each of the parties to the joint venture or partnership, naming the individual (1) who shall be the agent of the joint venture or partnership, (2) who shall sign all necessary documents for the joint venture or partnership and, (3) should the joint venture or partnership be the successful bidder, who shall act in all matters relative to the resulting contract for the joint venture or partnership. If bidder is an individual, his/her signature shall be placed on such documents.

#### 5. Modifications.

Changes in or additions to any of the bid documents, the summary of the work bid upon, or the alternative proposals, or any other modifications which are not specifically called for by the Owner, may result in the Owner's rejection of the bid as not being responsive. No oral or telephonic modification of any bid will be considered. However, prior to the opening of bids, a telegraphic modification signed by the bidder and postmarked and received prior to the opening of bids, or a facsimile modification duly signed by the bidder received prior to the opening of bids, may be considered if included within a sealed bid.



6. Erasures, Inconsistent, or Illegible Bids.

The bid submitted must not contain any erasures, interlineations, or other corrections unless each correction creates no inconsistency and is suitably authenticated and noted by signature of the bidder. In the event of inconsistency between words and figures in the bid, words shall control figures. In the event the Owner determines that any bid is unintelligible, illegible, or ambiguous, the Owner may reject the bid as not being responsive.

7. Examination of Site and Contract Documents.

At its own expense and prior to submitting bids, each bidder shall examine all documents relating to the project, visit the site, and determine the local conditions which may in any way affect the performance of the work, including the general prevailing rate of per diem wages and other relevant cost factors. Each bidder shall be familiar with all federal, state, and local laws, ordinances, rules, regulations, and codes affecting the performance of the work, including the cost of permits and licenses required for the work. Each bidder shall make such surveys and investigations, including investigation of subsurface or latent physical conditions at the site or where work is to be performed, as it may deem necessary for performance of the work at the price being bid. Each bidder shall determine the character, quality, and quantities of the work to be performed and the materials and equipment to be provided, and shall correlate its observations, investigations, and determinations with all requirements of the project.

The Contract Documents show and describe the existing conditions as they are believed to have been used in the design of the work and are only provided as information for the bidder. **The Owner is not making any warranties regarding this information. The Owner shall not be liable for any loss sustained by the successful bidder resulting from any variance between the conditions and design data given in the Contract Documents and the actual conditions revealed during the bidder's pre-bid examination or during the progress of the work.** Bidder agrees that the submission of a bid shall be incontrovertible evidence that the bidder has complied with and agrees to further comply with all the requirements of this section.

8. Withdrawal of Bids.

Any bid may be withdrawn, either personally, by written request, or by telegraphic or facsimile request confirmed in the manner specified above for bid modifications, at any time prior to the scheduled closing time for receipt of bids. In accordance with this paragraph, the bid security shall be returned for bids withdrawn prior to the scheduled closing time for receipt of bids. No bidder may withdraw any bid for a period of 60 days after the award of the contract. A bidder's unawarded alternative bids remain open for a period of six months after award of contract as irrevocable offers to enter into either change orders or separate contracts for the stated price adjustment.

9. Agreement and Bonds.

The Construction Agreement and the form of the Payment and Performance Bonds which the successful bidder as Contractor will be required to execute are included in the Contract Documents and should be carefully examined by the bidder. The Payment Bond shall be in an amount not less than 100 percent of the amount of the contract in accordance with Civil Code section 9554. The successful bidder as Contractor will also be required to furnish a separate Performance Bond in the amount of 100 percent of the contract amount. Sufficient bonds shall be fully executed and returned to Owner with the executed Construction Agreement.

10. Interpretation of Contract Documents.

If any bidder is in doubt as to the true meaning of any part of the Contract Documents, or finds discrepancies in or omissions from the drawings and specifications, a written request for an interpretation or correction shall be submitted to the Owner. The bidder submitting the written request shall be responsible for its prompt delivery. Any interpretation or correction of the Contract Documents will be made only by addendum issued by the Owner, and a copy of any addendum will be hand-delivered, mailed, or faxed to each bidder known to have received a set of the Contract Documents. No person is authorized to make any oral interpretation of any provision in the Contract Documents, nor shall any oral interpretation be binding on the Owner. If there are discrepancies on drawings, plans, or specifications, or conflicts between drawings, plans, specifications, terms, or conditions, the interpretation of the Owner shall prevail. Bidder shall become familiar with the plans, specifications, and drawings.

**SUBMISSION OF A BID WITHOUT REQUESTING CLARIFICATIONS SHALL BE INCONTROVERTIBLE EVIDENCE THAT THE BIDDER HAS DETERMINED THAT THE PLANS, SPECIFICATIONS, AND DRAWINGS ARE SUFFICIENT FOR BIDDING AND COMPLETING THE WORK, THAT BIDDER IS CAPABLE OF READING, FOLLOWING AND COMPLETING THE WORK IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND DRAWINGS, AND THAT THE PLANS, SPECIFICATIONS, AND DRAWINGS FALL WITHIN AN ACCEPTABLE STANDARD FOR THESE ITEMS, AND THAT BIDDER AGREES THAT THE PROJECT CAN AND WILL BE COMPLETED ACCORDING TO THE OWNER'S TIME LINES AND ACCORDING TO THE PROGRESS SCHEDULE TO BE SUBMITTED BY THE SUCCESSFUL BIDDER INCORPORATING THE OWNER'S TIME LINES FOR COMPLETION OF THE PROJECT.**

11. Bidders Interested in More Than One Bid.

No person, firm, or corporation shall be allowed to make or file or be interested in more than one bid for the same work unless alternate bids are specifically called for by the Owner. A person, firm, or corporation that has submitted a sub-proposal to a bidder, or that has quoted prices of materials to a bidder, is not disqualified from submitting a

proposal or quoting prices to other bidders or submitting a bid on the project.

12. Award of Contract.

(a) The Owner reserves the right to reject any or all bids, or to waive any irregularities or informalities in any bids or in the bidding process, and to award more than one contract. If two identical low bids are received from responsive and responsible bidders, the Owner will determine which bid will be accepted pursuant to Public Contract Code Section 20117.

(b) If made by the Owner, award of the contract will be by action of the governing board or other governing body to the lowest responsive and responsible bidder. In the event an award of the contract is made to a bidder and that bidder fails or refuses to execute the Agreement and provide the required documents within the time required, the Owner may award the contract to the next lowest responsive and responsible bidder or release all bidders. An election by the Owner to reject all bids does not release the bid security of any bidder who has previously been awarded the contract and failed or refused to execute the Agreement and provide the required documents.

(c) In ascertaining the low bidder, the bids will be examined without reference to any substitutions requested by any bidder, whether or not the substitution request would result in a modification of the contract price.

13. Alternatives.

If alternate bids are called for, the contract will be awarded to the lowest responsive and responsible bidder on the basis indicated in the Notice to Contractors Calling for Bids. Owner reserves the right to award or reject any, all, or any combination of the alternates called for in the bid documents, whether or not the alternate(s) was included in the calculations used to identify the low bidder. All bid alternates not part of the contract initially awarded by Owner shall remain open and valid for a period of six months after the contract is awarded as irrevocable offers to enter into either change orders or separate contracts on the items for the price adjustment contained in the bid alternate.

14. Public Contract Code Section 20111.5—Discretionary Prequalification of Bidders.

*[check one]*

- ☒ Discretionary Prequalification is not required to bid on this project.
- ☐ Discretionary Prequalification is required to bid on this project. Prospective bidders are required to submit to the Owner a completed prequalification questionnaire and financial statement, on forms provided by the Owner, no later than five days prior to the date fixed for the public opening of sealed bids. These

documents will be the basis for determining which bidders are qualified to bid the project. Bidders will be notified by telephone and mail of their prequalification status within four days after submission of prequalification documents. Bids will not be accepted from any bidder who has not been prequalified at least one day prior to the bid opening. Pursuant to Public Contract Code Section 20111.5, the information in the prequalification questionnaire and financial statement will be kept confidential. Prequalification documents may be obtained by contacting the Owner or by downloading them from .

15. Public Contract Code Section 20111.6—Mandatory Prequalification of General Contractors and Mechanical, Electrical and Plumbing Subcontract Bidders.

*[check one]*

☒ Mandatory Prequalification of general contractors and mechanical, electrical and plumbing subcontractors is not required to bid on this project.

☐ Mandatory Prequalification of general contractors and mechanical, electrical and plumbing subcontractors is required to bid on this project. Prospective bidders holding licenses in classifications A, B, C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C- 42, C- 43 and C- 46 are required to submit to the Owner a completed prequalification questionnaire and financial statement, on forms provided by the Owner, no later than ten (10) working days prior to the date fixed for the public opening of sealed bids. These documents will be the basis for determining which bidders in the listed license categories are qualified to bid the project. Bidders will be notified by telephone, mail or email of their prequalification status within five (5) working days after submission of prequalification documents. Bids will not be accepted from any bidder who is required to prequalify and who has not been prequalified at least five (5) working days prior to the bid opening. Pursuant to Public Contract Code Section 20111.6, the information in the prequalification questionnaire and financial statement will be kept confidential. Prequalification documents may be obtained by contacting the Owner or by downloading them from .

15. Competency of Bidders.

In selecting the lowest responsive and responsible bidder, consideration will be given not only to the financial standing but also to the general competency of the bidder for performance of the work. By submitting a bid, each bidder agrees that in determining the successful bidder and its eligibility for the award, the Owner may consider the bidder's experience, facilities, conduct, and performance under other contracts, financial condition, reputation in the industry, and other factors relating to or which could affect the bidder's performance of the project.

The Owner may also consider the qualifications and experience of subcontractors and

other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the work. Operating costs, maintenance considerations, performance data, and guarantees of materials and equipment may also be considered by the Owner. In this regard, the Owner may conduct such investigations as the Owner deems necessary to assist in the evaluation of any bid and to establish the responsibility, qualifications, and financial ability of the bidder, proposed subcontractors, and other persons and organizations to do the work to the Owner's satisfaction within the prescribed time. The Owner reserves the right to reject the bid of any bidder who does not pass any such evaluation to the satisfaction of the Owner, or in the Owner's sole discretion, to permit substitution of subcontractor(s) found non-responsive.

16. Listing Subcontractors.

Each bidder shall submit a list of the proposed subcontractors, including their address, California contractor's license number and DIR Registration number, on the project as required by the Subletting and Subcontracting Fair Practices Act (Public Contract Code Section 4100 and following sections) on the form furnished with the Contract Documents. If alternate bids are called for and the bidder intends to use different or additional subcontractors, a separate list of subcontractors must be submitted for each such alternate bid. The Owner may request that bidder submit information to assess the responsibility of the bidder's proposed subcontractors. The apparent low bidder shall, within 24 hours of the bid opening, provide a complete listing of all subcontractors, including full name, address, telephone numbers, contractor's license number and type and DIR Registration number.

17. Workers' Compensation.

In accordance with the provisions of Labor Code Section 3700, the successful bidder shall secure the payment of compensation to all employees. The successful bidder awarded the contract shall sign and file with the Owner, at the time of returning the executed Construction Agreement, the certificate which is included as a part of the Contract Documents.

18. Contractor's License.

At the bid opening date and time, if a bidder is not properly licensed and registered to perform the project in accordance with Division 3, Chapter 9, of the California Business and Professions Code, Labor Code section 1725.5 and the Notice Calling for Bids, as required, that bidder's bid will be rejected as non-responsive. Business and Professions Code Section 7028.15 precludes payment for work or materials unless the Registrar of Contractors verifies to the Owner that the bidder was properly licensed at the time the bid was submitted. If this project is federally funded, the bidder must be properly licensed prior to the award of the contract. Any bidder not properly licensed and registered with DIR is subject to penalties under the law and the contract can be considered void. If the

license classification specified in these Contract Documents is that of a “specialty contractor” as defined in Business and Professions Code Section 7058, the specialty contractor awarded the contract for this work shall construct a majority of the work in accordance with the provisions of Business and Professions Code Section 7059.

19. Anti-Discrimination.

It is the policy of the Owner that in all work performed under contracts there be no unlawful discrimination against any prospective or active employee engaged in the work because of race, color, ancestry, national origin, religious creed, sex, age, marital status, physical disability, mental disability, or medical condition. The successful bidder agrees to comply with applicable federal and state laws, including but not limited to the California Fair Employment and Housing Act, beginning with Government Code Section 12900 and Labor Code Section 1735. In addition, the successful bidder agrees to require like compliance by any subcontractors employed on the work by that bidder.

20. Hold Harmless.

The successful bidder awarded the contract shall hold harmless and indemnify various parties as more clearly set forth elsewhere in the Contract Documents.

21. Substitutions.

(a) All bids should be calculated and submitted on the project as described in the bid documents, and on the assumption that substitution requests submitted with the bid will not be approved. Notwithstanding the foregoing, substitution requests submitted with bids will be given due consideration and adjustments to the contract, which may include adjustment to contract price, will be contained in a change order should the request be approved. Bidders not desiring to bid without prior approval of a proposed substitution should follow the procedure contained in this section for pre-bid review of proposed substitutions.

(b) Should the bidder wish to request prior to bid opening any substitution for the specified materials, process, service, or equipment, the bidder shall submit a written request at least ten (10) working days before the bid opening date and time. If the requested substitution is acceptable, the Owner will approve it in an addendum issued to all bidders of record. Requests received less than ten (10) working days prior to bid opening will not be considered prior to the bid date. Extensions of the bid date shall not operate to extend the deadline for requesting substitutions unless the Owner so states in an addendum issued to all bidders of record.

(c) If a substitution is not requested and considered prior to the bid date, the bidder shall submit with the bid all proposed substitutions, if any, on the Substitution Listing form contained in the bid documents.

(d) With respect to any materials, process, service, or equipment listed in the bid, unless the bidder clearly indicates in its Substitution Listing that it is proposing to use an "equal" material, process, service, or equipment, its bid shall be considered as offering the specified material, process, service, or equipment referred to by the brand name or trade name specified.

(e) Unless expressly authorized in the bid documents, no bid may be conditioned on the Owner's acceptance of a proposed substitution. Any bid containing any such condition may be treated as a non-responsive bid.

(f) It is expressly understood and agreed that the Owner reserves the right to reject any proposed substitution. It is further expressly understood and agreed that in the event the Owner rejects a proposed "equal" item, or any other requested substitution, the specified material, process, service, or equipment designated by brand name or trade name, or other item as specified, will be provided.

(g) No substitution request of any kind or nature may be made after the bid date, except by the express written permission of the Owner and on such terms as Owner may require, or in an emergency, as in the case where a specified material, process, service, equipment, or other item has become unavailable through no fault of the bidder.

(h) These time limitations shall be complied with strictly, and in no case will an extension of time for completion be granted because of the failure to request the substitution of an item at the times and in the manner set forth herein.

(i) Prior to contract award, the Owner shall notify the bidder of the Owner's decision concerning proposed substitutions of "equal" items submitted with the bid. The Owner shall notify bidder of the Owner's decision on any other proposed substitutions as those decisions are made. Notification of all decisions by the Owner shall be in writing, and no proposed substitution shall be deemed approved unless the Owner has confirmed it in writing.

(j) With respect to all proposed substitutions, the requirements applicable to the Contractor in the Contract Documents shall be applicable to all bidders requesting substitutions.

## 22. Surety Qualifications.

Bid bonds executed by a surety insurer admitted in the State of California for purposes of issuance of such bonds will be accepted by Owner as sufficient.

Payment and/or performance bonds executed by a surety insurer admitted in the State of

California with a minimum “A minus, VIII” rating (A minus V” when the price stated in the Contract Documents is less than \$500,000) as rated by the current edition of Best’s Key Rating Guide published by A.M. Best Company, Oldwick, New Jersey 08858, shall be presumed by Owner to be sufficient for the issuance of such bonds. In the alternative, any admitted surety company which satisfies the requirements set forth in Code of Civil Procedure Section 995.660 shall be accepted and approved for the issuance of bonds, and documents demonstrating satisfaction of the requirements of Section 995.660 with respect to the bid bond must be submitted with the bid. No personal sureties will be accepted.

23. Liquidated Damages.

All work must be completed within the time limits set forth in the Contract Documents. Bidders must understand that the goodwill, educational process, and other business of the Owner will be damaged if the project is not completed within the time limits required. Should the work not be completed within the specified time for completion, the successful bidder awarded the contract may be liable for liquidated damages and for expenses incurred by the Owner for failure to timely complete the project. Such damages shall be deducted from any payments due or to become due to the successful bidder.

**SUBMISSION OF A BID ON THIS PROJECT SHALL BE TAKEN AS CONCLUSIVE AND IRREFUTABLE EVIDENCE THAT BIDDER AGREES WITH THE REQUIREMENTS OF THIS SECTION.**

24. Drug-Free Workplace Certification.

Pursuant to Government Code section 8350 and following, the successful bidder will be required to execute and return to Owner the Drug-Free Workplace Certificate contained in the Contract Documents with the executed Construction Agreement. The bidder will be required to take positive measures outlined in the certificate to ensure the presence of a drug-free workplace. Failure to abide with the conditions set forth in the Drug-Free Workplace Act could result in penalties, including termination of the Construction Agreement or suspension of payment under the Construction Agreement.

25. Non-Collusion Declaration.

In accordance with the provisions of Public Contract Code section 7106, each bid must be accompanied by a Non-Collusion Declaration executed under penalty of perjury under the laws of the State of California.

26. Implementation of Disabled Veteran Business Enterprises Requirements.

In accordance with Education Code Section 17076.11, the Owner has a participation goal for disabled veteran business enterprises of at least three percent per year of the overall dollar amount of funds allocated to the Owner by the State Allocation Board pursuant to



the Leroy F. Greene School Facilities Act of 1998 for construction or modernization and expended each year by the Owner. Prior to and as a condition precedent for final payment under any contract for this project, the successful bidder will be required to provide appropriate documentation to the Owner identifying the amount paid to disabled veteran business enterprises in conjunction with the contract, so the Owner can assess its success at meeting this goal.

27. Asbestos and Lead-Based Paint Certification.

The form of Contractor's Certificate Regarding Non-Asbestos Containing Materials and Exclusion of Lead Products, as contained in the Contract Documents, shall be executed and submitted with the bid.

28. Fingerprinting Requirements.

The successful bidder and all subcontractors at any level will be required to comply with any applicable laws on fingerprinting construction workers. Minimum requirements are set forth in the Contract Documents, and the form for certification of compliance is contained in the Contract Documents. The successful bidder must complete and return this form when directed by Owner.

29. California Products.

Price, fitness, and quality being equal with regard to supplies, the Owner may prefer supplies grown, manufactured, or produced in California. The Owner may next prefer supplies partially grown, manufactured, or produced in California. Where the Owner has a preference, the bids of the suppliers or the prices quoted by them (i) must not exceed by more than five percent the lowest bids/prices quoted by out-of-state suppliers, (ii) the major portion of the manufacture of the supplies is not done outside of California, and (iii) the public good will be served. Refer to specifications for indications of Owner preferences. Government Code Sections 4330-4334.

30. Contractor License And DIR Registration Required.

To perform the work required for this project, Bidder must possess the type of contractor's license specified in the Notice to Contractors Calling for Bids, and must be registered with the Department of Industrial Relations (DIR) as a public works contractor. Contractor registration can be accomplished through the portal <https://efiling.dir.ca.gov/PWCR/>. No CONTRACTOR or subcontractor shall be qualified to bid on, be listed in a bid proposal, subject to the requirements of § 4104 of the Public Contract Code, for a public works project (submitted on or after March 1, 2015) unless currently registered with the DIR and qualified to perform public work pursuant to Labor Code § 1725.5. No CONTRACTOR or subcontractor may be awarded a contract for public work on a public works project (awarded after April 1, 2015) unless registered with the DIR.

31. Post-Bid Credits.

Should any bidder or proposed subcontractor to any bidder issue any credit or otherwise reduce its bid or quote pertaining to the work of this project, the value of the credit or other reduction shall be passed on to the Owner less only the applicable markups for profit and overhead as specified in the Contract Documents on change orders.

32. Contents of Bid.

The bid will include the following documents: Bid Form, List of Subcontractors, Substitution Listing form, Non-collusion Declaration, Exclusion of Asbestos and Lead Based Paint Products Certification, Contractors' Qualification Questionnaire (if required) Mandatory Prequalification Package (if required), Iran Contracting Act Certification (if required), Bid Bond or other bid security, and Certification of Attendance at Mandatory Job Walk, if a job walk is required on this project.

33. Bid Protests.

Any bidder having submitted a bid on the project may file a protest against the proposed contract award or challenging the validity of other bids. The protest must meet all of the following requirements:

- (a) The protest shall be submitted in writing and shall contain all the materials required by these provisions; one that does not contain all the required material shall not be recognized.
- (b) The protest shall be received by the Owner no later than close of business on the second business day after bid opening; one received after that time shall not be recognized.
- (c) Each protest shall contain the following:
  - (i) Identification by name, address, and telephone number of the protesting person(s), company and/or organization and identification of the project to which the protest pertains.
  - (ii) The protest shall set forth in detail all grounds for the protest, including without limitation all facts, identification by name of any other bids or bidders involved in the protest, all supporting documentation, together with any legal authorities and/or argument in support of the grounds for the protest. Any matters not set forth in the written protest shall be deemed waived. All factual contentions must be supported by competent, admissible, and credible evidence.

(d) Any protest not conforming to the requirements of this section shall be rejected as invalid.

(e) Where a protest is filed in conformity with this section, the Owner's staff, or such individual(s) as may be designated by the Owner, shall review and evaluate the basis of the protest and provide a written decision to the protesting bidder. The written decision shall either concur with or deny the protest.

(f) Submission of a written protest to and receipt of a written decision from the Owner staff shall be considered an administrative remedy, and failure to follow this procedure shall be a bar to any legal action.

(g) The written decision by the Owner's staff may be appealed to the Owner. The appeal must be filed with the Owner's governing board or other governing body within two business days of the protesting bidder's receipt of the written decision of the Owner's staff.

(h) The appeal must clearly state the reasons and basis for appealing the decision of the Owner's staff, making specific reference to any portions of the material submitted with the protest required.

(i) A hearing on the appeal shall be held before the Owner's governing board or other governing body within 45 days of receipt of the appeal.

(j) The Owner's governing board or other governing body will make a decision within seven days following the hearing. The decision of the Owner's governing board or other governing body is not subject to arbitration, mediation, reconsideration, or further appeal.

(k) Submission of an appeal to and receipt of a decision from the Owner's governing board or other governing body shall be considered an administrative remedy, and failure to follow this procedure shall be a bar to any legal action.

34. Procedure for Protesting Being Deemed A Non-Responsible Bidder.

Any bidder or prospective bidder deemed non-responsible after having submitted a bid may file an appeal of the action to the Owner's governing board or other governing body. The protest must meet all of the following requirements:

(a) The appeal shall be submitted in writing, and shall contain all the materials required by these provisions; one that does not contain all the required material shall not be recognized.

(b) The appeal must be received by the Owner's governing board or other governing body within two business days of the action by Owner giving rise to the

protest; one received after that time shall not be recognized.

(c) A hearing on the appeal shall be held before the Owner's governing board or other governing body prior to the award of contract.

(d) The decision of the Owner's governing board or other governing body is not subject to arbitration, mediation, reconsideration, or further appeal.

(e) Submission of a protest to and receipt of a decision from the Owner's governing board or other governing body shall be considered an administrative remedy, and failure to follow this procedure shall be a bar to any legal action.

35. All Projects Over \$1,000 Are Subject to Prevailing Wage Monitoring and Enforcement By the Labor Commissioner

The project is subject to prevailing wage monitoring and enforcement by the DIR, as indicated in the Notice Calling for Bids. The successful bidder and all subcontractors will be subject to the requirements of Subchapter 4.5 of Chapter 8 of Title 8 of the California Code of Regulations. The successful bidder and all subcontractors will be required to furnish certified payroll records to the Labor Commissioner on the frequency specified in the Notice Calling for Bids using the DIR's eCPR system. To access the DIR's eCPR system and to obtain additional information and assistance, bidders may go to DIR website [www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html](http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html). Failure to timely submit certified payroll records may result in debarment from public works projects by the Labor Commissioner for a period of one to three years.

## 02a - SUPPLEMENTAL INSTRUCTION TO BIDDERS

When any article of the foregoing Instructions to Bidders is supplemented hereby, the provisions of such article shall remain in effect; all supplemental provisions shall be considered as added thereto. Where any such article is amended, voided or superseded thereby, provisions of such article not so specifically amended, voided or superseded shall remain in effect.

The following article numbers refer to the articles in the preceding "Instruction to Bidders" which are being amended, modified, added to, or supplemented.

Article 1. Preparation of Bid Form

Add the following language after the third sentence to read as follows:

"Bids submitted by facsimile machine or electronically (email) will not be considered."

Article 9. Agreements and Bonds

Add language to Article 9 to read as follows:

"Certificate of Insurance which the Contractor will be required to be furnished prior to execution of the Agreement shall be submitted on forms complying with information required and indicated in the General and Supplemental General Conditions."

Article 10. Interpretation of Contract Documents

Add the following paragraph:

"Written requests for interpretation and clarification of the contract and associated documents affecting the Scope of Work shall be submitted to the Architect at least **six (6) working days** prior to the date of receipt of Bids. Bidders and sub-Bidders may make verbal or telephonic requests for clarification not affecting the Scope of Work provided such requests reach the Architect **8-hours** prior to the time set for receipt of Bids. Any item that is suspect towards affecting the Scope of Work and must be addressed by Addendum, must reach the Architect at least **six (6) working days** prior to the receipt of Bids.

Contractor shall submit their requests on the Pre-Bid Request for Interpretation form attached at the end of these instructions."

Article 12. Award of Contract

Add the following paragraphs in their entirety:

“(d) The properly identified Bids received on time will be openly publicly and read aloud by the DISTRICT authorized representative. The Bids will be submitted to the Governing Board of the DISTRICT at a public meeting.

(e) The DISTRICT reserves the right to obtain the opinions of counsel, Architect and Consultants on the legality and sufficiency of all bids and to determine later, but at least within the period listed in Withdrawal of Bids which bid to accept.

(f) If the contract is to be awarded, the DISTRICT will give the successful Bidder a Notice of Award within sixty (60) days after the day of the receipt of Bids.”

Article 15. Competency of Bidders

Delete the first paragraph and use the following provisions:

“In selecting the lowest responsive and responsible bidder, consideration will be given not only to the financial standing but also to the general competency of the bidder for performance of the Work. By submitting a bid, each bidder agrees that in determining the successful bidder and its eligibility for the award, the Owner may consider the bidder’s experience, facilities, conduct and performance under other contracts, financial condition, reputation in the industry and other factors relating to or which could affect the bidder’s performance of the project. To this end, **when required by these Instructions to Bidders**, each bid shall be supported by a statement of the bidder’s experience on the form entitled Contractor’s Qualification Questionnaire included in the bid package provided by the Owner”.

Article 16. Listing Subcontractors.

Delete the last sentence and use the following provisions:

“The apparent low bidder shall, within 24 hours of the bid opening, provide a complete **typewritten** listing of all subcontractor including full name, address, telephone numbers and contract’s license number and type. **Apparent low bidder will not be awarded the contract without submitting a completed typewritten list of subcontractors.**”

Article 26. Implementation of Disabled Veteran Business Enterprises Requirements.

A. Delete Article 26 in its entirety. This project is not required to meet the Implementation of Disabled Veteran Business Enterprises Requirements.

Article 36. Addenda.

“Addenda will be electronically uploaded to **Blueprint Service Company website (<https://www.blueprintservice.net/>)** and electronically delivered to each registered plan holder. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose. Each Bidder shall ascertain prior to submitting his bid that he has received all Addenda issued. Receipt of Addenda must be acknowledged in the space provided on the Bid Form to make the bid valid. Addenda issued during the time of bidding shall be made a part of the contract and all costs shall be included in the bid proposal. Bid Document availability is set forth in the Notice to Contractors Calling for Bids. While the Bid and Contract Documents may be available through other Plan rooms or sites, the District does not guarantee the authenticity or completeness of the Bid and Contract Documents obtained from such other Plan rooms or sites.”

## 06-BID BOND

**IF USED BY BIDDER, MUST BE COMPLETED AND SUBMITTED WITH BID**

**PROJECT TITLE/BID #: Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)**  
**OWNER: Greenfield Unon School District**

KNOW ALL MEN BY THESE PRESENTS, that we, \_\_\_\_\_ as Principal, and \_\_\_\_\_ as Surety, are held and firmly bound unto the \_\_\_\_\_ (referred to as Owner) in the sum of \_\_\_\_\_ percent of the total amount of the bid of the Principal submitted to the Owner for the work and obligations described below for the payment of which sum in lawful money of the United States, well and truly to be made, we jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

The condition of this obligation is such that whereas the Principal has submitted the accompanying bid dated \_\_\_\_\_, 20\_\_\_\_, for: \$ \_\_\_\_\_.

NOW, THEREFORE, if the Principal shall not withdraw said bid within the period specified therein after the opening of the same, or if no period be specified, within 60 days after said opening; and if the Principal is awarded the contract, and shall within the specified period, or if no period is specified, within five working days after the award of the contract, enter into a written contract with the Owner in accordance with the bid as accepted and give bonds with good and sufficient surety or sureties as may be required for the faithful performance and proper fulfillment of such contract and for the payment of labor and materials used for the performance of the contract, provide certificates evidencing the required insurance is in effect (in the amounts required in the contract documents), and provide any other documents required under the contract documents to be submitted at the time the contract is executed, then the above obligation shall be void and of no effect, otherwise to 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 terms 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 to the terms of said contract or the call for bids, or to the work, or to the specifications.

In the event suit is brought upon this bond by the Owner and judgment is recovered, the Surety shall pay all costs incurred by the Owner in such suit, including a reasonable attorney's fee to be fixed by the court.



IN WITNESS WHEREOF, the parties have executed this instrument under their several seals this       day of       , 20       , the name and corporate party being hereto affixed and duly signed by its undersigned authorized representative.

DATED:

PRINCIPAL

By: \_\_\_\_\_

Title:

DATED:

SURETY

By: \_\_\_\_\_

Title:

Note: Signatures of those executing for the Surety must be properly acknowledged.

**07-NONCOLLUSION DECLARATION  
TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID**

**PROJECT TITLE/BID #:** Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)

**OWNER:** Greenfield Union School District

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. 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. All statements contained in the bid are true. 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, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_ [date], at \_\_\_\_\_ [city], \_\_\_\_\_ [state].

Contractor:

By \_\_\_\_\_

Title:

Signature: \_\_\_\_\_

## 08-EXCLUSION OF LEAD AND ASBESTOS PRODUCTS

### TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

**PROJECT TITLE/BID #: Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)**

**OWNER: Greenfield Union School District**

Pursuant to the provisions of the California Education Code for construction, modernization, or renovation of school facilities, lead based paint, lead plumbing, and solders, or other potential sources of lead contamination shall not be utilized in the construction of any new school facility or the modernization or renovation of any existing school facility.

The Contractor agrees that sources and potential sources of lead contamination, whether in products or materials, will not be used in performing work under the Agreement.

In addition, the Contractor agrees that asbestos containing products or materials will not be used in performing work under the Agreement.

At completion of work under the Agreement, the Contractor will warrant and represent to the Owner the following:

1. That no asbestos containing products or materials, or sources or potential sources of lead contamination, were used in performing work under the Agreement.
2. That should any asbestos containing products, or sources or potential sources of lead contamination, be found to have been used by the Contractor or any subcontractor, supplier, or vendor on the Project, the Contractor will replace them, together with all related materials, at no cost to the Owner.
3. That should the replacement require any interruption in the normal operation of the school, the Contractor will pay all costs necessarily incurred to keep the school functioning with the least possible disruption to its day-to-day operations.

Executed at \_\_\_\_\_, California, on \_\_\_\_\_, 20\_\_\_\_\_.

Firm Name:

By:

Title:

Signed: \_\_\_\_\_

*[Signature must match that on bid]*

## 09-CONSTRUCTION AGREEMENT

THIS AGREEMENT, dated \_\_\_\_\_, in the County of \_\_\_\_\_, State of California, is by and between the Greenfield Union School District ("OWNER") and \_\_\_\_\_ ("CONTRACTOR").

For the consideration stated in this Agreement, OWNER and CONTRACTOR agree as follows:

1. Contract Documents. The complete Agreement includes all of the Contract Documents as defined in the General Conditions and any other documents comprising any portion of the bid package, and all modifications, addenda, and amendments of or to any of these documents, all of which are incorporated by reference into this Agreement. The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all.

2. Scope of Performance. CONTRACTOR shall perform within the time set forth in Paragraph 4 of this Agreement everything required to be performed, and shall provide and furnish all labor, materials, necessary tools, expendable equipment, and all utility and transportation services described in the Contract Documents and required for construction of Planz Elementary - Kindergarten Sitework Ph II/ 2036.01.

All of the work to be performed and materials to be furnished shall be completed in a good workmanlike manner in strict accordance with the Plans, Drawings, Specifications and all provisions of the Contract Documents as defined above. CONTRACTOR shall be liable to OWNER for any damages arising as a result of a failure to fully comply with this obligation, and CONTRACTOR shall not be excused with respect to any failure to so comply by any act or omission of OWNER, the Architect, Engineer, Inspector, Division of State Architect, or representative of any of them, unless such act or omission actually prevents CONTRACTOR from fully complying with the requirements of the Contract Documents, and unless CONTRACTOR protests at the time of the alleged prevention that the act or omission is preventing CONTRACTOR from fully complying with the Contract Documents. The protest shall not be effective unless reduced to writing and filed with OWNER within three working days of the date of occurrence of the act or omission preventing CONTRACTOR from fully complying with the Contract Documents.

3. Contract Price. Subject to any additions or deductions as provided in the Contract Documents, as full consideration for the faithful performance of the contract OWNER shall pay to CONTRACTOR the sum of \$ \_\_\_\_\_.

4. Construction Period. The work shall be commenced on or before the \_\_\_\_\_ day after receiving OWNER's Notice to Proceed and shall be completed within \_\_\_\_\_ consecutive calendar days from the date specified in the Notice to Proceed.

5. Liquidated and Other Damages. All work must be completed within the time limits set forth in the Contract Documents. If the work is not completed in accordance with the time limits set forth in this Agreement, in accordance with Government Code Section 53069.85, CONTRACTOR shall pay to OWNER as fixed and liquidated damages, and not as a penalty, the sum of \$ \_\_\_\_\_ for each calendar day of delay until work is completed and accepted.

Detailed requirements concerning liquidated damages and other damages which may be assessed if CONTRACTOR fails to complete the project within the time period provided in this Agreement are contained in the General Conditions.

6. Insurance. Prior to commencing the work, CONTRACTOR shall take out and maintain during the life of this contract, and shall require all subcontractors, if any, whether primary or secondary, to take out and maintain all insurance as required in the General Conditions.

7. Substitution of Securities. Public Contract Code Section 22300 permits the substitution of securities for any monies withheld by a public agency to ensure performance under a contract. At the request and expense of CONTRACTOR, securities equivalent to the amount withheld shall be deposited with the public agency, or with a state or federally chartered bank in California as the escrow agent, who shall then pay such monies to CONTRACTOR. OWNER retains the sole discretion to approve the bank selected by CONTRACTOR to serve as escrow agent. Upon satisfactory completion of the contract, the securities shall be returned to CONTRACTOR. Securities eligible for investment shall include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit. CONTRACTOR shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

In the alternative, under Section 22300, CONTRACTOR may request OWNER to make payment of earned retentions directly to the escrow agent at the expense of CONTRACTOR. Also at CONTRACTOR's expense, CONTRACTOR may direct investment of the payments in securities, and CONTRACTOR shall receive interest earned on such investment upon the same conditions as provided 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 escrow agent from OWNER pursuant to the terms of Section 22300. Not later than 20 days after receipt of such payment, CONTRACTOR shall pay to each subcontractor the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor, on the amount of retention withheld to ensure performance of CONTRACTOR.

8. Corporate Status and Authorization. If CONTRACTOR is a corporation, the undersigned hereby represents and warrants that the corporation is duly incorporated and in good standing in the State of \_\_\_\_\_, and that \_\_\_\_\_, whose title is \_\_\_\_\_, is authorized to act for and bind the corporation.

9. Posting. Contractor shall be responsible to post job site notices prescribed by Title 8 CCR § 16451 (d) pertaining to prevailing wage monitoring by the Department of Industrial Relations.

10. Entire Agreement. This Agreement, including the Contract Documents incorporated by reference, constitutes the final, complete, and exclusive statement of the terms of the agreement between the parties pertaining to construction of the project. It supersedes all prior and contemporaneous understandings or agreements of the parties. No party has been induced to enter into this Agreement by, nor is any party relying on, any representation or warranty outside those expressly set forth in this Agreement. The Agreement can only be modified by an amendment in writing, signed by both parties and approved by action of OWNER's governing board or other governing body.

11. Parties in Interest. Nothing in this Agreement, whether express or implied, is intended to confer any rights or remedies under or by reason of this Agreement on any person other than the parties to this Agreement and their respective successors and assigns. Nothing in this Agreement, whether express or implied, is intended to relieve or discharge the obligation or liability of any third person to any party to this Agreement, nor shall any provision give any third person any right of subrogation or action against any party to this Agreement.

12. Severability. If any provision of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, the remainder of the Agreement shall continue in full force and effect and shall in no way be impaired or invalidated.

13. Governing Law. The rights and obligations of the parties and the interpretation and performance of this Agreement shall be governed by the laws of California, excluding its conflict of laws rules.

The parties have executed this Agreement by the signatures of their authorized representatives effective the date indicated above.

DISTRICT

CONTRACTOR

By: \_\_\_\_\_  
Signature

\*By: \_\_\_\_\_  
Signature

Print Name Above

Print Name Above

Print Title Above

Print Title Above

[Continued on Following Page]

***[CORPORATE SEAL OF  
CONTRACTOR, if a corporation]***

Contractor's License No.

Tax ID/Social Security No.

DIR Registration No.

**\*Important Notice:** Labor Code § 1771.1(a) provides that "A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded." Please go to <http://www.dir.ca.gov/Public-Works/PublicWorks.html> for more information and to register. This project is subject to monitoring by the Department of Industrial Relations.

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## 10-GENERAL CONDITIONS-GC

**PROJECT TITLE/ BID #: PLANZ ELEMENTARY- KINDERGARTEN SITEWORK  
(2019-2036)**

**OWNER: Greenfield Union School District**

### ARTICLE 1 DEFINITIONS

A. Action of the Governing Board or Other Governing Body: An official act of the governing board or other governing body of OWNER.

B. Approve: The term “approve,” where used in conjunction with the Architect’s action on the CONTRACTOR’S submittals, applications, and request, is limited to the responsibilities and duties of the Architect stated in General and Supplementary Conditions. Approval shall not release CONTRACTOR from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.

C. Architect: The person, persons, or entity selected by OWNER to provide architectural services to the Project. Architect is an independent contractor and is not an agent of OWNER.

D. Contract Documents: All contract documents, including all official documents on this Project, including the Notice Calling for Bids, Instructions to Bidders, Bid Form, Designation of Subcontractors, Workers’ Compensation Certificate, Performance Bond, Payment Bond, Change Orders, Shop Drawings and their Transmittals, Information Required of Bidder, all prequalification forms submitted pursuant to Public Contract Code sections 20111.5 or 20111.6, if any, Substitution Listing form on any approved substitutions, Non-Collusion Declaration, Insurance Certificates, Guarantees, Contractor’s Certificate Regarding Non-Asbestos and/or Lead Containing Materials, if any, Davis-Bacon Compliance Certification, Fingerprinting Certifications, Labor Compliance Program documents, General Conditions, Supplemental General Conditions, if any, Iran Contracting Act Certification, if any, Special Conditions and/or Requirements, if any, Plans, Drawings, Specifications, the Construction Agreement, and all Modifications, addenda, and amendments of those documents.

E. Modification:

1. A written amendment to the Contract Documents signed by both parties;
2. A fully executed Change Order;
3. A written interpretation issued by the Architect; or

4. A written order for a minor change in the Work issued by the Architect.
- F. CONTRACTOR: That entity awarded this Construction Agreement by official action of OWNER. Throughout the Contract Documents CONTRACTOR is treated as being of singular number and neuter gender.
- G. Date of Acceptance: The date when all of the following conditions are satisfied:
1. OWNER is able to occupy all portions of the project.
  2. The notice of completion is recorded with local authorities.
  3. The final verified report is filed with the Division of State Architect of the Department of General Services.
  4. Acceptance of project by OWNER's governing board or other governing body.
- H. Days: Calendar days unless noted otherwise.
- I. Equivalent to: Equal or superior in function and quality and approved by the Architect.
- J. Furnish: Means "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations."
- K. Indicated: Refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," or "scheduled" are used, it is to help locate the reference; no limitation on locations is intended except as specifically noted.
- L. Install: Used to describe operations at the project site, including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations."
- M. Installer: An entity engaged by CONTRACTOR, either as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar required operations. Installers are required to be experienced in the operations they are engaged to perform and licensed as required in the individual specification sections.

N. Liquidated Damages: Pursuant to Government Code Section 53069.85, this is the specified sum of money that CONTRACTOR shall forfeit and pay to OWNER for those specified portions of the Project that are uncompleted and delayed beyond the stated completion time.

O. Or Equal: Where named products in specification text are accompanied or are deemed by law to be followed by the term “or equal,” or other language of similar effect, CONTRACTOR shall comply with those Contract Document provisions for “substitutions” when obtaining Architect’s review and consideration.

P. OWNER: The school district, community college district, County Superintendent of Schools, or other public entity executing the Construction Agreement acting through its governing board or other governing body.

Q. Plans: The reproductions of the official drawings adopted and approved by OWNER showing locations, character, dimensions, and details of the work.

R. Project: The undertaking planned by OWNER and CONTRACTOR as provided in the Contract Documents.

S. Project Inspector/Inspector of Record: Any individual or firm retained by OWNER as the on-site inspector for a particular project hired by and paid by OWNER and under general direction of the Architect or registered engineer in charge. The Project Inspector shall be responsible for inspecting all work included in the Contract Documents. A special inspector shall be responsible only for inspecting the work for which he/she is approved. Inspectors are independent contractors and are not agents or employees of OWNER.

T. Project Manual: The volume(s) that include the bidding requirements, sample forms, and all of the initial Contract Documents, such as Conditions of the Contract, Schedules and Details Manual, the Specifications, and the addenda to be used on the Project.

U. Project Site: The space available to CONTRACTOR for performance of the Work, either exclusively or in conjunction with others performing other construction as part of the Project. The extent of the Project Site is shown on the Drawings, and may or may not be identical with the description of the land upon which the Project is to be built.

V. Provide: Includes “provide complete in place,” that is, furnish and install.

W. Refer: Indicates that the subject is defined or specified in further detail at another location in the Contract Documents or elsewhere as indicated. Except, as otherwise

noted, “refer” does not imply that CONTRACTOR must purchase or subcontract the subject work in any special manner.

X. Related Work in Other Sections: A nonrestrictive term used throughout the Specifications to coordinate the Work and facilitate checking and bidding.

Y. Required: As required by Contract Documents.

Z. Safety Orders: Issued by Division of Industrial Safety and OSHA Safety and Health Standards for Construction.

AA. Specification: The printed instruction and requirements which complement the plans as to the methods and manner of performing the Work or to the quantities and qualities of the materials to be furnished.

BB. Subcontractor: Includes those having a direct contract with the CONTRACTOR and those who furnish material worked to a special design according to plans, drawings, and Specifications of this work, but does not include those who merely furnish material not so worked.

CC. Surety: The firm or corporation executing CONTRACTOR’S Performance Bond and/or Payment Bond as surety, as the context indicates.

DD. Testing Laboratory: An independent entity engaged to perform specific inspections or test, either at the Project Site or elsewhere, and to report on, and if required, interpret results of those inspections or tests. It is not an agent of OWNER.

EE. Unfinished: Refers to the status of the Work prior to reaching completion, as described in Article 61.

FF. Work: Work of the CONTRACTOR and subcontractors, including all labor or materials (including without limitation, equipment, and appliances), both incorporated in, or to be incorporated in the Project in order to fully meet the requirements of the Contract Documents.

## **ARTICLE 2 STATUS OF CONTRACTOR**

A. CONTRACTOR is and shall at all times be deemed to be an independent contractor and shall be wholly responsible for the manner in which it performs the services required of it by the terms of the Contract Documents.

B. Nothing contained in the Contract Documents shall be construed as creating the relationship of employer and employee, or principal and agent, between OWNER and CONTRACTOR or any of CONTRACTOR'S agents or employees.

C. CONTRACTOR exclusively assumes the responsibility for the acts of its employees as they relate to the services to be provided during the course and scope of their employment. CONTRACTOR, its agents, and employees shall not be entitled to any rights or privileges of OWNER employees and shall not be considered in any manner to be OWNER employees.

D. OWNER shall be permitted to monitor the activities of CONTRACTOR to determine compliance with the terms of the Contract Documents.

E. Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any contractor not so licensed is subject to penalties under the law and the Construction Agreement will be considered void pursuant to Business and Professions Code Section 7028.7. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, 3132 Bradshaw Road, Post Office Box 2600, Sacramento, California, 95826.

F. Contractors or subcontractors are not qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. This project is subject to monitoring by the Department of Industrial Relations.

### **ARTICLE 3            CONTRACTOR SELECTION PROCESS AND PROHIBITED INTERESTS**

A. As a means of maintaining the integrity of the formal selection process, contacts with individual members of OWNER's Board of Trustees or governing body on behalf of any bidding firm relative to this Project will be considered inappropriate.

B. No official of OWNER who is authorized in such capacity and on behalf of OWNER to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting or approving, any architectural, engineering, inspection, construction, or material supply contract, or any subcontract in connection with construction of the Project, shall have any direct or indirect financial interest in any part of this Project.

C. No officer, employee, architect, attorney, engineer, or inspector of or for OWNER who is authorized in such capacity and on behalf of OWNER to exercise any executive,

supervisory, or other similar functions in connection with construction of the Project shall have any direct or indirect financial interest in any part of this Project.

D. CONTRACTOR shall receive no compensation and shall repay OWNER for any compensation received should CONTRACTOR aid, abet, or knowingly participate in any violation of this Article.

#### **ARTICLE 4 CHANGE IN NAME OR NATURE OF CONTRACTOR'S LEGAL ENTITY**

Before CONTRACTOR makes any change in the name or legal nature of the CONTRACTOR'S entity, CONTRACTOR shall first notify OWNER in writing and cooperate with OWNER in making such changes as OWNER may request in the Contract Documents.

#### **ARTICLE 5 DEBARRED CONTRACTOR**

A. Pursuant to Labor Code Sections 1777.1 and 1777.7, a contractor may be prohibited from bidding or performing work as a subcontractor on a public works project.

B. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract, and any public money that may have been paid to a debarred subcontractor by a contractor on the Project shall be returned to the awarding body. The contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

C. Pursuant to Public Contract Code Section 4701, CONTRACTOR shall request the substitution of any subcontractor who has been debarred by the California Labor Commissioner from working as a subcontractor on public work.

#### **ARTICLE 6 SUBCONTRACTING**

A. CONTRACTOR agrees to bind each and every subcontractor to the terms of the Contract Documents as far as the terms are applicable to the subcontractor's work. Each subcontract shall contain a reference to Contract Documents, and the terms of the Contract Documents shall be incorporated into and made a part of each subcontract. If CONTRACTOR subcontracts any part of its work under the Construction Agreement, CONTRACTOR shall be responsible to OWNER for any acts and omissions of its subcontractors and of persons either directly or indirectly employed by its subcontractors. Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and OWNER.

B. OWNER'S consent to or approval of any subcontractor shall not in any way relieve CONTRACTOR of its obligations under the Contract Documents , and no such consent or approval shall be deemed to waive any provision of the Contract Documents.

C. CONTRACTOR must submit with its bid a Designation of Subcontractors. If CONTRACTOR specifies more than one subcontractor for the same portion of work or fails to specify a subcontractor, and such portion of the work exceeds one-half of one percent of the total bid, CONTRACTOR agrees that it is fully qualified to perform and shall perform such work itself. The substitution or addition of subcontractors shall be permitted only as authorized by Public Contract Code Sections 4100, et seq.

D. All subcontractors shall be appropriately licensed and registered with DIR to perform the work for which employed in conformity with the laws of the State of California.

E. In accordance with California Business and Professions Code Section 7059, if CONTRACTOR is designated as a "specialty contractor" (as defined in Public Contract Code Section 7058), all of the work to be performed outside of the Contractor's license specialty, except "incidental" work as that term is used in Section 7059(a), shall be performed by a licensed subcontractor in compliance with the Subletting and Subcontracting Fair Practices Act, California Public Contract Code Section 4100, et seq.

F. A copy of each subcontract, if in writing, or if not in writing, then a written statement signed by the Contractor giving the name of the subcontractor and the terms and conditions of such subcontract, shall be filed with OWNER before the subcontractor begins work. Each subcontract will provide for termination in accordance with these General Conditions. Each subcontract shall provide for its annulment by CONTRACTOR at the order of the Architect if in the Architect's opinion the subcontractor fails to comply with the requirements of the Contract Documents insofar as the same may be applicable to this work.

G. Nothing contained in these General Conditions shall relieve CONTRACTOR of any liability or obligation under the Contract Documents, nor shall any permissible substitution or addition of a subcontractor result in any increase in the contract price or in an extension of time for completion of the Project.

H. CONTRACTOR shall require subcontractors to include the provisions of this article in their sub-subcontracts, if any.

I. Each subcontract applicable to this Project is hereby assigned to OWNER, such assignment to become effective only upon termination of the Construction Agreement for cause pursuant to the Contract Documents, and only as to such subcontracts as OWNER may, in its sole discretion, select and provide written notice of such



assignment, and such assignments are subject to the rights and obligations of the surety on any applicable bonds, as detailed in the Contract Documents.

## **ARTICLE 7 ARCHITECT'S STATUS**

A. The Architect shall be OWNER's representative during construction and shall observe the progress and quality of the Work on behalf of OWNER. The Architect shall have the authority to act on behalf of OWNER only to the extent expressly provided in the Contract Documents. The Architect shall have authority to stop work whenever necessary, in the Architect's reasonable opinion, to ensure the proper execution of the Work of the Project.

B. The Architect shall be, in the first instance, the judge of the performance of the Work. The Architect shall exercise authority under the Contract Documents to enforce CONTRACTOR's faithful performance.

C. The Architect shall have all authority and responsibility established by law, including Title 24 of the California Code of Regulations. The Architect has the authority to enforce compliance with the Contract Documents and CONTRACTOR shall promptly comply with instructions from the Architect or an authorized representative of the Architect.

D. On all questions related to quantities, acceptability of material, equipment, or workmanship, execution, progress, or sequence of work, the interpretation of plans, specifications, or drawings, and the acceptable performance of CONTRACTOR, the decision of the Architect shall govern and shall be a condition precedent to any payment, unless otherwise ordered by OWNER. CONTRACTOR shall not impair or delay the progress and completion of the Work by virtue of any question or dispute arising out of or related to the foregoing matters, or the instructions of the Architect relating to them.

E. General supervision and direction of the Work by the Architect shall in no way imply that the Architect or its representatives are in any way responsible for the safety of CONTRACTOR or its employees or that the Architect or its representatives will maintain supervision over CONTRACTOR'S construction methods, means, or personnel other than to ensure that the quality of the finished work is in accordance with the Contract Documents.

## **ARTICLE 8 PROJECT INSPECTOR AND INSPECTOR FACILITIES**

A. One or more Project Inspectors ("IOR"), including specialty Inspectors as required, employed by OWNER and operating under direction of the Architect, in accordance with the requirements of the California Code of Regulations Titles 21 and

24, will be assigned to the Work. All work shall be performed under the observation of or with the knowledge of the Project Inspector. The Project Inspector shall have free access to all parts of the Work at any time. CONTRACTOR shall furnish the Project Inspector with such information as may be necessary to keep the Project Inspector fully informed regarding the progress and manner of work and the character of materials.

B. Observations by the Project Inspector shall not in any way relieve CONTRACTOR from responsibility for full compliance with all terms and conditions of the Contract Documents, or be construed to lessen to any degree CONTRACTOR's responsibility for providing efficient and capable superintendence.

C. The Project Inspector is not authorized to make changes in the drawings or Specifications, nor shall the Project Inspector's approval of the Work and methods relieve CONTRACTOR of responsibility for the correction of subsequently discovered defects, or from its obligation to fully comply with the Contract Documents.

## **ARTICLE 9 COPIES FURNISHED**

CONTRACTOR will be furnished five copies of the drawings and specifications free of charge. Additional copies may be obtained for the cost of reproduction.

## **ARTICLE 10 OWNERSHIP OF DRAWINGS**

All documents prepared on behalf of OWNER including, without limitation the Plans, Specifications, drawings, and other documents, are instruments of service of the Architect and/or its consultants and are the property of OWNER. Neither CONTRACTOR nor any Subcontractor, Sub-subcontractor, material or equipment supplier or anyone else shall own or claim a copyright in such documents. Unless otherwise indicated, the Architect shall be deemed the author of such documents. Such documents are furnished to CONTRACTOR for use solely with respect to this Project, and are not to be used for any other purpose by CONTRACTOR or any Subcontractor, Sub-subcontractor, or material or equipment supplier, or anyone claiming through them without the express written consent of OWNER. CONTRACTOR, Subcontractors, Sub-subcontractors, and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the documents for use in the execution of their work under the Contract Documents.

## **ARTICLE 11 DOCUMENTS ON WORK**

A. CONTRACTOR shall keep one copy of all Contract Documents, including addenda, change orders, shop drawings, and other modifications, and Titles 19, 21, and 24 of the California Code of Regulations, on the job at all times. The documents shall be kept in good order and accurately marked to record all changes made during

construction. The documents shall be available to the Architect and its representatives at all times.

B. CONTRACTOR shall be acquainted with and comply with all statutes and regulations as they relate to this Project. (See particularly the duties of Contractor, Title 24 California Code of Regulations, Sections 4-343.) CONTRACTOR shall also be acquainted with and comply with all provisions of the California Code of Regulations relating to conditions on this Project, particularly Titles 8 and 17.

## **ARTICLE 12 DRAWINGS AND SPECIFICATIONS**

A. Drawings and Specifications are intended to delineate and describe the Project and its component parts sufficiently to enable skilled and competent contractors to intelligently bid upon the work, and to carry the Work to a successful and timely conclusion.

B. Organization of the Specifications into divisions, sections, and articles, and arrangement of drawings, shall not control CONTRACTOR in dividing the Work among subcontractors or in establishing the extent of work to be performed by any trade.

C. The drawings and Specifications describe the work to be performed by CONTRACTOR. Generally, the Specifications describe work which cannot be readily indicated on the drawings and indicate types, qualities, and methods of installation of the various materials and equipment required for the Work. It is not intended to mention every item of work in the Specifications which can be adequately shown on the drawings, or to show on the drawings all items of work described or required by the Specifications even if they could have been shown.

D. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. The Contract Documents are intended to encompass all labor and materials, equipment, and transportation necessary for proper execution of the Work. Any item of work mentioned in the Specifications and not shown on the drawings, or shown on the drawings and not mentioned in the Specifications, shall be provided by CONTRACTOR as if shown in both.

E. All materials or labor for the Work which are shown either by the Drawings or the Specifications (or are reasonably inferable from the Drawings or the Specifications as being necessary to complete the work) shall be provided by CONTRACTOR, whether or not the work is expressly covered in either the Drawings and/or the Specifications. It is intended that the Work be of sound, quality construction. CONTRACTOR must furnish adequate labor and materials to cover installation of all items indicated, described, or implied in the portion of the Work to be performed.

F. Drawings and Specifications are intended to comply with all laws, ordinances, rules and regulations of authorities having jurisdiction, and where referred to in the Contract Documents, such laws, ordinances, rules and regulations shall be considered as a part of the Contract Documents within the limits specified. If CONTRACTOR observes that the drawings or Specifications are contrary to applicable law, ordinance, rule or regulation, CONTRACTOR shall immediately notify the Architect in writing, and any changes deemed necessary by the Architect shall be made as provided in the Contract Documents for changes in work. If CONTRACTOR performs any work which CONTRACTOR knows or through the exercise of reasonable diligence should have known to be contrary to any law, rule, regulation, or ordinance without seeking and obtaining clarification, CONTRACTOR shall bear any and all costs arising from it, including without limitation the costs of correction without increase or adjustment to the contract price or the time for performance.

G. Materials or work described in words which have a well known technical or trade meaning shall be deemed to refer to those recognized standards.

H. It is not the intention of the Contract Documents to go into detailed descriptions of any materials and/or methods commonly known to the trade under "trade name" or "trade term." The mere mention or notation of such "trade name" or "trade term" shall be considered a sufficient notice to CONTRACTOR that it will be required to complete the Work so named with all its incidental and accessory items according to the best practices of the trade.

I. Naming any material and/or equipment requires CONTRACTOR to furnish and install the named material/equipment, including all incidental and accessory items and/or labor necessary to achieve full and complete functioning of the material and/or equipment according to the best practices of the trade(s) involved, unless specifically noted otherwise.

J. Figured dimensions on drawings shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Large scale drawings shall take precedence over smaller scale drawings as to shape and details of construction. Specifications shall govern as to materials, workmanship, and installation procedures, provided however that the drawing or specification calling for the higher quality material or workmanship shall prevail, without additional cost to OWNER.

K. In case of inconsistencies in the descriptions of work to be done, equipment to be provided or material to be used, it is intended that the more stringent, higher quality, and greater quantity of work shall apply, without additional cost to OWNER.

L. All items indicated on the drawings or in the Specifications as future items require CONTRACTOR to provide all the mechanical, electrical, and other necessary service hookups or provisions required to make the equipment function as intended. Such items shall be provided to the location where the future item is indicated to be installed.

M. In the event of an inconsistency between the Construction Agreement or General Conditions and the other various Contract Documents, the Construction Agreement or General Conditions shall control.

N. Drawings and specifications are intended to be fully cooperative and to agree. If CONTRACTOR observes that drawings and Specifications are in conflict, CONTRACTOR shall promptly notify the Architect in writing, requesting clarification. Should CONTRACTOR commence work on any part of the Work without seeking clarification, CONTRACTOR waives any claim for extra work or damages as a result of any ambiguity, conflict, or lack of information. Questions regarding interpretation of drawings and Specifications shall be clarified by the Architect in writing.

O. If CONTRACTOR or its subcontractors, material, or equipment suppliers, or any of their officers, agents, and employees performs, permits, or causes the performance of any work to be done under the Contract Documents which it knows, or should have known, to be in error, inconsistent, or ambiguous, or not sufficiently detailed or explained, CONTRACTOR shall bear any and all resulting costs, including without limitation the costs of correction without increase or adjustment to the contract price or the time for performance.

P. Should clarification by the Architect be deemed new or additional work, the cost shall be adjusted as provided in these General Conditions for "Changes and Extra Work," provided however that requirements calling for the higher quality material or workmanship shall prevail without additional cost to OWNER or time adjustment.

Q. In the event the Architect determines that CONTRACTOR's requests for clarification or interpretation are not justified, or do not reflect adequate, competent supervision or knowledge by CONTRACTOR, or by the subcontractors, CONTRACTOR shall be required to pay the Architect's reasonable and customary fees in processing and responding to such requests.

R. Some drawings or other documents may be required of CONTRACTOR. If CONTRACTOR performs, permits, or causes the performance of any work under the documents prepared by or on the behalf of CONTRACTOR which document is in error, inconsistent or ambiguous, or not sufficiently detailed or explained, CONTRACTOR shall bear any and all resulting costs, including, without limitation, the cost of correction, without increase to or adjustment in the contract price or the time for performance. In

no case shall any subcontractor proceed with the work if uncertain without CONTRACTOR'S written direction and/or approval.

S. If it is found at any time, whether before or after completion of the work, that CONTRACTOR has varied from the drawings and/or Specifications in materials, quality, form, or finish, or in the amount or value of the materials and labor used, the Architect shall make a recommendation either: (1) that all such improper work should be removed, remade, and replaced, and all work disturbed by these changes be made good at CONTRACTOR'S sole expense; or (2) that OWNER deduct from any amount due CONTRACTOR the sum of money equivalent to the difference in value between the work performed and that called for by the drawings and Specifications. The Architect shall determine such difference in value. At its option, OWNER may pursue either recommendation made by the Architect.

## **ARTICLE 13 DETAIL DRAWINGS AND SPECIFICATIONS**

A. In case of ambiguity, conflict, or lack of information, the Architect shall furnish additional instructions, by means of drawings or otherwise, necessary for proper execution of the Work. All drawings and instructions shall be consistent with the Contract Documents, true developments of them, and reasonably inferable from them. Any additional instructions shall be furnished with reasonable promptness, provided that CONTRACTOR informs the Architect of the relationship of the request to the critical path of construction.

B. Work shall be executed in conformity with the Contract Documents and CONTRACTOR shall do no work without proper drawings and instructions.

C. The Architect will furnish necessary additional details to more fully explain the work, which shall be considered as part of the Contract Documents.

D. Should any details be more elaborate, in the opinion of CONTRACTOR, than scale drawings and specifications warrant, CONTRACTOR shall give written notice to the Architect within five days of receipt of the details. In case no notice is given to the Architect within five days, it will be assumed the details are reasonable development of the scale drawings. In case notice is given, the details will be considered and if found justified the Architect will either modify the drawings or shall recommend to OWNER a change order for any extra work involved.

E. All parts of the construction shall be of the best quality of their respective kinds and CONTRACTOR shall use all diligence to become fully involved in the required construction and finish, and in no case to proceed with the different parts of the Work without first obtaining from the Architect directions and/or drawings as may be necessary for proper performance of the Work.

## **ARTICLE 14 SHOP DRAWINGS AND SUBMITTALS**

A. The term "shop drawing" shall be understood to include, but not be limited to detail design calculations, fabrication and installation drawings, lists, graphs, and operating instructions.

B. CONTRACTOR shall check and verify all field measurements and shall promptly submit six copies of all shop or setting drawings, schedules, and material lists required for the work of various trades, checked and approved by CONTRACTOR.

C. All submittals of shop drawings, catalog cuts, data sheets, schedules, and material lists shall be complete and shall conform to contract drawings and specifications. Except where the preparation of a shop drawing is dependent upon the approval of a prior shop drawing, all shop drawings pertaining to the same class or portion of the work shall be submitted simultaneously.

D. Shop drawings shall be submitted at a time sufficiently early to allow review by the Architect and the Division of State Architect (DSA) if required, and to accommodate the rate of construction progress required under the Contract Documents. CONTRACTOR will be required to pay the Architect's reasonable and customary fees to expedite review of shop drawings which are not submitted in timely fashion.

E. Calculations of a structural nature must be approved by the DSA.

F. All shop drawing submittals shall be accompanied by an accurately completed transmittal form using the format provided by OWNER. Any shop drawing submittal not accompanied by the transmittal form, or where all applicable items on the form are not completed, will be returned for resubmittal. CONTRACTOR may authorize a material or equipment supplier to deal directly with the Architect with regard to shop drawings, however ultimate responsibility for the accuracy and completeness of the information contained in the submittal shall remain with CONTRACTOR.

G. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of shop drawings on various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. At its option, CONTRACTOR or suppliers may obtain quantities of the shop drawing transmittal form at reproduction cost from the Architect.

H. CONTRACTOR's review and approval of shop drawings shall include the following stamp:

"CONTRACTOR has reviewed and approved not only the field dimensions but the construction criteria and has also made written notation regarding any information in the shop drawings that does not conform to the Contract Documents. This shop drawing has been coordinated with all other shop drawings received to date by CONTRACTOR and this duty of coordination has not been delegated to subcontractors, material suppliers, the Architect, or the engineers on this Project.

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Signature of CONTRACTOR"

I. The Architect's review of shop drawings will be limited to checking for general agreement with the Contract Documents, and shall in no way relieve CONTRACTOR of responsibility for errors or omissions contained in them, nor shall the review operate to waive or modify any provision contained in the Contract Documents. The Architect's approval of the drawings or schedules shall not relieve CONTRACTOR of its responsibility for deviations from drawings or specifications unless CONTRACTOR has called the Architect's attention to the deviations, in writing, at the time of submission, and secured the Architect's written approval.

J. Fabricating dimensions, quantities of material, applicable code requirements, and other contract requirements shall be CONTRACTOR's responsibility.

K. Within 21 calendar days after receipt of shop drawings, the Architect will return one or more prints of each drawing to CONTRACTOR with the Architect's comments noted on them.

L. If prints of the shop drawings are returned to CONTRACTOR marked "NO EXCEPTIONS TAKEN," formal revision of the drawings will not be required. If prints of the shop drawings are returned to CONTRACTOR marked "MAKE CORRECTIONS NOTED," formal resubmittal of the drawings will not be required. If prints of the shop drawings are returned to CONTRACTOR marked "REVISE AND RESUBMIT," CONTRACTOR shall revise the drawings and resubmit six copies of the revised drawings to the Architect. If prints of the shop drawings are returned to CONTRACTOR marked "REJECTED; RESUBMIT," CONTRACTOR shall resubmit six new copies of the drawing to the Architect.

M. CONTRACTOR shall make a complete and acceptable submittal to the Architect by the second submission of drawings. OWNER shall withhold funds due to CONTRACTOR to cover additional costs of the Architect's review beyond the second submission and any other costs incurred by OWNER.



N. Fabrication of an item shall not be commenced before the Architect has reviewed the pertinent shop drawings and returned copies to CONTRACTOR marked "NO EXCEPTIONS TAKEN," or "MAKE CORRECTIONS NOTED." Revisions indicated on shop drawings shall be considered changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis of claims for extra work.

O. No work represented by required shop drawings shall be purchased or commenced until the applicable submittal has been approved. The work shall conform to the approved shop drawings and all other requirements of the Contract Documents. CONTRACTOR shall not proceed with any related work which may be affected by the work covered under shop drawings until the applicable shop drawings have been approved, particularly where piping, machinery, equipment, and/or the required arrangements and clearances are involved.

**P. CONTRACTOR SHALL HAVE NO CLAIM FOR DAMAGES OR EXTENSION OF TIME DUE TO ANY DELAY RESULTING FROM CONTRACTOR HAVING TO MAKE REQUIRED REVISIONS TO SHOP DRAWINGS UNLESS THE ARCHITECT'S REVIEW OF THE DRAWINGS IS DELAYED BEYOND THE TIME PROVIDED IN THE CONTRACT DOCUMENTS AND CONTRACTOR CAN ESTABLISH THAT THE ARCHITECT'S DELAY IN REVIEW ACTUALLY RESULTED IN A DELAY IN CONTRACTOR'S CONSTRUCTION SCHEDULE. CONTRACTOR SHALL NOT BE ENTITLED TO ANY CLAIM FOR DAMAGES RESULTING FROM DSA REVIEW EXTENDING BEYOND 15 CALENDAR DAYS AFTER SUBMITTAL. HOWEVER, OWNER MAY CONSIDER AN EXTENSION OF TIME DUE TO ANY DELAY CAUSED BY DSA REVIEW.**

## **ARTICLE 15 SAMPLES**

A. Within 35 calendar days following award of contract, or a shorter time as circumstances require, CONTRACTOR shall furnish for approval all samples required in the Specifications, together with catalogs and supporting data required by the Architect. This provision shall not authorize any extension of time for performance of the work. The Architect shall review the samples, as to conformance with design concept of work and compliance with information given in the Contract Documents, and approve or disapprove them within 10 working days from receipt.

B. Unless specified otherwise, sampling, preparation of samples, and tests shall be in accordance with the latest standards of the American Society for Testing and Materials.

C. Upon demand of the Architect or OWNER, designated samples shall be submitted or tests or examinations and considered before incorporation into the Work. CONTRACTOR shall be solely responsible for delays due to samples not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing.

Work shall be equal to approved samples in every respect. Samples which are of value after testing will remain the property of CONTRACTOR.

D. Work commenced before approval of samples subject to tests or examinations shall be at the sole risk of CONTRACTOR. CONTRACTOR alone shall bear the entire cost of repair, removal, or replacement of work commenced prior to approval of samples subject to tests or examinations.

## **ARTICLE 16 WORK TO COMPLY WITH APPLICABLE LAWS AND REGULATIONS**

A. CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, and regulations relating to the Work required by the Contract Documents.

B. If CONTRACTOR observes that the Drawings and/or Specifications are at variance with any applicable law, ordinance, rule, or regulation, CONTRACTOR shall promptly notify the Architect in writing, and any changes deemed necessary by the Architect shall be made as provided in the Contract Documents for changes in work. If CONTRACTOR performs any work which CONTRACTOR knows, or through the exercise of reasonable care should have known, to be contrary to any laws, ordinances, rules, or regulations, and fails to notify the Architect, CONTRACTOR shall bear all arising costs, including without limitation the costs of correction without increase or adjustment to the contract price or the time for performance. Where Plans, Drawings, or Specifications state that materials, processes, or procedures must be approved by the DSA, State Fire Marshall, or other body or agency, CONTRACTOR shall be responsible for satisfying the requirements of those bodies or agencies.

## **ARTICLE 17 WORK AND MATERIALS**

A. Except as otherwise specifically stated in the Contract Documents, CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of every kind, and all other services and facilities necessary to perform and complete the Work within the time specified.

B. Unless otherwise specified, all materials shall be new and the best of their respective kinds and grades as noted or specified, and workmanship shall be of good quality.

C. Materials shall be furnished in ample quantities and at times to ensure uninterrupted progress of the work and shall be properly stored and protected. CONTRACTOR shall be solely responsible for any damage or loss by weather, theft, or other causes to materials or work under the Contract Documents. After issuance of the Notice to Proceed by OWNER, CONTRACTOR shall place orders for materials and/or

equipment as specified so that delivery may be made without delays to the Work. Upon demand from the Architect, CONTRACTOR shall furnish to the Architect documentary evidence showing that orders have been placed.

D. In the event of failure to comply with the above instructions, OWNER reserves the right to place orders for any materials and/or equipment as it may deem advisable in order that the Work may be completed at the date specified in the Contract Documents, and all expenses incidental to procuring the materials and/or equipment shall be paid for by CONTRACTOR.

E. No material, supplies, or equipment for work under the Contract Documents shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest in all or any part is retained by the seller or supplier. CONTRACTOR warrants good title to all material, supplies, and equipment installed or incorporated in the Work, and upon completion of all work agrees to surrender the premises to OWNER, together with all improvements and appurtenances constructed or placed by CONTRACTOR, free from any claims, liens, or charges. CONTRACTOR further agrees that neither CONTRACTOR nor any person, firm, or corporation furnishing any materials or labor for any work covered by the Contract Documents shall have any right to a lien upon the premises or any improvement or appurtenance, except that CONTRACTOR may install metering devices or other equipment of utility companies or political subdivisions, title to which is commonly retained by the utility company or political subdivision. In the event of the installation of any metering device or equipment, CONTRACTOR shall advise OWNER as to its owner. Nothing contained in this article however shall defeat or impair the legal right of persons furnishing material or labor to look to funds due and owing CONTRACTOR for payment. This provision shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing material for work when no formal contract is entered into for such material.

F. Title to new materials and/or equipment, and attendant liability for their protection and safety, shall remain in CONTRACTOR until incorporated in the Work and accepted by OWNER. No part of these materials and/or equipment shall be removed from their place of storage except for immediate installation in the Work, and CONTRACTOR shall keep an accurate inventory of all materials and/or equipment in a manner satisfactory to OWNER or its authorized representative.

G. Price, fitness, and quality being equal with regard to supplies, OWNER may prefer supplies grown, manufactured, or produced in California. OWNER may next prefer supplies partially manufactured, grown, or produced in California provided the bids of suppliers or the prices quoted by them do not exceed by more than five percent the lowest bids/prices quoted by out-of-state suppliers, the major portion of the

manufacture of the supplies is not done outside of California, and the public good will be served. (Government Code Sections 4330-4334)

## **ARTICLE 18 CONTRACTOR'S SUPERVISION, PROSECUTION, AND PROGRESS**

A. Unless personally present on premises where the work is being done, CONTRACTOR shall maintain competent project supervision at all times during working hours, which includes but is not limited to a Project Manager and all additional personnel necessary to maintain progress of the Project within the approved contract schedule satisfactory to the Architect. The Project Manager shall not be changed except with the written consent of the Architect. The Project Manager shall represent CONTRACTOR in its absence and all directions given to the Project Manager shall be binding on CONTRACTOR.

B. Unless personally present on premises where the work is being done, CONTRACTOR shall maintain a competent Superintendent on the work site at all times, satisfactory to the Architect. The Superintendent shall not be changed except with the written consent of the Architect. The Superintendent shall represent CONTRACTOR in its absence and all directions given to the Superintendent shall be binding on CONTRACTOR.

C. Before commencing the Work, CONTRACTOR shall give written notice to OWNER and the Architect of the name, qualifications, and experience of CONTRACTOR's proposed Project Manager and Superintendent. If either the Project Manager or Superintendent is found unsatisfactory by OWNER, CONTRACTOR shall replace that person with one acceptable to the OWNER.

D. CONTRACTOR shall supervise and direct the work competently and efficiently, devoting such attention and applying such skills as may be necessary to perform the Work in accordance with the Contract Documents.

E. Before commencing the Work, CONTRACTOR shall verify all grade lines, levels, and dimensions indicated on the Drawings and shall report any apparent error or inconsistencies to the Architect before commencing work. CONTRACTOR shall not proceed until reported apparent errors and inconsistencies are corrected or otherwise resolved by the Architect and OWNER.

F. CONTRACTOR shall establish and maintain all construction grades, lines, and bench marks, and be responsible for their accuracy and protection.

G. CONTRACTOR represents itself to OWNER as a skilled, knowledgeable, and experienced CONTRACTOR who will or has carefully studied and compared the Contract Documents with each other, and CONTRACTOR further represents it has or

shall at once report to the Architect any errors, inconsistencies, or omissions discovered in them. CONTRACTOR shall be liable to OWNER for damage resulting from errors, inconsistencies, or omissions in the Contract Documents that CONTRACTOR either:

1. Recognized and knowingly failed to report; or
2. Should have recognized, and which a similarly skilled, knowledgeable, and experienced contractor would have discovered, which CONTRACTOR negligently failed to recognize and report.

H. CONTRACTOR shall verify all indicated dimensions before ordering materials or equipment, or before performing work. CONTRACTOR shall take field measurements, verify field conditions, and carefully compare the field measurements and conditions and other information known to CONTRACTOR with the Contract Documents before commencing work. Errors, inconsistencies, or omissions discovered shall be reported to OWNER at once. Upon commencement of any item of work, CONTRACTOR shall be responsible for dimensions related to the item of work and shall make any corrections necessary to make work properly fit at no additional cost to OWNER. This responsibility for verification of dimensions is a non-delegable duty and may not be shifted to subcontractors or agents.

I. Omissions from the Plans, drawings, or Specifications, or the mis-description of details of work which are manifestly necessary to carry out the intent of the Plans, drawings, and Specifications, or which are customarily performed, shall not relieve CONTRACTOR from performing such omitted or mis-described work, but they shall be performed as if fully and correctly set forth and described in the Plans, drawings, and Specifications.

J. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. CONTRACTOR shall be responsible to see that the finished work complies accurately and completely with the Contract Documents

## **ARTICLE 19 SUBSTITUTIONS**

A. CONTRACTOR shall follow all instructions and requirements for substitutions set forth in the Instructions to Bidders and in this article.

B. OWNER desires that whenever possible all substitution requests be resolved prior to contract award. For that reason, no substitution requests, whether of "equal" materials, process, service, equipment, or otherwise, may be made after the bid date except by the express written permission of OWNER and on such terms as OWNER may require, or in the case of an emergency as where a specified material, process,

service, equipment or other item has become unavailable through no fault of CONTRACTOR.

C. As to any emergency substitution request, CONTRACTOR shall timely submit the request, together with substantiating data, including substitution warranties, in order to prevent delays arising from the substitution request.

D. With respect to all proposed substitutions:

1. Every substitution request shall be on the substitution request form designated by OWNER, if any, and shall be accompanied by all substantiating data.

2. CONTRACTOR shall furnish with its substitution request all drawings, Specifications, samples, performance data, calculations, and other information as may be required to assist the Architect and OWNER in determining whether the proposed substitution is acceptable, including but not limited to the following:

- a. Identify product by Specifications section and article numbers; provide manufacturer's name and address, trade name of product, and model or catalog number; list fabricators and suppliers as appropriate.
- b. Attach product data as required by Specifications.
- c. List similar projects using product, dates of installation, and names of Architect/Engineer and owner.
- d. Give itemized comparison of proposed substitution with specified product, listing variations and reference to Specifications section and article numbers.
- e. Give quality and performance comparison between proposed substitution and specified product.
- f. Give cost data comparing proposed substitution with specified product and amount of net change to contract sum.
- g. Identify any required license fees or royalties.
- h. List availability of maintenance services and replacement materials.

- i. State the effect of the substitution on the construction schedule, and the effect of any changes required in other work or products; include a document waiving rights to additional payment or time that may become necessary because of the failure of the substitution to perform adequately.
3. OWNER is not responsible for locating or securing any information which is not included in any substantiating data.
4. The proposed substitution must be, in the opinion of OWNER, substantially equal or better in every respect to what is specified. The burden of proof as to the quality or suitability of proposed substitutions shall be borne by CONTRACTOR.
5. With the assistance of the Architect, OWNER shall be the sole judge as to the quality and suitability of proposed substituted items, and decisions of the OWNER shall be final and conclusive.
6. All substitutions shall be submitted with a substitution warranty. Any substitution requests submitted without the warranty will not be considered, but will be returned to CONTRACTOR without review or evaluation. If required by OWNER, CONTRACTOR shall provide an extended warranty for the requested substitution.
7. No extension of time shall be granted if the extension request arises from a request for substitution, whether by reason of delay in making the request, delay in OWNER's approval of the request, delay in obtaining other governmental approvals, delay in coordination of substitutions into or with other work or equipment, delay in obtaining the substituted items, increased time of installation or performance, or for any other reason.
8. Once any part or all of a substitution request has been denied, it is considered always denied.
9. A substitution request shall be submitted separately from any other submittal and shall be clearly marked as a "request for substitution."
10. If the substitution is accepted, CONTRACTOR shall bear all costs and be solely and directly responsible for fitting accepted substitute materials and equipment into the available space in a manner acceptable to the Architect and OWNER, and for the proper operation of the substituted equipment with other equipment with which it may be associated. In addition, CONTRACTOR shall acknowledge in writing on CONTRACTOR's letterhead, that CONTRACTOR

accepts complete responsibility for additional costs required for modifications to building or other materials and equipment and additional coordination of work.

11. Any additional time, including Architect review time, and any additional coordination, inspection, materials, equipment, labor, tools, warranty extension, or other items necessary to either accomplish a substitution or arising as a result of a substitution request will be the sole responsibility of and at the sole expense of CONTRACTOR, who will reimburse OWNER for review or redesign services associated with approval by the Architect and obtaining all required approvals by other agencies.

12. CONTRACTOR shall also be responsible for meeting all code requirements whether local, city, county, state, federal, or other.

F. If the substitution requested by CONTRACTOR is not substantially equal or better in every respect to that specified, in the opinion of DISTRICT, CONTRACTOR shall provide and/or perform as specified.

G. In the event CONTRACTOR furnishes a material, process, service, or equipment more expensive than that specified, the difference in cost of such material, process, service, or equipment furnished shall be borne by CONTRACTOR. Any difference in cost between an approved substitution which is lower in cost than the originally specified item shall be refunded by CONTRACTOR to OWNER.

H. Any engineering, design, or approval agencies' fees required to make adjustments in material or work of all trades directly or indirectly affected by the approved substitution shall be borne entirely by CONTRACTOR. If a substitution is approved, any additional time required to obtain shop drawings, order materials, make modifications, perform testing, or whatever else is necessary to make the substitution function properly in place of the originally specified item shall be borne solely by CONTRACTOR. It will also be CONTRACTOR's responsibility to acquire and install the substituted item in the time frame allowed under the Contract Documents. No time extension need be granted to CONTRACTOR for any substitution, except as OWNER in its sole discretion may deem appropriate.

## **ARTICLE 20 PROTECTION OF WORK AND PROPERTY**

A. CONTRACTOR shall be responsible for all damages to persons or property which occur as a result of CONTRACTOR's fault or negligence in connection with performance under the Contract Documents, and for the proper care and protection of all materials delivered and work performed until completion and final acceptance by OWNER. With the exception of damage to the Work caused by "acts of God," as defined in Public Contract Code 7105, CONTRACTOR assumes the risk for damage or



destruction of any or all work performed under the Contract Documents. CONTRACTOR shall adequately protect adjacent property from settlement or loss of lateral support as provided by law and this article.

B. CONTRACTOR shall take, and require subcontractors to take, all necessary precautions for safety of workers and shall comply with all applicable federal, state, local, and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to the work site and to provide a safe and healthful place of employment. CONTRACTOR shall furnish, erect, and properly maintain at all times, as directed by OWNER or the Architect, or required by conditions and progress of work, all necessary safety devices, safeguards, construction canopies, signs, audible devices for protection of the blind, safety rails, belts and nets, barriers, lights, and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created by such features in the course of construction. CONTRACTOR shall designate a responsible employee whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety, and health of workers. The name and position of the person so designated shall be reported in writing to OWNER by CONTRACTOR. CONTRACTOR shall correct any violation of safety laws, standards, orders, rules, or regulations. Upon issuance of a citation or notice of violation by the California Division of Occupational Safety and Health, the violation shall be corrected immediately by CONTRACTOR at CONTRACTOR's expense.

C. In an emergency affecting safety of life, work, or adjoining property, CONTRACTOR is permitted to act at its discretion without special instruction or authorization from the Architect or OWNER to prevent any threatened loss or injury, and CONTRACTOR shall act if authorized or instructed by the Architect or OWNER. Any compensation claimed by CONTRACTOR for emergency work shall be determined according to the Contract Documents.

D. CONTRACTOR shall (unless waived by OWNER in writing):

1. Provide heat, covering, and enclosures necessary to protect all work, materials, equipment, appliances, and tools against damage by weather conditions;
2. Take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, adjoining property, and structures, and avoid damage to them, and repair any damage caused by construction operations;

3. When performing new construction on existing sites, become informed and take into specific account the maturity of the students on the site, and perform work which may interfere with school routine before or after school hours; enclose the work area with a substantial barricade and arrange work to cause a minimum of inconvenience and danger to students and staff in their regular school activities;
4. Provide substantial barricades around any shrubs or trees to be preserved;
5. Deliver materials to the building area over the route designated by the Architect;
6. Take preventative measures to eliminate excessive dust;
7. Confine apparatus, storage of materials, and the operations of its workers within limits indicated by law, ordinances, permits, or directions of the Architect and not unreasonably encumber the premises with materials;
8. Enforce all instructions of OWNER and the Architect regarding signs, advertising, fires, danger signals, barricades, and smoking, and require that all persons employed on the Work comply with all regulations while on the construction site;
9. Exercise reasonable care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners; if markers are disturbed, they shall be replaced by an approved civil engineer at no cost to OWNER.

## **ARTICLE 21 USE OF ASBESTOS OR LEAD MATERIALS/PRODUCTS**

A. CONTRACTOR shall not use any asbestos or lead containing products or materials in performing the work under the Contract Documents. Upon completion of the Project, CONTRACTOR shall certify in writing to OWNER that no asbestos or lead containing materials or products were used by CONTRACTOR or any subcontractor in performing the work required by the Contract Documents.

B. Should asbestos containing materials be installed by CONTRACTOR in violation of this certification, or if removal of asbestos containing materials is otherwise a part of the Project, decontaminations and removals will meet the following criteria:

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 Cal-OSHA.

2. Any asbestos removal contractor shall be a Cal-OSHA accredited contractor qualified in the removal of asbestos and shall be chosen and approved by the asbestos consultant who shall have sole discretion and final determination in this matter.

3. The asbestos consultant shall be chosen and approved by OWNER who 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.

C. Cost of all asbestos removal, including but not limited to the cost of an asbestos removal contractor, the cost of the asbestos consultant, analytical and laboratory fees, time delays, and additional costs as may be incurred by OWNER shall be borne entirely by CONTRACTOR.

D. Interface of work for the Project with work containing asbestos shall be executed by 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 materials. By execution of the Construction Agreement, CONTRACTOR acknowledges the above and agrees to hold harmless OWNER, its governing board, or other governing body, employees, agents, and the Architect and assigns for all asbestos liability which may be associated with this work. CONTRACTOR further agrees to instruct CONTRACTOR's employees with respect to the above standards, hazards, risks, and liabilities.

E. Should lead containing materials be installed by CONTRACTOR in violation of this certification, or if removal of lead containing materials is part of the Project, decontaminations and removals will meet the criteria approved by OWNER.

F. The cost of all removals or decontaminations resulting from the installation of materials in violation of this certification shall be at the sole expense of CONTRACTOR.

## **ARTICLE 22 LAYOUT AND FIELD ENGINEERING**

All field engineering required for laying out this Work and establishing grades for earthwork operations shall be furnished by CONTRACTOR at its expense. The work shall be done by a qualified civil engineer approved by the Architect. "As-Built" drawings of site development and utilities' locations and inverts shall be prepared by an approved civil engineer.

## **ARTICLE 23 UTILITIES**

A. All utilities, including but not limited to electricity, water, gas, and telephone used on the Work, shall be furnished and paid for by CONTRACTOR. CONTRACTOR shall furnish and install necessary temporary distribution systems, including meters if necessary, from distribution points to points on the site where the utility is necessary to perform the work. Upon completion of the Work, CONTRACTOR shall remove all temporary distribution systems.

B. If this Project is for an addition to an existing facility, CONTRACTOR may use existing OWNER utilities, with the written permission of OWNER, by making prearranged payments to OWNER for utilities used by CONTRACTOR for construction.

## **ARTICLE 24 UTILITIES: REMOVAL, RESTORATION**

A. Pursuant to Government Code section 4215, OWNER assumes the responsibility for removal, relocation, and protection of utilities located on the construction site at the time of commencement of construction with respect to any main or trunkline utility facilities which are not identified in the Plans and Specifications. CONTRACTOR shall not be assessed any delay in completion of the Project caused by OWNER's failure to provide for removal or relocation of utility facilities. OWNER shall compensate CONTRACTOR for the costs of locating, repairing damage not due to CONTRACTOR's failure to exercise reasonable care, and removing or relocating any utility facilities not indicated in the Plans and Specifications with reasonable accuracy, and for equipment necessarily idle during the work, using the provisions of the Contract Documents on changes in the Work.

B. This article shall not be construed to preclude assessment against CONTRACTOR for any other delays in completion of the Work. Nothing in this article shall be deemed to require OWNER to indicate the presence of existing service laterals or appurtenances whenever the presence of those utilities on the construction site can be inferred from the presence of other visible facilities, such as buildings or meter junction boxes on or adjacent to the construction site.

C. If while performing work under the Contract Documents, CONTRACTOR discovers utility facilities not identified by OWNER in the contract Plans or Specifications, CONTRACTOR shall immediately notify OWNER and the utility in writing.

D. As part of the work to be performed, CONTRACTOR shall provide the notices and proceed in accordance with Government Code Sections 4216.2, 4216.3, and 4216.4, and pay all fees charged pursuant to Government Code Section 4216, et seq.

## **ARTICLE 25 SANITARY FACILITIES**

CONTRACTOR shall provide temporary sanitary toilet facilities as required by law and additional facilities as directed by the Project Inspector for the use of all workers. The facilities shall be maintained in a sanitary condition and left at the site until removal is directed by the Project Inspector. Use of toilet facilities contained in the Work under construction shall not be permitted except with the approval of the Project Inspector.

## **ARTICLE 26 LABOR—FIRST AID**

CONTRACTOR shall maintain emergency first aid treatment on the Project for all workers of CONTRACTOR or any subcontractors on the Project, and shall ensure compliance with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C.A., Section 651 et seq.).

## **ARTICLE 27 CHANGES AND EXTRA WORK**

A. As used in this article, the following definitions shall apply:

1. "Labor" means any amount(s) paid directly to non-supervisory workers (up to and including general foreman) in the form of employee wages and benefits in order to perform the Work. These costs shall include documented payroll cost (wages, payroll taxes, fringe benefits, workers compensation) and general liability insurance as submitted and approved by OWNER.
2. "Material" means all products, equipment, and devices that are physically incorporated into the work to be performed. Any costs or equipment, facilities, or services not physically incorporated in the work to be performed but necessary for its completion shall be considered "overhead." Cash or trade discounts available to the purchaser shall be credited to OWNER. Material costs secured by other than direct purchase and billing will be the price paid to the actual supplier as determined by OWNER. Markup will not be allowed. If cost of materials is deemed excessive, the price will be determined to be the lowest current wholesale price delivered to the site, less cash or trade discount.
3. "Equipment" costs shall include transportation and setup costs, if CONTRACTOR can substantiate that the Work could not have been performed economically with equipment already at the site. Rental costs shall not exceed rates set forth in the then-current "Rental Rate Blue Book," published by Dataquest, Inc., Palo Alto, California, as adjusted to this region. Owned equipment costs shall not exceed rates set forth in the then-current "Cost Reference Guide for Construction Equipment," published by Dataquest. Hours of

usage must be documented by CONTRACTOR in order to be the basis for equipment utilization charges for Change Orders. CONTRACTOR will not be allowed to charge for idle equipment.

4. "Overhead" means any necessary costs and expenses incurred in the performance of the Work excluding "labor," "materials," and "equipment" as defined above.

B. Without invalidating the Contract Documents, OWNER may order extra work or make changes by altering, adding to, or deducting from the Work, and the contract sum shall be adjusted accordingly. All the work shall be subject to the conditions of the Contract Documents, except that any claim for extension of time caused by changes shall be adjusted at the time of ordering the change, with adjustments to time being made after CONTRACTOR has justified, through documentation, the impact on the critical path of the Project.

C. In giving instructions, the Architect shall have authority to make minor changes in the Work not involving a change in cost and not inconsistent with purposes of the Project, subject to DSA approval. If so authorized by OWNER, OWNER's Representative, if one has been identified, may authorize changes in work involving a change in cost that does not exceed \$15,000. Otherwise, except in an emergency endangering life or property, no extra work or change shall be performed unless pursuant to a written order from OWNER, and no claim for any addition to the contract amount or time shall be valid unless by written order of OWNER. A Change Order will not be officially approved until ratified by OWNER's Board of Trustees or other governing body.

D. If the Architect determines that the work required to be done constitutes extra work outside the scope of the Contract Documents, the Architect shall send a request for a detailed proposal to CONTRACTOR. CONTRACTOR will respond with a detailed proposal within five calendar days of receipt of the request for proposal. If the work is to be performed by a subcontractor, CONTRACTOR's proposal must include a bid from the subcontractor.

E. If the Architect determines the work required does not constitute extra work, or work for which CONTRACTOR may recover additional compensation, the Architect shall so notify CONTRACTOR. If CONTRACTOR is not in agreement with the determination by the Architect, CONTRACTOR shall immediately give notice of any claim as provided in the Contract Documents. CONTRACTOR shall perform the required work in timely fashion.

F. At the discretion of OWNER, the value of any extra work, change, or deduction shall be determined in one or more of the following ways:

1. By acceptable lump sum proposal from CONTRACTOR, a total sum for the changed work may be mutually determined by OWNER and CONTRACTOR. CONTRACTOR shall furnish a breakdown of the proposed lump sum cost satisfactory to OWNER, which shall be full and final compensation for the change, including time adjustment.

2. By contract unit prices contained in CONTRACTOR's original bid and incorporated in the Contract Documents, or fixed by subsequent agreement between OWNER and CONTRACTOR. Where payment for Change Orders is based on unit prices stipulated in CONTRACTOR's bid, those unit prices shall constitute the total equitable adjustment due for the change. If a change is ordered in an item or work covered by a contract unit price, and the change does not involve a substantial change in the character of the work from that shown on the Plans or included in the Specifications, an adjustment in payment will be made based upon the increase or decrease in quantity and the contract unit price. In the case of such an increase or decrease in a major bid item, the use of this basis for the adjustment of payment will be limited to that portion of the change which, together with all previous changes to that item, is not in excess of 25 percent of the total cost of such item based on the original quantity and contract unit price. If a change is ordered in an item of work covered by a contract unit price, and the change does involve a substantial change in the character of the work from that shown on the Plans or included in Specifications, an adjustment in payment will be made in accordance with other sections of this article. Should any contract item be deleted in its entirety, payment will be made only for actual costs incurred prior to notification of such deletion.

3. Stipulated contract unit prices are those established by OWNER in the Contract Documents, as distinguished from contract unit prices submitted by CONTRACTOR, and may be used for the adjustment of contract changes. Whether set forth in the Contract Documents or subsequently agreed upon, all contract unit prices shall include overhead, profit, and increased premium on the Surety Bonds.

4. By cost of labor, material, equipment, and subcontract, plus a percentage for overhead and profit. If the value is determined by this method the following requirements shall apply:

a. Daily reports by CONTRACTOR, as follows:

(i) General. At the close of each working day, CONTRACTOR shall submit a daily report to the Architect and the Project Inspector on forms approved by OWNER, together with applicable delivery

tickets listing all labor, materials, and equipment involved for that day, and for other services and expenditures, when authorized, concerning extra work items. An attempt shall be made to reconcile the report daily, and it shall be signed by the Architect and CONTRACTOR. In the event of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by subcontractors or others shall be submitted through CONTRACTOR.

(ii) Labor. The report shall show names of workers, classifications, and hours worked and hourly rate. Project supervision expenses, including for foremen and above, are not allowed.

(iii) Materials. The report shall describe and list quantities of materials used and unit cost.

(iv) Equipment. The report shall show the type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable, and hourly/daily costs.

(v) Other Services and Expenditures. Other services and expenditures shall be described in such detail as OWNER may require.

b. Basis for Establishing Costs

(i) Labor. The costs of labor will be the actual cost for wages prevailing locally for each craft classification or type of worker at the time the extra work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from federal, state, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. The use of labor classifications which would increase the extra work cost will not be permitted unless CONTRACTOR establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.

(ii) Materials. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the work site in the quantities involved, plus sales



tax, freight, and delivery. OWNER reserves the right to approve materials and sources of supply, or to supply materials to CONTRACTOR if necessary for the progress of the work. No markup shall be applied to any material provided by OWNER.

(iii) Tool and Equipment Rental. No payment will be made for the use of tools which have a replacement value of \$100 or less or where an invoice is not provided. Regardless of ownership, the rates to be used in determining equipment rental costs shall not exceed listed rates prevailing locally at equipment rental sources or distributors at the time the work is performed. The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Necessary loading and transportation costs for equipment used on the extra work shall be included. If equipment is used intermittently, and when not in use could be returned to its rental source at less expense to OWNER than holding it at the work site, it shall be returned, unless CONTRACTOR elects to keep it at the work site at no expense to OWNER. All equipment shall be acceptable to the Architect in good working condition, and suitable for the purpose for which it is to be used. Manufacturer's ratings and manufacturer's approved modifications shall be used to classify equipment and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

(iv) Other Items. OWNER may authorize other items which may be required on the extra work. These items include labor, services, material, and equipment which are different in their nature from those required by the work and which are of a type not ordinarily available from CONTRACTOR or any of the Subcontractors. Detailed invoices covering all such items shall be submitted with the request for payment.

(v) Invoices. Vendors' invoices for material, equipment rental, and other expenditures shall be submitted with the request for payment. If the request for payment is not substantiated by invoices or other documentation, OWNER may establish the cost of the item involved at the lowest price which was current at the time of the report.

c. The following form shall be used by OWNER and CONTRACTOR as applicable to communicate proposed additions and deductions to the Contract Documents.

EXTRA CREDIT

- (i) Material (attached itemized quantity and unit cost plus sales tax)
- (ii) Labor (attached itemized hours and rates)
- (iii) Subtotal
- (iv) If Subcontractor performed work, add Subcontractor's overhead and profit to portions performed by it, not to exceed 10% of Item (iii) above
- (v) Subtotal
- (vi) CONTRACTOR's Overhead and Profit, including any increased bond costs, not to exceed 10% of Item (v)
- (viii) Total

**5. IT IS EXPRESSLY UNDERSTOOD THAT THE VALUE OF SUCH EXTRA WORK OR CHANGES AS DETERMINED BY ANY OF THESE METHODS EXPRESSLY INCLUDES ANY AND ALL OF CONTRACTOR'S COSTS AND EXPENSES, BOTH DIRECT AND INDIRECT, RESULTING FROM DELAYS OR ADDITIONAL TIME REQUIRED ON THE PROJECT, OR RESULTING FROM ACCELERATED WORK TO AVOID DELAYS TO THE PROJECT.**

G. For changes that increase the contract price, CONTRACTOR may include amounts for overhead and profit. CONTRACTOR's overhead (general and administrative) and profit shall include, but not be limited to additional bond costs, additional job site facilities costs, additional home and field office costs, additional administrative costs, additional cleaning, and additional project supervision costs (which includes but is not limited to a Project Manager and any and all additional personnel necessary to maintain the project progress within the approved contract schedule).

H. CONTRACTOR'S overhead, profit, and additional bond costs on the cost of work performed by CONTRACTOR shall be a total sum not exceeding 10 percent of the cost of work.

I. CONTRACTOR'S overhead, profit, and additional bond costs on the cost of work performed by Subcontractors of all tiers shall be a total sum not exceeding 10 percent of those costs.

J. Subcontractors' (all tiers) overhead and profit on the cost of work performed by Subcontractor shall be a total sum not exceeding 10 percent of the cost of labor, materials, rentals, etc.

K. Overhead and profit shall not be applied to taxes, delivery charges, and insurance by CONTRACTOR or its subcontractors or sub-subcontractors.

L. Before CONTRACTOR is authorized to proceed with extra work or changes on the basis set forth in this Article, OWNER and CONTRACTOR shall be in complete agreement on what the term "costs" shall include and the percentage amount of fixed fee CONTRACTOR is to charge.

M. If CONTRACTOR should claim that any instruction, request, drawing, specification, action, condition, omission, default, or other situation constitutes a change, extra work, or otherwise obligates OWNER to pay additional compensation to CONTRACTOR or to grant an extension of time, or constitutes a waiver of any provision in the Contract Documents, CONTRACTOR shall notify OWNER in writing of such claim within five calendar days from the date CONTRACTOR has actual or constructive notice of the factual basis supporting the claim. The notice shall state the factual basis for the claim and cite in detail the Contract Documents (including plans and specifications) upon which the claim is based. CONTRACTOR's failure to notify OWNER within the five-day period shall be deemed a waiver and relinquishment of such a claim. If the notice is given within the specified time, the procedure for its consideration shall be as stated in these General Conditions. In the event of failure to agree, the matter shall be treated as a claim following the claims procedures in the Contract Documents.

N. Costs which shall not be paid in Change Orders under the Contract Documents include but are not limited to interest costs of any type, claim preparation or filing costs, costs in preparing or reviewing proposed change orders or proposals, CQR's, ASI's, etc., lost revenue, lost profit, lost income or earnings, rescheduling costs, costs of idled equipment, lost earnings or interest on unpaid retainage, claims consulting costs, costs of corporate officers or staff visiting the site, fluctuation of foreign currency conversion or exchange rate costs, or loss of other business.

O. Notwithstanding any other provision in the Contract Documents, the adjustment in the contract price, if any, and the adjustment in the contract time, if any, set out in a change order shall constitute the entire compensation and/or adjustment in the contract time due CONTRACTOR arising out of the change in the work covered by the change order, including any extensions of time, unless otherwise expressly stated in the change

order. The amount of any compensation due CONTRACTOR shall be calculated pursuant to this Article. The compensation shall not include any additional charges not set forth in this Article and shall not include delay damages due to processing a change order or refusal to sign a change order, or any indirect, consequential, or incidental costs, including any project management costs, extended home office and field office overhead, administrative costs, or profit except as such matters may be authorized under this Article.

P. In furtherance of the intent to settle all change orders fully and finally at the issuance date of the change order, the following shall be expressly incorporated in writing and deemed incorporated in all change orders:

**THE COMPENSATION (TIME AND COST) SET FORTH IN THIS CHANGE ORDER COMPRISES THE TOTAL COMPENSATION DUE CONTRACTOR FOR THE CHANGE DEFINED IN THE CHANGE ORDER, INCLUDING IMPACT ON UNCHANGED WORK. ACCEPTANCE OF THIS CHANGE ORDER CONSTITUTES A FULL AND COMPLETE ACCORD AND SATISFACTION OF ANY AND ALL CLAIMS BY CONTRACTOR ARISING OUT OF OR RELATING TO THE CHANGE ORDER, INCLUDING BUT NOT LIMITED TO CLAIMS FOR CONTRACT BALANCE AND RETENTION, TIME, EXTENDED FIELD OR HOME OFFICE, OR OTHER OVERHEAD, ALL ACCELERATION, IMPACT, DISRUPTION AND DELAY DAMAGES, ANY AND ALL OTHER DIRECT AND/OR INDIRECT COSTS, CLAIMS BY SUBCONTRACTORS AND SUPPLIERS, AND ANY AND ALL OTHER CLAIMS AGAINST OWNER FOR TIME OR MONEY, FROM ANY SOURCE AND UNDER ANY LEGAL THEORY WHATSOEVER, AS TO THE SUBJECT OF THIS CHANGE ORDER. NO SIGNATURE UNDER PROTEST OR ACCOMPANIED BY RESERVATION OF RIGHTS OR PROTEST LANGUAGE, OR ANY OTHER ATTEMPTS TO AVOID SUCH WAIVER SHALL BE OF ANY FORCE OR EFFECT WHATSOEVER. NO ADDITIONS OR DELETIONS TO THIS CHANGE ORDER SHALL BE ALLOWED, EXCEPT WITH WRITTEN PERMISSION OF OWNER.**

Q. Within 10 days of the notice to proceed, CONTRACTOR shall submit a detailed list of the field office overhead cost components which are time related and which represent costs incurred as a direct result of time extensions. No allowance for overhead costs and no profit allowance will be allowed on the extended daily field overhead cost component of the change Order. The deviation of an extended home office overhead rate and its application to contract time extensions shall not be allowed.

## **ARTICLE 28 CORRECTION OF WORK BEFORE FINAL PAYMENT**

A. CONTRACTOR shall promptly remove from the premises all work identified by OWNER as failing to conform to the Contract Documents, whether incorporated or not. CONTRACTOR shall promptly replace and repair its own work to comply with the Contract Documents, without additional expense to OWNER, and shall bear the expense of making good all work of other contractors destroyed or damaged by that removal or replacement, including compensation for the Architect's additional services.

B. If CONTRACTOR does not remove work within a reasonable time following written notification, OWNER may remove and store the material at CONTRACTOR'S expense. If CONTRACTOR does not pay the expenses of removal within 10 days, OWNER may sell the materials at auction or private sale upon 10 days' written notice, and shall account for any net proceeds after deducting all costs and expenses that should have been borne by CONTRACTOR.

## **ARTICLE 29 DEDUCTIONS FOR UNCORRECTED WORK**

A. If CONTRACTOR defaults or neglects to carry out the Work in accordance with the Contract Documents, or fails to perform any provision of the Contract Documents, after 10 days' written notice to CONTRACTOR, OWNER may make good such deficiencies without prejudice to any other remedy it may have.

B. OWNER shall reduce the total contract price by the cost of making good such deficiencies.

C. If OWNER deems it inexpedient to correct work not performed in compliance with the Contract Documents, an equitable deduction from the contract price shall be made.

## **ARTICLE 30 CLEANING UP**

A. CONTRACTOR shall at all times keep the work site free from debris such as waste, rubbish, and excess materials and equipment caused by this Work. CONTRACTOR shall not leave debris under, in, or about the work site, but shall promptly remove all items.

B. Upon completion of the Work, CONTRACTOR shall clean the interior and exterior of each building, including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected. CONTRACTOR shall clean and polish all glass, plumbing fixtures, and finish hardware and similar finish surfaces and equipment, and remove temporary fencing, barricades, planking, sanitary facilities, and similar temporary facilities from the site.

C. If CONTRACTOR fails to clean up at the completion of the Work, OWNER may do so and the cost for such cleanup shall be charged back to CONTRACTOR and may be deducted from future progress or final payments.

D. CONTRACTOR shall not include cleaning as an additional line item for change order payments. Cleaning is included in the overhead expenses included in the CONTRACTOR's and/or Subcontractor's overhead and profit percentage.

## **ARTICLE 31 ACCESS TO WORK**

OWNER and its representatives shall at all times have access to the Work wherever it is in preparation or progress. CONTRACTOR shall provide safe and proper facilities for access so OWNER's representatives may perform their functions under the Contract Documents.

## **ARTICLE 32 GUARANTEE**

A. CONTRACTOR warrants that the Work, including any equipment furnished by CONTRACTOR, shall be:

1. Free from defects in workmanship and material;
2. Free from defects in any design performed by CONTRACTOR;
3. New, and conform and perform to the requirements stated in the Specifications, and where detail requirements are not so stated, shall conform to applicable industry standards; and
4. Suitable for the use stated in the Specifications.

B. The warranty period for discovery of defective work shall commence on the date stamped on the Notice of Completion to verify recording with the County, and shall continue for the period set forth in the Specifications or for one year if not so specified. If during the warranty period the Work is not available for use due to defective work, such time of unavailability shall not be counted as part of the warranty period. The warranty period for corrected defective work shall continue for a duration equivalent to the original warranty period.

C. OWNER shall give CONTRACTOR prompt written notice after discovery of any defective work. CONTRACTOR shall correct any such defective work, as well as any damage to any other part of the Work resulting from such defective work, and provide repair, replacement, or reimbursement, at its sole expense, in a manner approved by OWNER and with due diligence and dispatch as required to make the Work ready for

use by OWNER, ordinary wear and tear, unusual abuse, or neglect excepted. Such corrections shall include but not be limited to any necessary adjustments, modifications, changes of design (unless of OWNER's design), removal, repair, replacement, or reinstallation, and shall include all necessary parts, materials, tools, equipment, transportation charges, and labor as may be necessary, and cost of removal. Replacement shall be performed at a time and in such a manner so as to minimize the disruption to OWNER's use of the Work.

D. In the event CONTRACTOR or Surety fails to commence and pursue with diligence any replacements or repairs within one week after being notified in writing, OWNER is authorized to proceed to have any defects repaired at the expense of CONTRACTOR and Surety, and CONTRACTOR and Surety agree to pay the costs and charges immediately on demand.

E. If defective work creates a dangerous condition, in the opinion of OWNER, or requires immediate correction or attention to prevent further loss to OWNER or to prevent interruption or operations of OWNER, OWNER shall attempt to give the notice required by this Article. If CONTRACTOR or Surety cannot be contacted or neither complies with OWNER's request for correction within a reasonable time, as determined by OWNER, without regard to the provisions of this Article, OWNER may proceed to make the correction or provide the attention, and the costs of correction or attention shall be charged against CONTRACTOR. Any action by OWNER shall not relieve CONTRACTOR of the guarantees provided in this Article or elsewhere in the Contract Documents.

F. This article does not in any way limit the guarantee on any items for which a longer guarantee is specified, or any items for which a manufacturer gives a guarantee for a longer period. CONTRACTOR shall furnish OWNER with all appropriate guarantee or warranty certificates upon completion of the Project.

G. All guarantees required under this Article shall be considered to be in writing on the guarantee provided by CONTRACTOR, and CONTRACTOR shall use the form included in the Contract Documents unless otherwise agreed by OWNER.

H. OWNER may collect its reasonable costs and attorneys' fees in any action to enforce this Article.

## ARTICLE 33 SURVEYS

OWNER shall furnish all surveys describing the physical characteristics, legal limitations, and utility locations for the site of the Project and a legal description of the site. Surveys to determine locations of construction, grading, and site work shall be provided by CONTRACTOR.

## ARTICLE 34 SOILS INVESTIGATION REPORT

A. When a soils investigation report has been obtained from test holes at the site, that report is available for CONTRACTOR's use in preparing its bid and work under the Contract Documents. Any information obtained from the report or any information given on drawings as to subsurface soil conditions or as to elevations of existing grades or elevations of underlying rock, is approximate only, is not guaranteed, and **is not part of the Contract Documents**. CONTRACTOR is required to make a visual examination of the site and must make whatever tests it deems appropriate to determine the actual underground condition of the soil.

B. CONTRACTOR agrees that it will make no claim against OWNER for damages in the event that during progress of the Work, CONTRACTOR encounters subsurface or latent conditions at the site materially different from those shown on drawings or indicated in Specifications or soils reports, or for unknown conditions of an unusual nature which differ materially from those ordinarily encountered in work of the type provided for in the Plans and Specifications.

C. If during the course of work under the Contract Documents CONTRACTOR encounters subsurface or latent conditions which differ materially from those indicated in the soils investigation report, or drawings, or Specifications, CONTRACTOR shall notify OWNER of same within five working days of discovery of the condition.

**WARNING: OWNER does not warrant the soils at the project site. A soils investigation report is provided for CONTRACTOR'S information only. CONTRACTOR represents it has conducted an independent investigation of the project site and the soil conditions of the site. CONTRACTOR is solely responsible to ascertain site conditions for the purposes of determining construction means and methods before commencing construction.**

## ARTICLE 35 PERMITS AND LICENSES

A. All necessary permits and licenses shall be secured and paid for by CONTRACTOR unless otherwise provided in the Contract Documents.



- B. All permits, licenses, and certificates shall be delivered to the Architect before demand is made for the certificate of final payment.
- C. CONTRACTOR shall, and shall require subcontractors to, maintain appropriate contractor's licenses in effect as required by law throughout the entire Project.
- D. Easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by OWNER unless otherwise specified.
- E. Permits and charges for installation and inspection of utility services by serving utilities shall be secured and paid for by OWNER.

### **ARTICLE 36 CUTTING AND PATCHING**

- A. CONTRACTOR shall do all cutting, fitting, or patching of the Work as required to make its several component parts come together properly, and fit it to receive or be received by any work of other contractors indicated on, or reasonable implied by, the drawings and Specifications, and shall follow all directions given by the Architect.
- B. Any cost caused by defective or ill-timed work shall be borne by CONTRACTOR.
- C. CONTRACTOR shall not endanger any work by cutting, excavating, or otherwise altering work, and shall not cut or alter work of any other contractor except with the written consent of the Architect.
- D. CONTRACTOR shall be solely responsible for protecting existing work on adjacent properties and shall obtain all required permits for shoring and excavations near property lines.
- E. When modifying existing work or installing new work adjacent to existing work, CONTRACTOR shall match the finishes, textures, and colors of the original work as closely as conditions of site and materials will allow, refinishing existing work as required, at no additional cost to OWNER.
- F. CONTRACTOR is aware that this Project may be split into several phases. If the Project is split into phases, CONTRACTOR has made allowances for any delays or damages which may arise from coordination with contractors for other phases. If any delays should arise from a contractor working on a different phase, CONTRACTOR's sole remedy for damages, including delay damages, shall be against the contractor who caused such damage and not against OWNER. CONTRACTOR shall provide access to contractors for other phases as necessary to prevent delays and damages to contractors working on other phases of construction.

**ARTICLE 37 TESTS AND INSPECTIONS**

A. If the Contract Documents, OWNER's instructions, laws, ordinances, or any public authority requires any work to be specially tested or approved, CONTRACTOR shall give notice, in accordance with requirements of such authority, of CONTRACTOR's readiness for observation or inspection. Such notice shall be given at least two working days prior to being tested or covered up. If inspection is by authority other than OWNER, CONTRACTOR shall inform OWNER's Inspector of the date fixed for such inspection. Required certificates of inspection shall be secured by CONTRACTOR. Observations by OWNER shall be promptly made, and where practicable, at the source of supply. If any work is covered up without approval or consent of OWNER, if required by OWNER, it must be uncovered for examination and satisfactorily reconstructed at CONTRACTOR's expense, in compliance with the Contract Documents. The cost of inspection or testing of any materials which are not in compliance with the Contract Documents shall be borne by CONTRACTOR. If the inspection or testing was paid for by OWNER, it will be charged back to and paid by CONTRACTOR. Other costs for tests and inspection of materials shall be paid by OWNER, unless otherwise provided in the Contract Documents.

B. Where the inspection and testing will be conducted by an independent laboratory or agency, the materials or samples of materials to be tested shall be selected by the laboratory or agency, or OWNER's representative, and not by CONTRACTOR.

C. CONTRACTOR shall notify OWNER in writing a sufficient time in advance of the manufacture of any materials to be supplied to CONTRACTOR under the Contract Documents, which materials must be tested according to the terms of the Contract Documents, in order that OWNER may arrange for testing at the source of supply. Materials shipped by CONTRACTOR from the source of supply without having satisfactorily passed testing and inspection, or prior to receipt of notice from OWNER that testing and inspection will not be required, shall not be incorporated into the Work without the prior approval of OWNER and subsequent testing and inspection.

D. Reexamination or retesting of questioned work may be ordered by OWNER, and if so ordered any work must be uncovered by CONTRACTOR. If the work is determined to be in accordance with the Contract Documents, OWNER shall bear the costs of reexamination or retesting and replacement. If the work is not in accordance with the Contract Documents, CONTRACTOR shall bear the costs.

## **ARTICLE 38 EXCAVATION DEEPER THAN FOUR FEET**

A. CONTRACTOR shall provide adequate sheeting, shoring, and bracing, or equivalent method, for the protection of life and limb in trenches and open excavation. Any such method used shall conform to applicable safety standards.

B. If the Contract Documents involve the excavation of any trench or trenches more than four feet in depth, in advance of excavation CONTRACTOR shall submit to OWNER, or to whomever OWNER designates, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches. If the plan varies from the Shoring System Standards established by the Construction Safety Orders of the Division of Industrial Safety of the Department of Industrial Relations, the plan shall be prepared by a registered civil or structural engineer employed by CONTRACTOR, and all costs of the plan shall be included in the contract price. In no case shall the plan be less effective than that required by the Construction Safety Orders. No excavation of any trench or trenches shall be commenced until the plan has been accepted by CAL-OSHA and a CAL-OSHA permit for the plan is delivered to OWNER.

C. If the Contract Documents involve digging trenches or excavations that extend deeper than four feet below the surface, the following shall apply:

1. Before the following conditions are disturbed, CONTRACTOR shall promptly notify OWNER in writing of any:

a. Material that CONTRACTOR believes may be hazardous waste, as defined in Health and Safety Code Section 25117, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

b. Subsurface or latent physical conditions at the site different from those indicated.

c. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

2. OWNER shall promptly investigate the conditions, and if it finds that the conditions do so materially differ, or do involve hazardous waste, and cause a decrease or increase in CONTRACTOR's cost or the time required for

performance of any part of the Work, shall issue a change order under the procedures described in the Contract Documents.

3. In the event of a dispute between OWNER and CONTRACTOR concerning whether or not the conditions materially differ or involve hazardous waste, or cause a decrease or increase in CONTRACTOR's cost or time required for performance of any part of the Work, CONTRACTOR shall not be excused from any scheduled completion date provided for by the Contract Documents, but shall proceed with all the work to be performed. CONTRACTOR shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

## **ARTICLE 39 WORKERS**

A. At all times, CONTRACTOR shall enforce strict discipline and good order among its employees, shall not employ any unfit person or anyone not skilled in the work assigned, and shall require the same of all subcontractors of all tiers. It shall be the responsibility of CONTRACTOR to ensure subcontractor compliance with this Article.

B. Any person in the employ of CONTRACTOR or subcontractors whom OWNER may deem to be incompetent, unfit, troublesome, or otherwise undesirable, shall be excluded from the work site and shall not again be employed on it except with written consent of OWNER.

## **ARTICLE 40 FINGERPRINTING WORKERS**

A. CONTRACTOR shall comply with the applicable requirements of Education Code sections 45125.1 and 45125.2 with respect to fingerprinting CONTRACTOR's employees and pupil safety. CONTRACTOR shall also ensure that each of its subcontractors on the Project complies with the applicable requirements of sections 45125.1 and 45125.2. To this end, CONTRACTOR must complete and submit to OWNER the certification form included in the Contract Documents for itself and its subcontractors prior to commencing work on the Project. At CONTRACTOR's expense, CONTRACTOR shall comply with any directive from OWNER specifying measures to ensure the safety of pupils, including but not limited to one or more measures described in Education Code section 45125.2(a).

B. Should CONTRACTOR or any subcontractor feel its employees will have limited or less contact with OWNER's pupils, application shall be made to OWNER for a determination on that question. The determination by OWNER shall be final. In the event OWNER makes a determination of limited or less contact with pupils, CONTRACTOR shall comply with any directive by OWNER to ensure the safety of pupils, at CONTRACTOR's expense.

C. Use of Education Code section 45125.2(a)(1), (2), or (3) for compliance with these fingerprinting requirements is subject to prior OWNER approval. The determination by OWNER on the application of any of these sections shall be final.

D. In no event shall any employee of CONTRACTOR or its subcontractors come into contact with OWNER's pupils before the certification is completed and approved by OWNER.

## **ARTICLE 41 WAGE RATES AND PAYROLL RECORDS**

A. Pursuant to the provisions of Article 2 (commencing at Section 1770), Chapter 1, Part 7, Division 2, of the California Labor Code, OWNER has ascertained the general prevailing rate of per diem wages for each craft, classification, or type of worker needed to execute the work of the Project in the locality in which this public work is to be performed. The general prevailing rates of per diem wages are available at OWNER's office. CONTRACTOR is responsible to pay those rates determined to be applicable by the Director of the Department of Industrial Relations and OWNER shall not be responsible for any damages arising from the error.

B. When permitted by law, holiday and overtime work shall be paid at a rate of at least one and one-half times the specified rate of per diem wages, unless otherwise specified.

C. CONTRACTOR shall pay and shall cause to be paid to each worker engaged in work on the Project not less than the general prevailing rate of per diem wages, regardless of any contractual relationship which may exist between CONTRACTOR or any Subcontractor and such workers.

D. Pursuant to Labor Code Section 1775, CONTRACTOR shall forfeit and OWNER shall withhold from payments to CONTRACTOR not more than \$200 for each calendar day any worker is paid less than the established prevailing wage rates for the work or craft in which the worker is employed by CONTRACTOR on the Project. The difference between the established prevailing wage rates and the amount paid to each worker for each whole or partial calendar day for which each worker was paid less than the established prevailing wage rates shall be paid to each worker by CONTRACTOR.

E. Any worker employed to perform work on the Project which is not covered by any classification available in OWNER's office, shall be paid not less than the minimum rate of wages specified for the classification which most nearly corresponds with work to be performed by him, and that minimum wage rate shall be retroactive to the time of initial employment of the person in the classification.

F. Pursuant to Labor Code Section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel, subsistence, apprenticeship, and similar purposes.

G. At appropriate conspicuous points on the site of the Project, CONTRACTOR shall post job site notices prescribed by the Department of Industrial Relations, including but not limited to, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned.

H. CONTRACTOR shall submit a breakdown of all labor costs for this Project by trade. This breakdown shall be for all labor that CONTRACTOR or any subcontractor supplies to the Project. This information shall be provided to OWNER before the **first payment request** after the Notice to Proceed has been issued. Failure to provide the labor cost breakdown will result in delay in processing the payment request until the complete cost breakdown is provided by CONTRACTOR and received and approved by OWNER. No other labor expenses will be considered unless approved in writing by OWNER.

I. Pursuant to the provisions of Labor Code Section 1776, CONTRACTOR shall keep and shall cause each Subcontractor performing any portion of the work on the Project to keep an accurate payroll record, showing the name, address, social security number, work classification, straight time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by CONTRACTOR in connection with the Work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating that (1) the information contained in the payroll record is true and correct, and (2) the employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by the employer's employees on the Project.

J. The payroll records required under this article shall be certified and shall be available for inspection at all reasonable hours at CONTRACTOR's principal office on the following basis:

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 required payroll records shall be made available for inspection or furnished upon request to a representative of OWNER, the Division of Labor Standards Enforcement, and/or the Division of Apprenticeship Standards of the Department of Industrial Relations;

3. A certified copy of all payroll records required under this article shall be made available for inspection or copies made upon request by the public; provided, however, that a request by the public shall be made through either OWNER, the Division of Apprenticeship Standards, or the Department of Industrial Relations. If the requested payroll records have not been provided pursuant to Paragraph 2 above, prior to being provided the records, the requesting party shall reimburse the costs of preparation by CONTRACTOR, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at CONTRACTOR's principal office.

4. The form of certification shall be as follows:

I, \_\_\_\_\_ (*printed name*), the undersigned, am the \_\_\_\_\_ (*position in business*) with the authority to act for and on behalf of \_\_\_\_\_ (*name of business and/or CONTRACTOR*), and certify under penalty of perjury that the records or copies submitted \_\_\_\_\_ and \_\_\_\_\_ consisting \_\_\_\_\_ of (*description, number of pages*) are the originals or true, full, and correct copies of the originals which depict the payroll record(s) of the actual disbursements by way of cash, check, or whatever form to the individual or individuals named.

Dated: \_\_\_\_\_ Signature: \_\_\_\_\_

K. CONTRACTOR shall file a certified copy of the required payroll records with the entity requesting the records within 10 days after receipt of a written request. In the event CONTRACTOR fails to comply within the 10-day period, as a penalty to OWNER CONTRACTOR shall forfeit \$100 for each calendar day, or portion of each calendar day, for each worker until strict compliance is effectuated. Upon request by the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.

L. Payroll records made available for inspection as copies and furnished upon request to the public by OWNER, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address, and social security number. Payroll records furnished to agencies that are included in the Joint Enforcement Strike Force on the Underground Economy and other law enforcement agencies investigating violations of law shall be unredacted. The name and address of CONTRACTOR shall not be marked or obliterated in either case.

M. CONTRACTOR shall inform OWNER of the location of the payroll records, including the street address, city, and county, and within five working days shall provide a written notice of a change of location and address.

N. It shall be CONTRACTOR's responsibility to ensure compliance with the provisions of this article and the provisions of Labor Code Section 1776.

O. This project is subject to prevailing wage monitoring and enforcement by the Department of Industrial Relations. CONTRACTOR and all subcontractors shall be subject to the requirements of Subchapter 4.5 of Chapter 8 of Title 8 of the California Code of Regulations. Contractor and all subcontractors must furnish electronic certified payroll records to the DIR on the frequency specified in the Notice Calling for Bids using the DIR's eCPR system. To enroll in the eCPR system or obtain additional information and assistance, CONTRACTOR is directed to the DIR website at [www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html](http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html). CONTRACTOR shall comply with all requirements of the Labor Code and attendant regulations pertaining to prevailing wage monitoring and compliance as indicated in the Contract Documents, and/or as required by the DIR. CONTRACTOR shall permit OWNER, the DIR or their designee to interview CONTRACTOR's employees concerning compliance with prevailing wage, apprenticeship, and related matters, whether or not during work hours, and shall require each subcontractor to provide OWNER, the DIR or their designee with such access to its employees.

## **ARTICLE 42 APPRENTICES**

A. CONTRACTOR acknowledges and agrees that the Contract Documents are governed by the provisions of Labor Code Section 1777.5 where applicable. It shall be CONTRACTOR's responsibility to ensure compliance with this article and with Labor Code Section 1777.5 for all apprenticing occupations.

B. Apprentices of any crafts or trades may be employed, and when required by Labor Code Section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.

C. Every apprentice shall be paid the prevailing rate of per diem wages for apprentices in the trade to which the apprentice is registered, and shall be employed only at the work of the craft or trade to which the apprentice is registered.

D. Only apprentices as defined in Labor Code Section 3077 who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards, and who are parties to written apprentice agreements under Chapter 4 (commencing at Section 3070), Division 3, of the Labor Code, are eligible to be employed on public works. The employment and training of each apprentice shall be in accordance with either (1) the apprenticeship standards and apprentice agreements under which the apprentice is in training, or (2) the rules and regulations of the California Apprenticeship Council.



E. Pursuant to Labor Code Section 1777.5, CONTRACTOR and any subcontractors employing workers in any apprenticeship craft or trade performing any work under the Contract Documents shall employ apprentices in at least the ratio set forth in Labor Code Section 1777.5, and may apply to any apprenticeship program in the craft or trade that can provide apprentices to the project site for a certificate approving CONTRACTOR or Subcontractor under the applicable apprenticeship standards for the employment and training of apprentices in the area of industry affected.

F. Prior to commencing work on the Project, CONTRACTOR shall submit contract award information to an applicable apprenticeship program that can supply apprentices to the project site. The information submitted shall include an estimate of journeyman hours to be performed on the Project, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to OWNER if requested. Within 60 days after concluding work on the Project, CONTRACTOR and all Subcontractors shall submit a verified statement of the journeyman and apprentice hours performed on the Project to the awarding body, if requested, and to the apprenticeship program. This information shall be public.

G. If in performing any of the Work, CONTRACTOR employs journeymen or apprentices in any apprenticeable craft or trade, CONTRACTOR shall contribute to the California Apprenticeship Council the same amount that the Director of Industrial Relations determines is the prevailing amount of apprenticeship training contributions in the area of the Project, subject to any credits permitted by law.

H. If CONTRACTOR or any Subcontractor is determined by the Chief of the Division of Apprenticeship Standards to have knowingly violated Labor Code Section 1777.5, it shall:

1. Forfeit as a civil penalty an amount not exceeding \$100 (\$300 for knowing subsequent violations) for each full calendar day of noncompliance. Notwithstanding Labor Code Section 1727, upon receipt of a determination that a civil penalty has been imposed by the Labor Commissioner, OWNER shall withhold the amount of the civil penalty from contract progress payments then due or to become due.
2. In lieu of the monetary penalty, for a first-time violation and with the concurrence of a specified apprenticeship program, the Labor Commissioner may order CONTRACTOR or any Subcontractor to provide apprentice employment equivalent to the work hours that would have been provided for apprentices during the period of noncompliance.

3. In the event CONTRACTOR or any Subcontractor is determined by the Labor Commissioner to have knowingly committed a serious violation of any provision of Section 1777.5, the Labor Commissioner may also deny CONTRACTOR or any Subcontractor, and their responsible officers, the right to bid on or be awarded or perform work as a subcontractor on any public works contract for a period of up to one year for the first violation and up to three years for a subsequent violation.

CONTRACTOR or any Subcontractor (or responsible officer) shall have the right to obtain a review of the determination imposing a debarment or civil penalty as provided by law.

I. CONTRACTOR and all Subcontractors shall comply with Labor Code Section 1777.6, which forbids certain discriminatory practices in the employment of apprentices.

J. CONTRACTOR shall become fully acquainted with the law regarding apprentices prior to commencement of the work. Special attention is directed to Labor Code Sections 1777.5, 1777.6, and 1777.7, and Title 8, California Code of Regulations, Section 200 et seq. Questions may be directed to the State Division of Apprenticeship Standards, 455 Golden Gate Avenue, San Francisco, California.

## **ARTICLE 43 HOURS OF WORK**

A. CONTRACTOR shall furnish, and shall require all Subcontractors to furnish, sufficient forces to ensure the Work is prosecuted in accordance with the detailed project schedule without payment of overtime wage rates whenever possible.

B. As provided in Article 3 (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight hours of labor shall constitute a legal day of work. The time of service of any worker employed at any time by CONTRACTOR, or by any subcontractor, upon the Work or upon any part of the work contemplated by the Contract Documents is limited and restricted to eight hours per day and 40 hours during any one week. Upon completion of all hours worked in excess of eight hours per day, work shall be permitted upon this Project at not less than one and one-half times the basic rate of pay.

C. CONTRACTOR shall keep, and shall cause all subcontractors to keep, an accurate record showing the name and actual hours worked each calendar day and each calendar week by each worker employed in connection with the Work or any part of the Work contemplated by the Contract Documents. The record shall be kept open at all reasonable hours to the inspection of OWNER and to the Division of Labor Standards Enforcement, Department of Industrial Relations.

D. Saturdays, Sundays, holidays (including all OWNER designated holidays), and any day with work hours before 7:30 a.m. and/or after 4 p.m. shall be considered overtime for OWNER's representatives, consultants, and inspectors, and shall be compensated as such by CONTRACTOR per OWNER's submitted invoice. Such cost shall be billed to CONTRACTOR and deducted from subsequent progress payments or the final payment.

E. As a penalty, CONTRACTOR shall pay \$25 to the Department of Industrial Relations or OWNER for each worker employed by CONTRACTOR or by any subcontractor in the performance of the Contract Documents for each calendar day during which the worker is required or permitted to work more than eight hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Article 3 (commencing at Section 1810), Chapter 1, Part 7, Division 2 of the Labor Code.

F. Any work performed before or after regular working hours or on Saturdays, Sundays, or holidays (including all OWNER designated holidays) shall be performed without additional expense to OWNER. Should inspection or testing services be necessary on a Saturday, Sunday, or holiday (including all OWNER designated holidays), CONTRACTOR shall pay all additional expenses incurred. Such cost shall be billed to CONTRACTOR and deducted from the next payment.

G. CONTRACTOR shall anticipate work that would occur outside the normal work hours of 7:30 a.m. to 4 p.m. Such activities would include but are not limited to early morning concrete pours (because of hot weather), early or late material deliveries, required off-site inspections, or any other activity that would require the Project Inspector or OWNER personnel to work longer than an eight-hour day.

H. The Project Inspector cannot be asked to leave the Project after eight hours of work so CONTRACTOR would not have to pay overtime. If the extended work day is a result of CONTRACTOR'S work, the Project Inspector will perform its DSA assigned work as necessary to assure the Project is kept on schedule and CONTRACTOR is responsible to pay all costs associated with fulfilling these DSA assignments, including the Project Inspector's overtime. These costs shall be billed to CONTRACTOR and deducted from subsequent progress payments or the final payment.

#### **ARTICLE 44 NONDISCRIMINATION**

In the performance of the terms of the Contract Documents, CONTRACTOR agrees that it will not engage in or permit any Subcontractor it may employ to engage in unlawful discrimination in employment of persons because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status, or sex of such persons.

## **ARTICLE 45 COST BREAKDOWN AND PERIODICAL ESTIMATES**

A. On forms approved by OWNER, CONTRACTOR shall furnish the following:

1. Within 10 calendar days of award of contract, a detailed estimate giving a complete breakdown of contract price for each Project or site, which shall include all Subcontractor/supplier agreements showing dollar amounts of these agreements to justify the schedule of values; and
2. A periodical itemized estimate of work done for the purpose of making partial payments; and
3. A schedule of estimated monthly payments due CONTRACTOR within 10 days of request by OWNER.

B. Values employed in making up any of these schedules are subject to the Architect's written approval and will be used only for determining basis of partial payments and will not be considered as fixing a basis for additions to or deductions from contract price unless OWNER in its sole discretion so elects.

## **ARTICLE 46 PAYMENTS**

A. Unless otherwise specified in writing, each month within 30 days after receipt by OWNER of the monthly progress schedule and the certification of application for payment by the Architect, OWNER shall pay to CONTRACTOR a sum equal to 95 percent of the value of work performed and materials delivered subject to or under the control of OWNER and unused up to the last day of the previous month, less aggregate previous payments. In its sole discretion, OWNER may also deduct from these payments any amounts deemed due from CONTRACTOR.

B. Monthly payments shall be made only on the basis of monthly estimates which shall be prepared by CONTRACTOR on a form approved by OWNER and filed before the fifth day of the month during which payment is to be made.

C. Before consideration of a request for payment, a certificate in writing shall be obtained from the Architect stating that the work for which the payment is demanded has been performed in accordance with the terms of the Contract Documents and that the amount stated in the certificate is due under the terms of the Contract Documents. The certificate shall be attached to and made a part of the payment request filed with OWNER. The certificate of the Architect shall not be conclusive upon OWNER, but advisory only.

D. If within three days after written demand the Architect fails to deliver such certificate, CONTRACTOR may file its payment request with OWNER without the certificate, but the request shall be accompanied by a statement that demand was made for the certificate and was refused. OWNER will then either allow the payment request as presented or shall by an order entered on the minutes of OWNER state the reasons for refusing to make payment.

E. Work completed as estimated shall be an estimate only and no inaccuracy or error in an estimate shall operate to release CONTRACTOR or Surety from any damages arising from such work or from enforcing each and every provision of the Contract Documents, and OWNER shall have the right to subsequently correct any error made in any estimate for payment.

F. CONTRACTOR SHALL NOT BE ENTITLED TO HAVE ANY PAYMENT REQUESTS PROCESSED OR ANY PAYMENT FOR WORK PERFORMED SO LONG AS CONTRACTOR HAS FAILED TO COMPLY WITH ANY LAWFUL OR PROPER DIRECTION CONCERNING THE WHOLE OR ANY PORTION OF THE WORK GIVEN BY OWNER OR THE ARCHITECT.

G. OWNER has discretion to require from CONTRACTOR any of the following information with the application for payment: (1) certified payroll covering the period of the prior application for payment, (2) unconditional waivers and releases from all Subcontractors/suppliers for which payment was requested under the prior application for payment, (3) receipts or bills of sale for any items. In addition, upon submittal of the first payment request, a complete per diem wage rate breakdown for all trades must be submitted in order for the payment request to be processed.

H. PAYMENT BY OWNER OF ANY PAYMENT REQUEST IS NOT AN INDICATION THAT OWNER HAS INSPECTED, APPROVED, OR ACCEPTED ANY PART OF THE WORK, NOR SHALL PAYMENT CONSTITUTE A WAIVER IN ANY RESPECT OF ANY OWNER RIGHTS.

I. The final payment of 5 percent of the value of the work done under the Contract Documents, if unencumbered, may be made 35 days after the Notice of Completion is recorded by OWNER. ACCEPTANCE WILL BE MADE ONLY BY ACTION OF THE GOVERNING BOARD OR OTHER GOVERNING BODY OF OWNER IN ACCORDANCE WITH THE PROVISIONS ON "COMPLETION."

J. Unless otherwise agreed in writing, on or before making request for final payment of the undisputed amount due under the Contract Documents, CONTRACTOR shall submit to OWNER the following in writing:

1. Information on CONTRACTOR's results in attaining compliance with the OWNER's three percent participation goal for Disabled Veterans Business Enterprises;
2. A summary of all claims for compensation under or arising out of the Contract Documents, stating whether the claims are settled or unsettled and the amounts of the claims, and further specifying the date(s) upon which any required protest and/or notice was given to OWNER;
3. A written release of all claims against OWNER arising by virtue of the Project, the Work, and the Contract Documents. Payment of undisputed amounts is contingent upon receipt of this waiver.

#### **ARTICLE 47 PAYMENTS BY CONTRACTOR**

CONTRACTOR shall pay:

- A. All transportation and utility services not later than the 20th day of the calendar month following the month in which the services are rendered;
- B. Ninety-five percent of the cost of all materials, tools, and other expendable equipment, not later than the 20th day of the calendar month following the month in which the materials, tools, and equipment are delivered to the project site, and the balance of the cost not later than the 30th day following completion of that part of the work in which the materials, tools, and equipment are incorporated or used; and
- C. To each of its subcontractors the respective amounts allowed CONTRACTOR on account of work performed by each subcontractor not later than the fifth day following each payment to CONTRACTOR.

#### **ARTICLE 48 PAYMENTS WITHHELD**

- A. In addition to any amount(s) which OWNER may retain under the article entitled "PAYMENTS," OWNER may withhold sufficient amount(s) of any payment(s) otherwise due to CONTRACTOR, as in its judgment may be necessary to cover the following:
  1. Payments which may be past due and payable for claims against CONTRACTOR or any Subcontractors at any level for labor or materials furnished in the performance of work under the Contract Documents.
  2. Defective work not remedied.

3. Failure of CONTRACTOR to make proper payments to its subcontractor(s) or material suppliers for materials or labor.
4. Completion of work if there exists a reasonable doubt that the work can be completed for the balance then unpaid.
5. Damage to another contractor.
6. All costs and expenses associated with OWNER having to acquire alternate educational facilities if CONTRACTOR fails to complete the Project within the period of time required by the Contract Documents.
7. Project schedule not up-to-date with the current payment request.
8. Overtime charges due consultants, Project Inspectors, the Architect, and OWNER or others as a result of extra services that were provided at CONTRACTOR's request or as a result of actions of CONTRACTOR or those employed by CONTRACTOR, including subcontractors, material suppliers, or others will be withheld from current payment requests.
9. CONTRACTOR agrees that OWNER may withhold 150 percent of the estimated cost of any additional testing or retesting required as a result of the fault or negligence of CONTRACTOR, or Subcontractors, vendors, or suppliers, until such time as OWNER receives confirmation that payment for such additional testing or retesting has been made.
10. Failure to maintain a current record set of drawings. The drawings shall be updated to the date when the payment request is submitted.
11. Failure to submit daily reports.
12. Failure to submit items required to accompany payment requests at initial and final completion.
13. Failure to submit and keep current any construction schedule required by the Contract Documents.
14. Failure to compensate the Architect for substitution review within the required time period.
15. Failure to compensate OWNER for overtime charges for OWNER representatives and employees incurred as a result of services provided during the current payment period.

16. Failure to compensate OWNER and/or the Architect for the cost of review time to evaluate CONTRACTOR'S proposed solutions to effect repair of work not in accordance with Contract Documents.
17. Failure to submit per diem wage rates for all trades pursuant to appropriate provisions of the General Conditions.
18. Penalties for violation of labor laws.
19. Cost of site clean-up.
20. Required payments to indemnify, hold harmless, or defend OWNER.
21. Compensation for unpaid extra services for the Architect caused by CONTRACTOR.
22. Compensation for unpaid extra services for the Project Inspector, including but not limited to reinspection required due to CONTRACTOR's failed tests, installation of unapproved or defective materials, or CONTRACTOR's requests for inspection and failure to attend the requested inspection.
23. Any liquidated damages, forfeiture of fees, or other damages assessed against CONTRACTOR by reason of failure to complete the Project on time.

B. OWNER may apply the withheld amount(s) to the payment of any claims or obligations at its discretion. In so doing, OWNER shall be deemed the agent of CONTRACTOR and any payment made by OWNER shall be considered to be a payment made under the Contract Documents by OWNER to CONTRACTOR, and OWNER shall not be liable to CONTRACTOR for the payments made in good faith. The payments may be made without prior judicial determination of the claim or obligations. OWNER shall submit to CONTRACTOR an accounting of the funds disbursed on behalf of CONTRACTOR.

## **ARTICLE 49 SUBSTITUTION OF SECURITIES**

A. Pursuant to the provisions of Public Contract Code section 22300, CONTRACTOR may substitute certain securities for any funds withheld by OWNER to ensure its performance under the Contract Documents. At the request and expense of CONTRACTOR, securities equivalent to any amount withheld shall be deposited, at the discretion of OWNER, with either a state or federally chartered bank as the escrow agent, who shall then pay any funds otherwise subject to retention to CONTRACTOR.



Upon satisfactory completion of the Project, the securities shall be returned to CONTRACTOR.

B. Securities eligible for investment under this article shall include those listed in Government Code section 16430, bank and 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 OWNER.

C. CONTRACTOR shall be the beneficial owner of any securities substituted for funds withheld and shall receive any interest.

D. All expenses relating to the substitution of securities under Public Contract Code section 22300 and this article, including but not limited to OWNER's overhead and administrative expenses and expenses of escrow agent, shall be CONTRACTOR's responsibility.

E. Should the value of the substituted security at any time fall below the amount for which it was substituted, or any other amount which OWNER determines to withhold, CONTRACTOR shall immediately and at CONTRACTOR'S expense deposit additional security qualifying under Public Contract Code section 22300 until the total security deposited is no less than equivalent to the amount subject to withholding under the Contract Documents.

F. In the alternative, under Public Contract Code section 22300, at its own expense, CONTRACTOR may request OWNER to make payment of earned retention funds directly to the escrow agent.

G. All escrow agreements shall be in conformance with the Escrow Agreement for Security Deposits in Lieu of Retention set forth in Public Contract Code section 22300, and shall be in the form of agreement provided by OWNER unless otherwise agreed in advance.

## **ARTICLE 50 PROGRESS SCHEDULE**

A. Immediately after being awarded the Construction Agreement, CONTRACTOR shall prepare an estimated progress schedule and submit it to OWNER for review. The schedule shall indicate the beginning and completion dates of all phases of construction.

B. The schedule shall be updated at reasonably required intervals throughout the Project, unless specifically required to be updated at more frequent intervals.

C. Additional scheduling requirements may be contained in the attached Supplemental General Conditions.

D. While OWNER does not discourage efforts by CONTRACTOR to accomplish an early completion of the Project, CONTRACTOR is directed to utilize and schedule the entire construction period set forth in the Construction Agreement. Any portion of the construction period not so scheduled shall be considered “float” and used the same as other float under the Contract Documents.

## **ARTICLE 51 EXTENSION OF TIME—LIQUIDATED DAMAGES**

A. The parties understand and agree that the goodwill, educational process, and other business of OWNER 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, CONTRACTOR shall be assessed the sum set forth in the Contract Documents per day as liquidated damages for each and every calendar day until the work required under the Contract Documents is complete. CONTRACTOR will pay to OWNER or OWNER may retain such damages from amounts otherwise payable to CONTRACTOR. For purposes of this article, the Work shall be considered “complete” in accordance with the provisions of the article on “COMPLETION,” except that the work may be considered complete without formal acceptance by the OWNER’s governing board or other governing body so long as the governing board, at its next regularly scheduled meeting, accepts the work.

B. Providing CONTRACTOR has protested and/or given notice of delays on the Project as required by these Contract Documents, CONTRACTOR shall not be charged for liquidated damages as set forth above because of any delays in completion of work which are not the fault or negligence of CONTRACTOR, including but not restricted to acts of God. CONTRACTOR shall provide documentation and justification to substantiate the delay and its relation to the Project’s critical path. OWNER shall ascertain the facts and extent of delay and grant extension of time for completing work when, in its judgment, the facts justify an extension. OWNER’s findings of fact shall be final and conclusive on the parties. Extension of time shall apply only to that portion of work affected by the delay, and shall not apply to other portions of work not so affected. Any dispute pertaining to a request for time or assessment of liquidated damages shall be resolved pursuant to the provisions on resolution of construction claims in the Contract Documents.

C. In addition to any liquidated damages which may be assessed, if CONTRACTOR fails to complete the Project within the time period provided in the Contract Documents, and if as a result OWNER finds it necessary to incur any costs and/or expenses, or if OWNER 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 OWNER. 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. These costs and expenses may be retained by OWNER from any payments otherwise due to CONTRACTOR.

D. Within 10 days of the beginning of any delay (unless OWNER grants in writing a further period of time to file notice prior to the date of final completion of the Project), CONTRACTOR shall notify OWNER in writing of the causes for the delay. Failure to give the required notice in writing within the time provided shall be interpreted as a failure by CONTRACTOR to properly administer the Contract Documents, Project, and Work, and shall constitute a waiver by CONTRACTOR of all claims of any kind and nature, without limitation, arising from the delay. In addition to this notice, in any instance where CONTRACTOR claims delay was caused by OWNER, the Architect or Architect's consultants, Inspector of Record, Division of State Architect, or anyone claimed to be an agent of them, and as a precondition to any right to claim additional time, prior to making any request for time, CONTRACTOR shall have satisfied the obligation of the Contract Documents to protest the delay.

E. Extensions of time shall be based solely upon the effect of delays to the work as a whole and will not be granted unless CONTRACTOR can demonstrate through analysis of the current updated schedule that the delay was caused by one of the causes for which an extension is authorized. A time extension will not be granted unless CONTRACTOR submits a Time Impact Analysis which utilizes networking techniques (fragments) and a written analysis of the facts which are alleged to have caused the delay. Time extensions will not be allowed for delays to parts of the work not on the critical path of the currently approved monthly updated construction schedule. Time extensions will not be granted until all available float, slack, or contingency time on the Project is used and the end date of the Work is moved beyond the current adjusted contract completion date. CONTRACTOR's sole remedy for delay or extensions of time in all cases except those due to unanticipated or unreasonable delay caused by OWNER shall be an extension of the contract time at no cost to OWNER. Additional scheduling requirements in cases of delay or requests for time may be included in supplementary conditions.

## **ARTICLE 52 OCCUPANCY**

OWNER 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.

## **ARTICLE 53 CONTRACT CLOSEOUT**

A. Utility Connections: The building and/or buildings shall be connected to water, gas, sewer, and electric services, complete and ready for use. Service connections shall be made and existing services reconnected.

B. Record Drawings:

1. CONTRACTOR shall keep the following:
  - a. One complete set of blue line prints of all drawings which form a part of the Project in good order and available on the job site. They shall be used only for the purpose intended. Drawings shall be kept up-to-date as the Work progresses and shall be available at all times for inspection.
  - b. One set of annotated Specifications reflecting any and all changes to the original documents from change orders, substitutions, or any other deviations from the original specifications.
2. The intent of this procedure is to obtain an exact "as built" record of the work upon completion of the Project. The following information shall be carefully and correctly drawn on the prints and all items shall be accurately located and dimensioned from finished surfaces of building walls on all record drawings:
  - a. Any work not installed as indicated on drawings.
  - b. The exact locations and elevations of all covered utilities, including valves, cleanouts, etc.
3. CONTRACTOR shall certify to OWNER the accuracy of the record drawings and annotated Specifications and is liable and responsible for inaccuracies in as-built and/or record drawings and the annotated Specifications, even if they do not become evident until a future date.
4. Upon completion of the Work and correction of all punch list items and as a condition precedent to approval of final payment, CONTRACTOR shall obtain the Architect's review of the marked up record set of prints and annotated Specifications and employ an appropriately trained individual to transfer the as-built information to a form of electronic media, acceptable to the Architect and OWNER, containing the original Drawings. CONTRACTOR shall provide the

electronic as-built drawings to the Architect. When as-built information has been transferred to the acceptable electronic medium and the record drawings have been reviewed by the Architect, CONTRACTOR shall pay for a duplicate set of contract drawings to be used for CONTRACTOR's record drawings. Those final corrected record drawings shall also be saved on electronic media, in a format designated by OWNER, and shall be given to OWNER. Reproduction expenses for the drawings shall be paid for by CONTRACTOR out of the allowance and any difference returned to OWNER.

5. CONTRACTOR shall deliver to the Architect three complete sets of operating manuals, repair parts lists, and service instructions for all electrical and mechanical equipment, together with equipment warranties.

C. Maintenance Manuals: At least 30 days prior to final inspection, three copies of complete operational and maintenance manuals shall be submitted for review. All installation, operating, and maintenance information and drawings shall be bound in 8½ x 11" binders, indexed with tabs, and include tables of contents. Each manual shall also contain a list of subcontractors, with their addresses and the names of persons to contact in case of emergencies. Identifying labels shall provide names of manufacturers, their addresses, ratings, and capacities of equipment and machinery.

D. Inspection Requirements:

1. Before calling for final inspection, CONTRACTOR shall determine that the following work has been performed:

- a. General construction has been completed;
- b. Mechanical and electrical work complete, fixtures in place, connected and ready for tryout and test;
- c. Electrical circuits scheduled in panels and disconnect switches labeled;
- d. Painting and special finishes complete;
- e. Doors complete with hardware, cleaned of protective film, in good working order without sticking or binding;
- f. Tops and bottoms of doors stained/painted and sealed;
- g. Floors waxed and polished as specified;

- h. Broken glass replaced and glass cleaned;
- i. Grounds cleared of CONTRACTOR'S equipment, raked clean of debris, and trash removed from site;
- j. Work cleaned, free of stains, scratches, and other foreign matter, replacement of damaged and broken material;
- k. Finished and decorative work shall have marks, dirt, and superfluous labels removed;
- l. All flatwork shall have all stains removed including but not limited to oil, gas, rust, paint, etc.

2. Final inspection will be made by the Architect and specified OWNER personnel upon written notification from CONTRACTOR that work has been completed. CONTRACTOR must prearrange a final inspection with OWNER and Project Inspector. There should be a minimum of seven days' notice to OWNER and Project Inspector before the final inspection is scheduled. CONTRACTOR shall receive a list (punch list) of items found unacceptable and shall promptly correct them. Upon written notification from CONTRACTOR that all items have been corrected the Architect and Project Inspector or OWNER will reinspect for final acceptance of the Project. Failure of CONTRACTOR to complete punch list items will necessitate further reinspection by the Architect and Project Inspector or OWNER. Cost of reinspection will be deducted from the amounts owing to CONTRACTOR.

3. Deliver keys (labeled) to OWNER's representative. Master keys shall be accounted for in writing.

4. Furnish a letter to OWNER stating that a responsible representative of OWNER (give name and position) has been instructed in working characteristics of mechanical and electrical equipment.

E. Guarantee: Upon completion of final inspection, CONTRACTOR is to submit the guarantee to OWNER as specified in the Contract Documents.

F. Manufacturer Warranties: CONTRACTOR shall deliver 10 days prior to final inspection, original manufacturer warranties for all materials, equipment and/or supplies purchased and/or installed under the Contract Documents.

G. Equipment Training: Prior to final inspection, CONTRACTOR is responsible for providing the appropriate training for a minimum of two personnel of OWNER for each

trade for the newly installed mechanical and electrical equipment required under the Contract Documents.

H. Contract Closeout Items Specified Within this Article are Mandatory: The parties agree that, should the required items not be furnished to OWNER, as stated or within 30 days of completion of all other work, OWNER will suffer damage which damage will be difficult, impossible or impractical to assess. For that reason, in accordance with Government Code Section 53069.85, the parties agree the following sums shall be assessed as fixed and liquidated damages and not as a penalty:

1. Record Drawings—\$25,000 or 10 percent of contract price, whichever is less;
2. Maintenance Manuals—\$5,000 or 10 percent of contract price, whichever is less;
3. Guarantee—\$25,000 or 10 percent of contract price whichever is greater;
4. Manufacturer Warranties—\$5,000 for each product or 10 percent of contract price whichever is greater;
5. Equipment Training—\$10,000 for each system or 10 percent of contract price whichever is greater.

I. In addition, the Notice of Completion will not be filed until either such amounts are paid or the items are provided. However, OWNER may also elect to file the Notice of Completion and pay retention after deducting such amounts. If CONTRACTOR disputes the amounts or OWNER's right to withhold these amounts, OWNER may withhold up to 150 percent of the disputed amount.

## **ARTICLE 54 COMPLETION**

A. OWNER shall accept the completion of the Project when all of the following conditions have been met:

1. The entire Work or Project (including all phases if a project is phased) including minor corrective items is completed to the satisfaction of OWNER;
2. The final DSA report has been filed with the State;
3. By action of its governing board or other governing body, OWNER has accepted the Project to be complete.

4. The Notice of Completion for the entire Project has been filed and recorded.

B. A final walk-through of the Project to determine completion of the Work and to record the Notice of Completion shall occur only upon a valid claim by CONTRACTOR that the Project is complete, including minor corrective items.

1. CONTRACTOR's Project Manager and Superintendent(s) shall attend the final walk-through. A representative(s) of OWNER shall also attend.

2. Should OWNER incur any costs by reason of an erroneous or premature claim of completion by CONTRACTOR that results in a premature walk-through, OWNER may withhold such costs from any money due or to become due to CONTRACTOR.

3. Any incomplete or corrective items shall be identified in the final walk-through of the Project.

4. Incomplete and corrective items identified in any walk-through shall be completed before CONTRACTOR calls for a subsequent walk-through, which shall be treated as and bear the same consequences as the initial call for a walk-through.

C. Alternative Process: OWNER shall have the option in its sole discretion to accept completion of the Work and have the Notice of Completion recorded when the entire Work is completed to OWNER's satisfaction, except for minor corrective items as distinguished from incomplete items.

1. Should OWNER elect to accept the Work as complete prior to completion of the entire Work or Project, it shall be on the following conditions:

a. The entire Work or Project (including all phases if a project is phased), excluding minor corrective items, is complete to OWNER's satisfaction;

b. The final DSA report shall be filed with the State as soon as appropriate;

c. By action of its governing board or other governing body, OWNER has accepted the Project to be complete.

d. The Notice of Completion for the entire project has been filed and recorded.



2. Should OWNER elect to accept the Work as complete prior to completion of the entire Work or Project, there shall be a final walk-through of the Project, as follows:

a. Final walk-through shall be made upon a valid claim by CONTRACTOR that the Project is complete, excepting only minor corrective items;

b. CONTRACTOR's Project Manager and Superintendent(s) shall attend the final walk-through. OWNER may be represented by anyone designated by OWNER's Representative, including but not limited to the Project Inspector, management, and/or representatives from Maintenance and Operations;

c. Should OWNER incur any costs by reason of an erroneous or premature claim of completion by CONTRACTOR that results in a premature walk-through, OWNER may withhold such costs from any money due or to become due to CONTRACTOR.

d. All remaining work, including minor incomplete or corrective items, shall be identified in the final walk-through of the Project;

e. Incomplete and corrective items identified in any walk-through shall be completed before CONTRACTOR calls for a subsequent walk-through, which shall be treated as, and bear the same consequences as, the initial call for a walk-through.

3. Should OWNER elect to accept the Work as complete prior to completion of the entire Work or Project, and if CONTRACTOR fails to complete the minor corrective items prior to the expiration of a 35-day period immediately following recording of the Notice of Completion, OWNER shall withhold from the final payment an amount equal to 150 percent of the estimated cost, as determined by OWNER, of each incomplete or corrective item until such time as the item is completed.

4. If at the end of an additional 30-day period, there are items remaining to be corrected, OWNER may elect to:

a. Permit additional time for completion;

b. Complete the Work at the expense of CONTRACTOR, deducting the cost of work from any amounts being withheld.

5. CONTRACTOR shall have no claim or offset as against OWNER arising or in any way connected with an election by OWNER not to accept completion of the Work until the entire Work or Project, including minor corrective items, has been completed to OWNER's satisfaction. The time taken by CONTRACTOR to complete the Work or Project, including minor corrective items, shall be a basis for assessment of liquidated damages as provided in the Contract Documents, and is not affected by any decision by OWNER to occupy all or any portion of the Work prior to completion.

## **ARTICLE 55 CLAIMS FOR DAMAGES**

A. Pursuant to Public Contract Code section 9204, CONTRACTOR shall make all claims for payment for 1) work done by or on behalf of contractor for which payment is not otherwise expressly provided for in the Contract, 2) damages allegedly sustained by reason of any acts or omissions of OWNER or its agents, 3) time extensions, 4) relief from damages or penalties for delay or, 5) an amount disputed by OWNER by registered mail or certified mail, return receipt requested. Such written claim shall be submitted, within 10 days after the claim has arisen, is discovered or reasonably should have been discovered. CONTRACTOR shall furnish reasonable documentation to support the claim.

### **IF CONTRACTOR FAILS TO COMPLY WITH ANY OF THE PROVISIONS OF THIS ARTICLE CONCERNING THE SUBMISSION OF CLAIMS, ITS CLAIM(S) SHALL BE FORFEITED AND INVALIDATED.**

B. In no event shall CONTRACTOR be permitted to reserve rights to make or pursue claims of any kind, whether for compensation in any form, or for time extensions, without the OWNER's express written consent. Any attempt to make such reservation or otherwise avoid the effect of this Article shall be void and of no force or effect whatsoever.

C. Any change order executed by CONTRACTOR with such reservation or other language of qualified acceptance shall be read and interpreted as though such language did not exist. No action by OWNER is required to invalidate such language, and no oral communication or other act or omission by OWNER or anyone acting on OWNER's behalf, except OWNER's express written consent, shall be construed as acquiescence in or consent to such reservation or other qualified acceptance language.

D. CONTRACTOR shall diligently proceed with performance of the Work, and OWNER shall continue to make payment of undisputed amounts, during any time period while claims are pending.

## **ARTICLE 56 RESOLUTION OF CONSTRUCTION CLAIMS**

A. Upon receipt of a claim, OWNER shall conduct a reasonable review of the claim, and, unless extended by mutual agreement of the parties, provide CONTRACTOR a written statement identifying what portion of the claim is disputed and what portion is undisputed within 45 days.

B. If OWNER needs approval from its governing body to provide CONTRACTOR a written statement identifying the disputed portion and the undisputed portion of the claim, and OWNER'S governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, OWNER shall have up to three days following the next duly publicly noticed meeting of its governing body after the 45-day period, or extension, expires to provide CONTRACTOR a written statement identifying the disputed portion and the undisputed portion.

C. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after OWNER issues its written statement. If OWNER fails to issue a written statement, paragraph H. (below) shall apply.

D. If CONTRACTOR disputes OWNER'S written response, or if OWNER fails to respond to a claim issued pursuant to this section within the time prescribed, CONTRACTOR may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, OWNER shall schedule a meet and confer conference within 30 days for settlement of the dispute.

E. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, OWNER shall provide CONTRACTOR a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after OWNER issues its written statement. Any disputed portion of the claim, as identified by the CONTRACTOR in writing, shall be submitted to nonbinding mediation, with OWNER and CONTRACTOR sharing the associated costs equally. OWNER and CONTRACTOR shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures described in sections K through O (below).

F. For purposes of this Article, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in sections D and E, (above).

G. Unless otherwise agreed to by OWNER and CONTRACTOR in writing, the mediation conducted pursuant to section E (above) shall excuse any further obligation under Public Contract Code section 20104.4 to mediate after litigation has been commenced.

H. Failure by OWNER to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of OWNER's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the CONTRACTOR.

I. CONTRACTOR may present to OWNER a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the CONTRACTOR present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to OWNER shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the CONTRACTOR shall notify the subcontractor in writing as to whether the CONTRACTOR presented the claim to OWNER and, if the CONTRACTOR did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

J. Except for tort claims, all claims or any portion of the claim(s) by CONTRACTOR remaining in dispute of \$375,000 or less shall be subject to the provisions of Public Contract Code Section 20104 et seq., except that the provisions of Public Contract Code section 20104.4 relating to mediation after litigation has commenced are excused, unless a written agreement to the contrary has been entered into between the parties.

Only claims, regardless of size, for which timely notice has been given, which have been subjected to the procedures specified in Public Contract Code section 9204, remaining "unresolved" may be pursued through litigation. All other CONTRACTOR claims are deemed waived.

K. The parties shall attempt to resolve all claims during the course of the Project using the procedures set forth in Articles 55 and 56. Pending resolution of a claim, CONTRACTOR shall diligently continue to work on the Project to completion. CONTRACTOR agrees it will neither rescind the Contract Documents nor stop the progress of the work, and CONTRACTOR'S sole remedy shall be the procedures set forth in Articles 55 and 56.

## **ARTICLE 57 PERFORMANCE/PAYMENT BOND**

A. Unless otherwise specified in the Contract Documents, CONTRACTOR shall furnish a Performance Bond, and for any contract of \$25,000 or more, a Payment Bond, each in an amount equal to 100 percent of the price stated in the Contract Documents. All bonds shall be provided by a corporate surety admitted in California. Personal sureties and unregistered sureties are unacceptable. The Performance Bond shall remain in full force and effect through the guarantee period as specified in the Contract Documents and through such extended period as permissible to cover latent conditions.

B. All surety companies with a minimum rating of "A minus, VIII," ("A minus V" when the price stated in the Contract Documents is less than \$500,000) as rated by the current edition of Best's Key Rating Guide, published by A.M. Best Company, Oldwick, New Jersey, 08858, and admitted in California shall be presumed to be satisfactory to OWNER for the issuance of bonds. In the alternative, any admitted surety company which satisfies the requirements set forth in California Code of Civil Procedure Section 995.660 shall be accepted and approved for the issuance of bonds.

## **ARTICLE 58 INSURANCE REQUIREMENTS**

A. CONTRACTOR shall provide the following insurance coverages, which shall remain in full force and effect during the Project:

1. Workers' Compensation;
2. Comprehensive General Liability;
3. Comprehensive Auto Liability;
4. Asbestos Abatement (on all modernization projects and on any other projects where asbestos-containing products may be affected by construction);
5. Course of Construction/Builder's Risk.

B. All insurance companies must meet the following criteria:

1. California admitted, as confirmed by the California Department of Insurance, or listed in the California Department of Insurance's List of Eligible Surplus Line Insurers ("LESLI list")

2. A minimum rating of "A-,VIII," as rated by the current edition of Best's Key Rating Guide, published by A.M. Best Company, Oldwick, New Jersey, 08858.

C. All CONTRACTOR'S insurance policies shall name OWNER's governing board or other governing body, OWNER's consultants, the Architect, and the Architect's consultants, their officers, agents and employees as additional insureds with regard to damages and defense of claims arising from:

1. Activities performed by or on behalf of the Named Insured;
2. Products and completed operations of Named Insured;
3. Premises owned, leased or used by the Named Insured;
4. The ownership, operation, maintenance, use, loading, or unloading of any auto owned, leased, hired, or borrowed by the Named Insured.

D. Should CONTRACTOR fail to provide insurance as required by the Contract Documents, OWNER may, at OWNER's option, take out and maintain at the expense of CONTRACTOR, insurance in the name of CONTRACTOR, or subcontractor, as OWNER may deem proper. OWNER may deduct the cost of taking out and maintaining such insurance from any sums which are due or to become due to CONTRACTOR under the Contract Documents.

E. Insurance coverage shall not be less than the following:

1. WORKERS' COMPENSATION

- a. In accordance with the provisions of Section 3700 of the California Labor Code, CONTRACTOR and every subcontractor shall be required to secure the payment of compensation to its employees.

- b. In accordance with the provisions of Section 3700 of the California Labor Code, CONTRACTOR and every subcontractor shall be required to secure the payment of compensation to its employees.

- c. CONTRACTOR shall at all times maintain workers' compensation insurance for all of its employees engaged in work under the Contract Documents, on or at the site of the Project. In case any of its work is

sublet, CONTRACTOR shall require the subcontractor to similarly provide workers' compensation insurance for all of the subcontractors' employees. Any class of employee or employees not covered by a subcontractor's insurance shall be covered by CONTRACTOR's insurance. In case any class of employees engaged in work under the Contract Documents, on or at the site of the Project, is not protected under the workers' compensation statutes, CONTRACTOR shall provide or shall cause a subcontractor to provide adequate insurance coverage for the protection of such employees not otherwise protected before subcontractor commences work. CONTRACTOR shall file with OWNER certificates of its insurance protecting workers and a 30-day notice shall be provided to OWNER before the cancellation or reduction of any policy of CONTRACTOR or subcontractor. CONTRACTOR shall submit proof of insurance and provide endorsements on the forms provided by OWNER or on forms approved by OWNER.

d. The certificate shall reflect coverage in at least the following amounts:

(1) State workers' compensation statutory benefits policy—limits of not less than \$1,000,000.

(2) Employer's liability policy—limits of not less than \$1,000,000.

## 2. COMMERCIAL GENERAL LIABILITY

a. CONTRACTOR shall take out and maintain such commercial general liability insurance as shall protect CONTRACTOR and OWNER from all claims for personal injury, including accidental death, to any person (including, as to OWNER, injury or death to CONTRACTOR's or subcontractor's employees), as well as from all claims for property damage arising from operations under the Contract Documents, in amounts set forth in this article.

b. CONTRACTOR shall require its subcontractors, if any, to take out and maintain similar general commercial liability insurance in like amounts.

c. Coverage must be written on an occurrence versus a "claims made" form with policy limits not less than \$1,000,000 per occurrence and \$2,000,000 aggregate per project on bodily injury and property damage, and include coverage for the following:

- (1) Premises - operations;
- (2) Contractual liability;
- (3) Products;
- (4) Completed operations;
- (5) Broad form property damage including explosion, collapse, and underground coverages;
- (6) Personal injury;

d. In the event of any payment under the Commercial General Liability Policy, the insurer shall be subrogated to the extent of such payment to all the insured's rights of recovery, but the insurer shall have no rights of subrogation against OWNER, OWNER's consultants, the Architect, and the Architect's consultants, their elected or appointed officials, or employees, except as respects the negligence of OWNER, the Architect, and Architect's consultants.

### 3. COMPREHENSIVE AUTO LIABILITY INSURANCE

Such insurance shall have combined single limits of not less than \$1,000,000, bodily injury, property damage, including coverage for owned, non-owned and hired autos.

### 4. ASBESTOS ABATEMENT

- a. Must be occurrence coverage versus "claims made" coverage.
- b. \$1,000,000 per occurrence with not less than \$2,000,000 annual aggregates limits required.
- c. Certificates of insurance must specify "asbestos abatement."

### 5. COURSE OF CONSTRUCTION (COC)/BUILDER'S RISK INSURANCE

- a. When required by OWNER, on new school construction project, CONTRACTOR may be required to provide builders risk coverage with limits equal to 100 percent of the insurable value of the Project, including all items of labor and materials in or adjacent to the structure insured, all materials in place or to be used as part of the permanent construction,



including surplus materials, shanties, protective fences, bridges, or temporary structures, miscellaneous materials and supplies incident to the work, and such scaffolding, staging, towers, forms, and equipment as are not owned or rented by CONTRACTOR, the cost of which are included in the cost of the Work. Such insurance shall be maintained for the life of the Contract.

b. If required by OWNER, CONTRACTOR shall maintain a Builder's Risk Completed Value Form providing all risk coverage, naming CONTRACTOR and OWNER as insureds and subcontractors to all levels as additional insureds, as their respective interests appear.

c. A maximum deductible of \$5,000 per occurrence will be allowed on projects. CONTRACTOR shall be responsible for any deductibles under the property insurance policy.

d. The builder's risk insurance limits shall initially be for the full amount of the Project price shown in the Agreement document and shall be maintained in full force and effect at all times between the signing of the contract and final acceptance of the completed work by OWNER at an amount equaling the estimated cost to OWNER of rebuilding.

F. CONTRACTOR shall be responsible for payment of any deductibles under any of the above named coverages.

## **ARTICLE 59 PROOF OF INSURANCE COVERAGE**

A. CONTRACTOR shall deliver in triplicate proof of carriage of required insurance. This proof shall be presented with the required Payment and Performance Bonds and return of other Contract Documents.

B. CONTRACTOR shall not commence work or allow any subcontractor to commence work under this contract until CONTRACTOR has obtained all required insurance and certificates, which shall be delivered to and approved by OWNER.

C. Certificates and insurance policies shall include the following:

1. A clause stating:

"This policy shall not be canceled or reduced in required limits of liability or amount of insurance until notice has been mailed to certificate holder stating the date of cancellation or reduction. The date of cancellation or

reduction may not be less than 30 days after the date of mailing the notice."

2. Transcripts from the policies authenticated by the proper office of the insurer evidencing, in particular, those insured, the extent of the insurance, the location of and the operations to which the insurance applies, expiration date, and cancellation and reduction notice.

3. A statement that OWNER is a named additional insured under the policy described and that the insurance policy shall be primary to any insurance or self-insurance maintained by OWNER.

E. OWNER shall be named as certificate holder and additional insured and all certificates with endorsements shall be forwarded in triplicate to OWNER.

F. In the event of modification or cancellation of the policy or policies during the periods of coverage stated in this article, 30 days' prior written notice of such cancellation shall be delivered or mailed by certified mail, return receipt requested, to OWNER.

G. Acceptance of the certificates of insurance shall not relieve or decrease CONTRACTOR's liability. Insurance coverage in the minimum amounts set forth in the Contract Documents shall not be construed to relieve CONTRACTOR of liability in excess of such coverage, nor shall it preclude OWNER from taking such other actions as are available to it under any other provisions of the Contract Documents or otherwise in law.

## **ARTICLE 60 INDEMNIFICATION**

A. CONTRACTOR shall hold harmless, defend, and indemnify OWNER, the Architect, and Inspector of Record and the officials, officers, employees, volunteers, and agents, and each of them, from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of or incident to any acts, omissions, or willful misconduct of CONTRACTOR, its officials, officers, employees, agents, consultants, and subcontractors arising out of or in connection with the performance of the Work or the Contract Documents, including without limitation the payment of all consequential damages and attorneys fees and other related costs and expenses. At CONTRACTOR's own cost, expense, and risk and with counsel reasonably satisfactory to OWNER, CONTRACTOR shall defend any and all such suits, actions, or other legal proceedings of every kind that may be brought or instituted against OWNER, the Architect, Inspector of Record, and their directors, officials, officers, employees, agents, or volunteers. CONTRACTOR shall pay and satisfy any judgment, award, or decree

that may be rendered against OWNER, the Architect, Inspector of Record or their directors, officials, officers, employees, agents, or volunteers, in any such suit, action, or other legal proceeding. CONTRACTOR shall reimburse OWNER, the Architect, Inspector of Record and their directors, officials, officers, employees, agents, and volunteers, for any and all legal expenses and costs incurred by each of them in connection with any suit, action, or legal proceeding, or in enforcing the indemnity provided under this Article.

B. CONTRACTOR shall require each subcontractor to hold harmless, defend, and indemnify OWNER, the Architect, Inspector of Record and their officials, officers, employees, volunteers and agents, from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage, or injury, in law or equity, to property or persons, including wrongful death, in any manner arising out of or incident to any acts, omissions, or willful misconduct of subcontractor its officials, officers, employees, agents, consultants and subcontractors arising out of or in connection with the performance of the Work or the Contract Documents, including without limitation the payment of all consequential damages and attorneys' fees and other related costs and expenses. At subcontractor's own cost, expense and risk, subcontractor shall defend any and all such suits, actions, or other legal proceedings of every kind that may be brought or instituted against OWNER, the Architect, Inspector of Record, and their directors, officials officers, employees, agents or volunteers. Subcontractor shall pay and satisfy any judgment, award, or decree that may be rendered against OWNER, the Architect, Inspector of Record, or their directors, officials, officers, employees, agents or volunteers, in any such suit, action, or other legal proceeding. Subcontractor shall reimburse OWNER, the Architect, Inspector of Record, and their directors, officials, officers, employees, agents, and volunteers, for any and all legal expenses and costs incurred by each of them in connection with any suit, action, or legal proceeding, or in enforcing the indemnity provided under this article.

C. The obligations of this Article expressly include but are not limited to the obligations of indemnification and defense of OWNER, the Architect, Inspector of Record, and their directors, officials, officers, agents and employees arising in any manner out of any claims against them brought by other contractors, subcontractors, material suppliers, or other third parties alleging any of them owe the claimant either time, compensation, or damages due to any act, omission, or occurrence caused or contributed to in any degree by CONTRACTOR or any of its subcontractors.

## **ARTICLE 61 ASSIGNMENT**

CONTRACTOR shall not assign any rights, delegate any duties, transfer, convey, sublet, or otherwise dispose of the Construction Agreement or of its rights, title, or interest in or to the Construction Agreement or any part of it. If CONTRACTOR assigns, transfers, conveys, sublets, or otherwise disposes of the Construction Agreement or its

right, title, or interest in it, or any part of it, any attempted or purported assignment, transfer, conveyance, sublease, or other disposition, shall be null, void, and of no legal effect whatsoever, and at OWNER's option the Construction Agreement may be terminated, revoked, and annulled, and OWNER shall then be discharged from any and all liability and obligations to CONTRACTOR, and to its purported assignee or transferee, arising out of the Construction Agreement. This expressly includes but is not limited to any attempts to create "pass through" or similar rights for subcontractors to pursue claims directly against OWNER.

## **ARTICLE 62 SEPARATE CONTRACTS**

A. OWNER reserves the right to let other contracts in connection with this Work. CONTRACTOR shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work, and shall coordinate its work with those other contractors.

B. If any part of CONTRACTOR's work depends upon work of any other contractor for proper execution of results, CONTRACTOR shall inspect and promptly report in writing to the Architect any defects in the other contractor's work that render it unsuitable for proper execution or results. CONTRACTOR's failure to inspect and report shall constitute its acceptance of any other contractor's work as fit and proper for reception of its work except as to defects which may develop in another contractor's work after execution of CONTRACTOR's work.

C. To ensure proper execution of CONTRACTOR's subsequent work, CONTRACTOR shall measure and inspect work already in place and shall report in writing to the Architect any discrepancy between executed work and the Contract Documents.

D. CONTRACTOR shall ascertain to CONTRACTOR's satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by OWNER in connection with the Project, in order that CONTRACTOR may perform the work in light of any other contracts. Nothing contained in the Contract Documents shall be interpreted as granting to CONTRACTOR exclusive occupancy of the Project site. CONTRACTOR shall not cause any unnecessary hindrance or delay to any other contractor working on the Project. If simultaneous execution of any contract for the Project is likely to cause interference with performance of some other contract or contracts, OWNER shall decide which contractor shall cease work temporarily and which contractor shall continue or whether work can be coordinated so that the contractors may proceed simultaneously. OWNER shall not be responsible for any damage suffered or extra costs incurred by CONTRACTOR resulting directly or indirectly from the award or performance or attempted performance of any other

contract or contracts on the Project, or caused by any decision or omission of OWNER regarding the order in performing or coordinating the contracts.

## **ARTICLE 63 OWNER'S RIGHT TO TERMINATE CONTRACT**

### **Termination for Cause:**

A. OWNER may serve upon CONTRACTOR and its surety written notice of OWNER's intention to terminate the Construction Agreement, without prejudice to any other right or remedy, upon the occurrence of any of the following circumstances:

1. If CONTRACTOR refuses or fails to pursue the Work or any part with sufficient diligence to ensure its completion within the time specified, or any extension of time;
2. If CONTRACTOR refuses or fails to complete the Work within the time required;
3. If CONTRACTOR is adjudged a bankrupt, or makes a general assignment for the benefit of its creditors;
4. If a receiver is appointed on account of CONTRACTOR's insolvency;
5. If CONTRACTOR persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials to complete the Work in the time specified, except in cases for which extension of time is provided;
6. If CONTRACTOR fails to make prompt payment to subcontractors or for material or labor;
7. If CONTRACTOR persistently disregards laws, ordinances, or instructions of OWNER;
8. If CONTRACTOR or its SUBCONTRACTORS violates any of the provisions of the Contract Documents.

B. The notice of intent to terminate shall contain the reasons for termination.

C. Unless the identified condition(s) or violation(s) ceases and arrangements satisfactory to OWNER for correction are made within 10 days after service of the notice, the Construction Agreement may be terminated, in the total discretion of OWNER. In that event, CONTRACTOR shall not be entitled to receive any further payment until the Work is completed.

D. In the event of OWNER's election to terminate, OWNER shall immediately serve written notice of termination upon CONTRACTOR and upon surety on CONTRACTOR's Performance Bond, and the surety shall then have the right to take over and perform this contract; provided however that if within seven days after service upon the surety of the notice of election to terminate, the surety does not give OWNER written notice of its intention to take over and perform the Construction Agreement, or does not commence performance within 15 days after the date of service of the notice of termination by OWNER on surety, OWNER may take over and complete the Work by contract or by any other method it deems advisable.

E. CONTRACTOR and its surety shall be liable to OWNER for any excess cost or other damages incurred by OWNER. If OWNER takes over the Work as provided above, OWNER may exclude CONTRACTOR and the surety from the premises, or any portion of the premises, and take control of the premises without liability and without affecting the liability of CONTRACTOR and the surety for completion of the Work. In addition, OWNER may take possession of and utilize in completing the Work any materials, appliances, equipment, and other property belonging to CONTRACTOR on the work site necessary for completion of the Project, without liability.

F. If the unpaid balance of the contract price exceeds the expense of finishing the Work, including without limitation compensation for additional architectural, managerial, inspection, and administrative services, the excess shall be paid to CONTRACTOR. If the expense exceeds the unpaid balance, CONTRACTOR shall pay the difference to OWNER. Any expenses incurred by OWNER, and any damage incurred through CONTRACTOR's default, shall be certified by the Architect.

G. These provisions are in addition to and not a limitation on any other rights or remedies available to OWNER.

**Termination for Convenience:**

H. OWNER has discretion to terminate this Agreement at any time and require CONTRACTOR to cease all work on the project by providing CONTRACTOR written notice of termination specifying the desired date of termination. Upon receipt of written notice from OWNER of such termination for OWNER's convenience, CONTRACTOR shall:

1. Cease operations as directed by OWNER in the notice;
2. Take any actions necessary, or that OWNER may direct, for the protection and preservation of the Work; and

3. Maintain any insurance provisions required by the Contract Documents.

In case of termination for OWNER's convenience, CONTRACTOR shall be entitled to receive payment from OWNER for work satisfactorily executed and for proven loss with respect to materials, equipment, and tools, including overhead and profit for that portion of the work completed. In the case of termination for convenience, OWNER shall have the right to accept assignment of subcontractors. The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to OWNER.

#### **ARTICLE 64 NO WAIVER**

The failure of OWNER in any one or more instances to insist upon strict performance of any of the terms of the Contract Documents, or to exercise any option conferred in them, shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion.

#### **ARTICLE 65 EXCISE TAXES**

If any transaction under the Contract Documents constitutes a sale on which a federal excise tax is imposed under federal excise tax law, and the sale is exempt from the excise tax because it is a sale to a state or local government for its exclusive use, upon request OWNER will execute a certificate of exemption which will certify that (1) OWNER is a political subdivision of the State for the purpose of such exemption, and (2) the sale is for the exclusive use of OWNER. No excise tax for such materials shall be included in any bid price.

#### **ARTICLE 66 NOTICE OF TAXABLE POSSESSORY INTEREST**

The terms of the Contract Documents may result in the creation of a possessory interest. If a possessory interest is vested in a private party to the Contract Documents, the private party may be subjected to the payment of property taxes levied on such interest.

#### **ARTICLE 67 ASSIGNMENT OF ANTITRUST ACTIONS**

- A. Public Contract Code Section 7103.5(b) provides:

"In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body (OWNER) all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sect. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of

Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties.”

B. For itself and all subcontractors, CONTRACTOR agrees to assign to OWNER all rights, title, and interest in and to all such causes of action CONTRACTOR and all subcontractors may have under the Contract Documents. This assignment shall become effective at the time OWNER tenders final payment to CONTRACTOR, and CONTRACTOR shall require assignments from all SUBCONTRACTORS to comply with this requirement.

## **ARTICLE 68 PATENTS, ROYALTIES, AND INDEMNITIES**

CONTRACTOR shall hold harmless OWNER and its governing board or other governing body, officers, agents, and employees from liability of any nature or kind, including cost and expense, for or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Work of the Contract Documents, including its use by OWNER, unless otherwise specifically provided in the Contract Documents and unless such liability arises from the sole negligence, active negligence, or willful misconduct of OWNER.

## **ARTICLE 69 STATE AUDIT**

Pursuant to and in accordance with the provisions of Government Code Section 8546.7, CONTRACTOR and any subcontractor connected with the performance of the Contract Documents involving the expenditure of public funds in excess of \$10,000, including, but not limited to the cost of administration of the Contract Documents, shall be subject to examination and audit by the State of California, either at the request of OWNER or as part of any audit of OWNER, for a period of three years after final payment is made under the Contract Documents.

## **ARTICLE 70 PROVISIONS REQUIRED BY LAW DEEMED INSERTED**

Every provision of law and clause required by law to be inserted in the Contract Documents shall be deemed to be inserted, and the Contract Documents shall be read and enforced as though it were included. If through mistake or otherwise any provision is not inserted or is not correctly inserted, upon application of either party the Contract Documents 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 the Contract Documents and any later changes which do not materially and substantially alter the positions of the parties.



## **ARTICLE 71 NOTICE AND SERVICE**

A. Any notice from one party to the other under the Contract Documents shall be in writing and shall be dated and signed by the party giving the notice or by a duly authorized representative of the party. Any notice shall not be effective for any purpose unless served in one of the following ways:

B. If notice is given to OWNER, by personal delivery to OWNER or by depositing the notice in the United States mail, enclosed in a sealed envelope addressed to OWNER and sent by registered or certified mail with postage prepaid.

C. If notice is given to CONTRACTOR, by personal delivery to CONTRACTOR or to CONTRACTOR's superintendent at the Project Site, or by depositing the notice in the United States mail, enclosed in a sealed envelope addressed to CONTRACTOR at its regular place of business or at such address as may have been established for the conduct of work under the Contract Documents, and sent by registered or certified mail with postage prepaid.

D. If notice is given to surety or other persons, by personal delivery or by depositing the notice in the United States mail, enclosed in a sealed envelope addressed to the surety or person at the address last communicated by the surety or other person to the party giving notice, and sent by registered or certified mail with postage prepaid.

## **ARTICLE 72 DISABLED VETERAN BUSINESS ENTERPRISE COMPLIANCE**

A. In accordance with Education Code Section 17076.11, OWNER has a participation goal for disabled veteran business enterprises of at least three percent per year of the overall dollar amount of funds allocated to OWNER by the State Allocation Board pursuant to the Leroy F. Greene School Facilities Act of 1998 for construction or modernization and expended each year by the school district.

B. Prior to, and as a condition precedent for final payment under any contract for such project, CONTRACTOR shall provide appropriate documentation to OWNER identifying the amount paid to disabled veteran business enterprises in conjunction with the Contract Documents, so that OWNER can assess its success at meeting this goal.

## 11-SUPPLEMENTAL GENERAL CONDITIONS

**PROJECT TITLE/BID #:** PLANZ KINDERGARTEN SITEWORK PH II (2019-2036.01)

**OWNER:** Greenfield Union School District

### **Supplemental General Condition No. 1**

DELETE in its entirety Paragraph T of **ARTICLE 1 DEFINITIONS** of the General Conditions and REPLACE with the following provisions:

"T. Project Inspector/Inspector of Record: Any individual approved by OWNER as the on- site inspector for a particular project hired by and paid by OWNER and under the general direction of the Architect or registered engineer in charge and under the supervision of OWNER. The Project Inspector shall be responsible for inspecting all work included in the Contract Documents. A special inspector shall be only for inspecting the work for which he/she is approved. Inspectors are independent contractors and are not agents of OWNER. Inspector must be approved by the Architect of Record."

### **Supplemental General Condition No. 2**

DELETE in its entirety Paragraph EE of **ARTICLE 1 DEFINITIONS** of the General Conditions and REPLACE with the following provisions:

"EE. Testing Laboratory: An independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on, and if required, interpret results of those inspections or tests. The Testing Laboratory is an independent contractor, and not an agent or employee of OWNER. The Testing Laboratory shall be directly employed by the School District and no other entity or individual. All tests shall be performed by a testing facility acceptable to the Architect of Record."

### **Supplemental General Condition No. 3**

ADD the following Paragraph GG to **ARTICLE 1 DEFINITIONS** of the General Conditions:

"GG. Change Order Document: A document defining changes to the Code-regulated construction requirements of the DSA-approved plans and/or specifications issued after a construction contract has been awarded. CO's may include Architect's Supplemental Instructions (ASI), Proposal Request (PR), Construction Bulletins (CB), Field Orders (FO), etc.".

## **11-SUPPLEMENTAL GENERAL CONDITIONS**

### **Supplemental General Condition No. 4**

ADD the following Paragraph HH to **Article 1 DEFINITIONS** of the General Conditions:

“HH. Breakdown of all labor costs by trade or complete per diem wage rate breakdown for all trades: Breakdown of labor costs referred to in Paragraph H of **ARTICLE 41 WAGE RATES AND PAYROLL RECORDS** and per diem wage rate referred to in Paragraph G of **ARTICLE 46 PAYMENTS** are defined as follows:

1. Actual cost for wages prevailing locally for each craft classification or type of worker at the time of submittal, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from federal, state, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. Labor costs for equipment operators and helpers shall be reported only when such costs will not be included in invoices for equipment rental.”

### **Supplemental General Condition No. 5**

DELETE in its entirety Paragraph F of **Article 6 SUBCONTRACTING** of the General Conditions and REPLACE with the following provisions:

“F. At the request of the Owner, regardless of when the request is received by the Contractor, a copy of each subcontract, if in writing, or if not in writing, then a written statement signed by the Contractor giving the name of the subcontractor and the terms and conditions of such subcontract, shall be filed with OWNER before the commencement of construction. Each subcontract will provide for termination in accordance with these General Conditions. Each subcontract shall provide for its annulment by CONTRACTOR at the order of the Architect if in the Architect’s opinion the subcontractor fails to comply with the requirements of the Contract Documents insofar as the same may be applicable to this work.”

### **Supplemental General Condition No. 6**

ADD the following sub-paragraphs 10 and 11 to Paragraph D of **ARTICLE 20 PROTECTION OF WORK AND PROPERTY** of the General Conditions:

“10. Deliveries for this project shall be north of the project site (Lacey Street). No deliveries are allowed during student drop-off between 7:15 am - 7:45 am or student pick-up between 2:15 - 2:45 pm.

11. Construction parking for this project are located adjacent to the site on the north side of the campus.”

### **Supplemental General Conditions No. 7**

DELETE in its entirety **ARTICLE 24 UTILITIES** of the General Conditions and REPLACE with the following provisions:

#### **ARTICLE 24 UTILITIES**

A. Utilities, including but not limited to electricity and water used on the Work, shall be furnished, and paid for by OWNER. CONTRACTOR shall provide and maintain necessary temporary distribution systems from distribution points to areas on the site where the utility is necessary to perform the work. Upon completion of the Work, CONTRACTOR shall remove

## 11-SUPPLEMENTAL GENERAL CONDITIONS

all temporary distribution systems.

B. Contractor shall supply power cords, adaptors, etc. as necessary to complete the work for their bid package in a timely manner and in accordance with the construction schedule.

C. Contractor shall furnish power for welders and any special equipment needing voltage greater than 120V as required.

D. Contractor shall provide task lighting as required to facilitate the work in a timely manner and in accordance with the construction schedule. Provide sufficient task lighting to facilitate work of good quality. Contractor in accordance with the latest CAL OSHA Safety Order will provide temporary lighting for building access.

### **Supplemental General Condition No. 8**

ADD the following Paragraph R to **ARTICLE 27 CHANGES AND EXTRA WORK** of the General Conditions:

“R. All Change Orders must be signed by the Owner Architect and Contractor.”

### **Supplemental General Conditions No. 9**

ADD the following Paragraphs E and F to **ARTICLE 37 TESTS AND INSPECTIONS** of the General Conditions:

“E. Test reports shall be addressed to, and sent to, the school district by the testing facility. Copies of all test reports shall be sent to the Architect and the Project Inspector by the testing facility. All reports shall be sent within 14 days of the date of the test.

### **Supplemental General Conditions No. 10**

DELETE in its entirety Paragraph N of **ARTICLE 41 WAGE RATES AND PAYROLL RECORDS** of the General Conditions, and REPLACE with the following:

“N. If this project is subject to prevailing wage monitoring and enforcement by the Department of Industrial Relations’ as indicated in the Notice to Contractors Calling for Bids, CONTRACTOR and all subcontractors shall be subject to the requirements of Subchapter of Chapter 8 of Title 8 of the California Code of Regulations. Contractor and all subcontractors must furnish certified payroll records to the Labor Commissions using DIR’s electronic certified payroll reporting system (<https://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html>). CONTRACTOR shall comply with all requirements of the Labor Code and attendant regulations pertaining to prevailing wage monitoring and compliance as indicated in the Contract Documents, and/or as required by the DIR Monitoring and enforcement. CONTRACTOR shall permit OWNER, the DIR or their designee to interview CONTRACTOR’s employees concerning compliance with prevailing wage, apprenticeship, and related matters, whether or not during work hours, and shall require each subcontractor to provide OWNER, the DIR or their designee with such access to its employees.”

## **11-SUPPLEMENTAL GENERAL CONDITIONS**

### **Supplemental General Conditions No. 11**

DELETE in its entirety Paragraph B of **ARTICLE 46 PAYMENTS** of the General Conditions and REPLACE with the following provision:

“B. Progress payments shall be made only on the basis of monthly estimates which shall be prepared by CONTRACTOR on a form approved by the ARCHITECT and filed before the 20<sup>th</sup> day of the month during which payment is to be made. Such estimates shall include only work completed in place, or approved as “Stored Materials”, through the end of the billing period. No projections to the end of the month will be permitted.

### **Supplemental General Condition No. 12**

ADD the following to Paragraph G of **ARTICLE 46 PAYMENTS** of the General Conditions:

To Paragraph G, add unconditional and conditional waivers and release forms, attached to these Supplemental General Conditions.

### **Supplemental General Condition No. 13**

ADD the following to Paragraph K of **ARTICLE 46 PAYMENTS** of the General Conditions:

“K. Payment Procedures:

1. CONTRACTOR is to use Forms G-702 and G-703 for all payment applications. No alternate pay request will be allowed without written approval by ARCHITECT.
2. CONTRACTOR is to submit a complete cost breakdown on G-702, “Continuation Sheet” (utilizing as many pages as necessary to fully itemize work) within 10 days of contract award. No application for payment will be processed without a schedule of values approved by the ARCHITECT.
3. Schedule of Values is to provide, as minimum, separate line items for Bonds, submittals, mobilization, and closeout documentation. Work shall be itemized so as to facilitate evaluation of work complete on each pay application.
4. Columns A, B, & C are to be filled out on G-702 document when submitting the Schedule of Values. Once values for each item have been approved, the values shall not be changed and will be used as the basis for subsequent payment applications.
5. Change Orders, when issued, shall be described in Column B with a value in Column C.
6. Pay applications shall be for work complete through the billing period only. Projection of work to be completed will not be accepted.
7. CONTRACTOR shall submit three (3) copies, all with original (wet) signatures to the PROGRAM MANAGER. CONTRACTOR shall submit with each copy of the pay application any documentation substantiating the pay request, for example, invoices and insurance for stored materials.

## 11-SUPPLEMENTAL GENERAL CONDITIONS

8. Any errors in the pay application requests will result in the return of the payment request without further processing for correction by the CONTRACTOR. Change Orders must be fully approved by the OWNER before any billing for them can be processed. Do not include Change Orders on pay request form in not approved by Owner.

9. Pay applications received after the monthly deadline will be returned without action by the PROGRAM MANAGER and may be resubmitted the following month.

10. This Project has not been found to be substantially complex. As such, the OWNER will not retain more than 5% of the amount of any progress payments. Progress payment retention on this will be 5%."

### **Supplemental General Condition No. 14**

ADD Sub-Paragraphs 21 and 22 to Paragraph A of **ARTICLE 48 PAYMENTS WITHHELD** of the General Conditions and use the following provisions:

"21. Failure of the CONTRACTOR to submit a copy of subcontracts pursuant to appropriate provisions of the General Conditions.

22. Failure of the CONTRACTOR to respond to Proposal Requests and/or Supplemental Instructions issued by the ARCHITECT in a timely manner such that a delay in the project's completion may occur."

### **Supplemental General Condition No. 15**

ADD the following Paragraph C to **ARTICLE 48 PAYMENTS WITHHELD** of the General Conditions and use the following provisions:

"C. District Withholding of Liquidated Damages; Performance Bond Surety. Assessment will be at the discretion of District and if imposed will be deducted from future Progress Payment or Final Progress Payment, at District's option. If the Contractor is subject to assessment of Liquidated Damages for delayed Substantial Completion and/or delayed completion of Punchlist Items, the District may withhold such assessments from the Contract Price then or thereafter due the Contractor. If the assessment of Liquidated Damages exceeds the then remaining balance of the Contract Price due the Contractor, the Contractor and the Surety issuing the Performance Bond shall be jointly and severally liable to the District for such amounts beyond the remaining Contract Price balance.

### **Supplemental General Condition No. 16**

DELETE in its entirety Paragraph C of **ARTICLE 50 PROGRESS SCHEDULE** of the General Conditions and REPLACE with the following provision:

"C. Scheduling Requirements

1. Substantial Completion of the Work Within Contract Time. Unless otherwise expressly provided in the Contract Documents, the Contract Time is the period of time, including authorized adjustments thereto, allotted in the Contract Documents for achieving Substantial Completion of the Work. The date for commencement of the Work is the date established by the Notice to Proceed issued by the District pursuant to the Agreement, which shall not be

## 11-SUPPLEMENTAL GENERAL CONDITIONS

postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible. The date of Substantial Completion is the date certified by the Architect and the Project Inspector as such in accordance with the Contract Documents. References in the Contract Documents to the Contract Time shall be deemed references to the Contract Time for each Contractor to achieve Substantial Completion of its portion of the Work of the Project, as set forth in the Supplemental Conditions.

### E. Progress and Completion of the Work.

1. Time of Essence. Time limits stated in the Contract Documents are of the essence. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing and achieving Substantial Completion of the Work. The Contractor shall employ and supply a sufficient force of workers, material and equipment, and prosecute the Work with diligence so as to maintain progress, to prevent Work stoppage and to achieve Substantial Completion of the Work within the Contract Time.

2. Substantial Completion. Substantial Completion is that stage in the progress of the Work when the Work is complete in accordance with the Contract Documents, so the District can occupy or use the Work for its intended purpose. Substantial Completion shall be determined by the Architect and the Project Inspector upon request by the Contractor in accordance with the Contract Documents. The good faith and reasonable determination of Substantial Completion by the Project Inspector, the Architect shall be controlling and final.

### F. Correction or Completion of the Work After Substantial Completion.

1. Punchlist. Upon achieving Substantial Completion of the Work, the District, The Project Inspector, the Construction Manager, the Architect and the Contractor shall jointly inspect the Work and prepare a comprehensive list of items of the Work to be corrected or completed by the Contractor ("the Punchlist"). The exclusion of, or failure to include, any item on the Punchlist shall not alter or limit the obligation of the Contractor to complete or correct any portion of the Work in accordance with the Contract Documents.

2. Time for Completing Punchlist Items. In addition to setting forth items for correction or completion pursuant to paragraph 1.2.3.1, the Construction Manager, if any, Contractor and Architect shall, after the joint inspection, establish a reasonable time for Contractors' completion of all Punchlist items. If mutual agreement is not reached for the Contractor's completion of Punchlist items, the Architect shall determine such time, and in such event, the time determined by the Architect shall be final and binding upon the District and Contractor so long as the Architect's determination is made in good faith. The Contractor shall promptly and diligently proceed to complete all Punchlist items within the time established. In the event that the Contractor shall fail or refuse, for any reason, to complete all Punchlist items within the time established, Contractor shall be subject to assessment of Liquidated Damages. The foregoing notwithstanding, if the Contractor fails or refuses to complete all Punchlist items, the District may in its sole and exclusive discretion and without further notice to Contractor, elect to cause the completion of all remaining Punchlist items provided, however that such election by the District is in addition to and not in lieu of any other right or remedy of the District under the Contract Documents or at law. If the District elects to complete Punchlist items of the Work, pursuant to the foregoing, Contractor shall be responsible for all costs incurred by the District in connection herewith and the District may deduct such costs from the Contract Price then or thereafter due the Contractor, if these costs exceed the remaining Contract Price due to the Contractor, the Contractor and the Performance Bond Surety are liable to District

## 11-SUPPLEMENTAL GENERAL CONDITIONS

for any such excess costs

3. Final Completion. Final Completion is that stage of the Work when all Work has been completed in accordance with the Contract Documents, including without limitation, the performance of all correction or completion items noted upon Substantial Completion, and the Contract has been otherwise fully performed by the Contractor. Final Completion shall be determined by the Architect and the Project Inspector upon request of the Contractor. The good faith and reasonable determination of Final Completion by the Project Inspector and the Architect shall be controlling and final.

4. Contractor Responsibility for Multiple Inspections. In the event the Contractor shall request determination of Substantial Completion or Final Completion by the Project Inspector and the Architect and it is determined by the Project Inspector and the Architect that the Work does not then justify certification of Substantial Completion or Final Completion and re-inspection is required at a subsequent time to make such determination, the Contractor shall be responsible for all costs of such reinspection, including without limitation, the fees of the Architect and the salary of the Project Inspector. The District may deduct such costs from the Contract Price then due or thereafter due to the Contractor.

5. Final Acceptance. Final Acceptance of the Work shall occur upon approval of the Work by the District's Board of Trustees; such approval shall be submitted for adoption at the next regularly scheduled meeting of the District's Board of Trustees after the determination of Final Completion. The commencement of any warranty or guarantee period under the Contract Documents shall be deemed to be the date upon which the District's Board of Trustees approves of the Final Acceptance of the Work.

### G. Schedule Definitions:

1. Bid Schedule shall be the schedule issued with the Bid documents, which shall be used by the Contractor, and any requisite Sub- Contractor(s) for the preparation of their Bid.

- a. Preliminary Base Line Construction Schedule shall be the schedule issued by the Construction Manager, within ten (10) days after of the Notice to Proceed is issued by or on behalf of the District, which may have been modified since the development of the Bid Schedule but such modification does not affect any critical path activity durations, but may adjust the Project Completion dates if the Notice to Proceed has varied from the Bid Schedule.
- b. Base Line Construction Schedule shall be developed from the input of each Contractor for a Bid Package to the Preliminary Base Line Construction Schedule. This shall be used for the initial commencement of construction, scheduling and monitoring of the Project on a continual basis until an Updated Construction Schedule is issued.
- c. Updated Construction Schedule shall be all the Schedules issued after the Base Line Construction Schedule. Additionally, the Updated Construction Schedule may be used for bidding by any Contractor for work to commence on the Project subsequent to the Base Line Construction Schedule.
- d. Recovery Schedule shall be provided by the Contractor for a Bid Package to recover lost time due to delays with the progress of the Contractor's Work, ability to meet Milestones and/or Project completion dates/requirements.



## 11-SUPPLEMENTAL GENERAL CONDITIONS

- e. Construction Schedule(s) shall be used in the Contract Documents to collectively refer the Bid Schedule, Preliminary Base Line Construction Schedule, Base Line Construction Schedule, and Updated Construction Schedule.
- f. Three (3) Week Look Ahead Schedules shall be issued on a weekly basis at the Project Team Meeting identifying work in more detail than the activities shown in the Construction Schedules.
- g. Scheduling Software & Requirements. The Construction Schedules shall:
  - 1) Be prepared with a commercially available computer software program in a critical path format,
  - 2) Indicate the date(s) for commencement and completion of various portions of the Work including without limitation, procurement, fabrication and delivery of major items, materials or equipment,
  - 3) Indicate manpower (estimated men per day) and other resources required for completion of each schedule activity,
  - 4) Indicate costs for completion of each schedule activity and
  - 5) Identify each Submittal required by the Contract Documents, the date for the Contractor's submission of each Submittal and the date for the return of the reviewed Submittal to the Contractor.
- h. Float. As used herein, "float time" shall be deemed to refer to the time between earliest finish date and the latest finish date of each activity shown on the Construction Schedule. If the Construction Schedules incorporate therein any "float" time, such float shall be deemed to jointly belong to and owned by the District and the Contractor. If the construction progress is ahead of schedule based on the Construction Schedule(s) and a delay is encountered (even if such delay is a District caused delay), no compensation of any type will be due the Contractor and the District may claim float days equal to the delay until such float days are exhausted and the delay extends the overall project substantial completion date.
- i. Contractor Schedule Responsibility. Each Contractor is responsible for performing the Work of its Bid Package in accordance with the then most current Updated Construction Schedule. Each Contractor for a Bid Package shall be liable to the District for all consequences of its delayed completion of the Bid Package or portions thereof, including without limitation, liability for:
  - 1) Assessment and withholding of Liquidated Damages for delayed Substantial Completion of the Work of the Bid Package or portions of the Work of the Bid Package, as set forth herein and
  - 2) Costs, losses, expenses, damages, claims or other demands asserted by other contractors for the progress of which are delayed, interrupted, hindered or otherwise impacted by the Contractor's failure to complete the Work of its Bid Package in accordance with the then most current Updated Construction Schedule. The obligation of the Contractor and the Contractor's Performance Bond Surety to defend, indemnify and hold harmless the Indemnified Parties, as set forth in the General Conditions, shall be deemed to include claims, demands, actions, causes of actions or proceedings initiated by Other Contractors based in whole or in part on the delays of the Contractor in completing the Work, or portions thereof, in accordance with the then most current Updated Construction Schedule.

## 11-SUPPLEMENTAL GENERAL CONDITIONS

### Supplemental General Condition No. 17

DELETE in its entirety Paragraph B of **ARTICLE 53 CONTRACT CLOSEOUT** of the General Conditions and REPLACE with the following provisions:

"B. Record Drawings:

1. The intent of this procedure is to obtain an exact set of "as built" record drawings of the Work under this contract.
2. The CONTRACTOR shall keep the Record Drawings up to date. The GENERAL CONTRACTOR shall monitor the updating of the CONTRACTOR'S Record Drawings. The DISTRICT/ARCHITECT shall have the authority to deny certification of a CONTRACTOR'S periodic request for payment if Record Drawings do not reflect current conditions. CONTRACTOR shall keep the following:
  - a. One complete set of blue line prints of all drawings which form a part of the Work, in good order, and available on the jobsite. They shall be used only for the purpose intended. Drawings shall be kept up-to-date as the Work progresses and shall be available at all times for inspection.
  - b. One set of annotated Specifications reflecting any and all changes to the original documents from change orders, substitutions, or any other deviations from the original specifications.
3. CONTRACTOR shall transfer all "As-Built" mark-ups to the "Record" set of Plans and Specifications each month.
  - a. The following information shall be carefully and correctly drawn on the prints and all items shall be accurately located and dimensioned from finished surfaces of building walls on all record drawings:
    - 1) Any work not installed as indicated on drawings.
  - b. The exact locations and elevations of all covered utilities, including valves, cleanouts, etc.
4. CONTRACTOR shall certify to OWNER the accuracy of the record drawings and annotated Specifications and is liable and responsible for inaccuracies in as-built and/or record drawings and the annotated Specifications, even if they do not become evident until a future date.
5. Upon completion of the Work and correction of all punch list items and as a condition precedent to approval of final payment, CONTRACTOR shall obtain the ARCHITECT's review and approval of the record (marked up) set of Plans and Specifications.
6. CONTRACTOR shall deliver to the Architect, three (3) complete sets of operating manuals, repair parts lists, and service instructions for all work specified, together with all warranties.

## **11-SUPPLEMENTAL GENERAL CONDITIONS**

### **Supplemental General Condition No. 18**

DELETE in its entirety Paragraph A of **ARTICLE 58 INSURANCE REQUIREMENTS** of the General Conditions and REPLACE with the following provisions:

“A. CONTRACTOR shall provide the following insurance coverages, which shall remain in full force and effect during the Project:

1. Workers' Compensation;
2. Comprehensive General Liability;
3. Comprehensive Auto Liability;

### **Supplemental General Condition No. 19**

DELETE in its entirety Paragraph B of **ARTICLE 58 INSURANCE REQUIREMENTS** of the General Conditions and REPLACE the following provisions:

”B. All insurance companies must meet the following criteria:

1. U.S. Treasury listed;
  - a. California admitted, as confirmed by the California Department of insurance, or listed in the Department of Insurance's List of Eligible Surplus Line Insurers (“LESLI List”);
2. All insurance companies with a minimum rating of "A minus, VIII" as rated by the current edition of Best's Key Rating Guide, published by A.M. Best Company, Oldwick, New Jersey, 08858, and admitted to do business in California shall be presumed to be satisfactory to OWNER for the issuance of insurance.”

### **Supplemental General Condition No. 20**

DELETE in its entirety **ARTICLE 72 DISABLE VETERAN BUSINESS ENTERPRISE COMPLIANCE** of the General Conditions. This project is not required to meet the Implementation of Disabled Veteran Business Enterprises Requirements.

### **Supplemental General Condition No. 21**

Add the following **ARTICLE 73 PROGRESS MEETINGS** to the General Conditions and use the following provision:

#### **“ARTICLE 73 PROGRESS MEETINGS**

Conferences and Meetings. A material obligation of the Contractor is the attendance by the Contractor's supervisory and/or management personnel (who shall be authorized to act on behalf of the Contractor) at meetings relating to the Work, including weekly progress meetings. The Contractor is responsible for arranging for attendance by Subcontractors, Material Suppliers at meetings and conferences relating to the Work as necessary, appropriate or as requested by the District. All costs, expenses, charges or fees incurred by the Contractor in connection with attendance and participation meetings relating to the Work shall be without adjustment of the

## **11-SUPPLEMENTAL GENERAL CONDITIONS**

Contract Time or the Contract Price. The Architect will prepare and distribute minutes reflecting the items addressed and actions taken at a meeting or conference. The Contractor shall have five (5) days after the date of distribution of minutes to notify the Architect in writing of objections to such minutes. Failure of the Contractor to interpose objections within said five (5) days will result the minutes as distributed constituting the official record of the meeting or conference. Objections of Subcontractors or Material Suppliers to minutes shall be submitted to the Architect through the Contractor. If the Contractor timely interposes objections or notes corrections, the resolution of such matters shall be addressed at the next scheduled meeting.”

### **Supplemental General Condition No. 23**

Add **ARTICLE 74 TITLE 24 COMPLIANCE** to the General Conditions and use the following provision:

#### **“ARTICLE 74 TITLE 24 COMPLIANCE**

All work shall be in compliance with Title 24, Parts 1-6, 9 and 10-12.”

## 12-PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the Greenfield Union School District, (referred to as "Owner"), has awarded to \_\_\_\_\_ (referred to as the "Contractor/ Principal") a contract for the work described as follows: Planz Elementary - Kindergarten Sitework Ph II (2019-2036.01).

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.

Any claims under this bond may be addressed to:

Name & address of Surety

Name & address of agent or  
representative in California, if different  
than above

Telephone # of Surety, or agent or  
representative in California

IN WITNESS WHEREOF, we have hereto set our hands and seals on this                      day of  
                    , 20                      .

**[SEAL]**

Contractor/Principal

By: \_\_\_\_\_  
Signature

Print Name Above

Print Title Above

Surety:

By: \_\_\_\_\_  
Signature

Print Name Above

Print Title Above

***[SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY]***

## 13-PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the Greenfield Union School District (referred to as "Owner"), has awarded to (referred to as "Contractor/Principal") a contract for the work described as follows: Planz Elementary - Kindergarten Sitework Ph II (2019-2036.01).

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 CONDITIONS OF THIS OBLIGATION IS SUCH THAT, if the hereby bonded Contractor/Principal, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by and well and truly keep and perform all the undertakings, terms, covenants, conditions, and agreements in the said contract and any alteration thereof, made as therein provided, including but not limited to the provisions regarding contract duration, indemnification, and liquidated damages, all within the time and in the manner therein designated in all respects according to their true intent and meaning, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the contract, the above obligation shall hold good for a period of one year(s) after the acceptance of the work by the Owner, during which time if Contractor/Principal shall fail to make full, complete, and satisfactory repair and replacements and totally protect the Owner from loss or damage made evident during the period of one year(s) from the date of completion of the work, and resulting from or caused by defective materials or faulty workmanship, the above obligation in penal sum thereof shall remain in full force and effect. The obligation of Surety under this bond shall continue so long as any obligation of Contractor/Principal remains.

Whenever Contractor/Principal shall be, and is declared by the Owner to be, in default under the contract, the Owner having performed the Owner's obligations under the contract, the Surety shall promptly remedy the default, or shall promptly:

1. Complete the contract in accordance with its terms and conditions; or
2. Obtain a bid or bids for completing the contract in accordance with its terms and conditions, an upon determination by Surety of the lowest responsive and responsible bidder, arrange for a contract between such bidder and the Owner, and make available as work progresses sufficient funds to pay the cost of completion less the balance of the contract price, but not exceeding, including other costs and damages for which Surety may be liable under this Performance Bond, the amount set forth above. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor/Principal by the Owner under the





Type of Print Title Above

SURETY

By \_\_\_\_\_  
Signature

Type or Print Name Above

Type of Print Title Above

[SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY]

## 14-WORKERS' COMPENSATION CERTIFICATE

**PROJECT TITLE: BID #: Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)**  
**OWNER: Greenfield Union School District**

Labor Code Section 3700 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 either as an individual employer, or as one employer in a group of employers, 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 or her employees.

"(c) For any county, city, city and county, municipal corporation, public district, public agency, or any political subdivision of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against workers' compensation claims, which certificate may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to administer workers' compensation claims properly, and to pay workers' compensation claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state which on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against workers' compensation claims. The certificate shall be issued and be subject to the provisions of Section 3702."

I am aware of the provisions of Labor Code Section 3700 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 and during the performance of the work on this Project.

Print Name of Contractor Above

By: \_\_\_\_\_

Date:

Print Name Above

Title:

[In accordance with Article 5 (commencing at Section 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 the contract.]

## 15-GUARANTEE

**PROJECT TITLE: BID #: Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)**  
**OWNER: Greenfield Union School District**

We guarantee that the construction work described above has been performed in accordance with, and complies with, the Contract Documents. We agree to repair or replace any or all of the work, together with any other adjacent work which may be required in connection with it, that may prove to be defective in workmanship or material within a period of one year from the date of acceptance of the project by Owner and the filing of the final verified report with the Division of State Architect (DSA), ordinary wear and tear excepted.

In the event of our failure to comply with these conditions within the applicable time frame as determined by Owner pursuant to the Contract Documents, in no event later than one week after being notified in writing by Owner, we authorize Owner to proceed to have the defects repaired at our expense, for which we will pay the costs and charges upon demand.

Date:

Name of Contractor

By: \_\_\_\_\_  
Signature

Print Name:

Title:

Representative of Contractor  
to be Contacted for Service:

Name:

Address:

Telephone number of Contact:

## 16-FINGERPRINTING CERTIFICATION BY CONTRACTORS

Greenfield Union School District (referred to as "Owner")  
Planz Elementary - Kindergarten Sitework Ph II (*Project Identification*)

I, \_\_\_\_\_, am an  
[type or print name]

- [check one]
- ☐ Owner of the company named below
  - ☐ Partner of the partnership named below
  - ☐ President or CEO of the corporation named below
  - ☐ Principal of the joint venture named below
  - ☐ Other [specify]

The contracting entity named below is a contractor on the referenced project and as such hereby certifies:

- [check one or more]
- ☐ [For compliance with Education Code Section 45125.2(a)(1)]  
That a physical barrier will be erected at the workplace to limit employee contact with Owner's pupils.
  - ☐ [For compliance with Education Code Section 45125.2(a)(2)]  
That the contracting entity named below will provide continual supervision and monitoring of the employees of the entity and its subcontractors through its employee \_\_\_\_\_. It has been ascertained by the Department of Justice that the named employee has not been convicted of a violent or serious felony. Contractor has requested subsequent arrest information from the Department of Justice concerning such employee and will immediately notify District and remove the employee from the Project if subsequent arrest information indicates the employee has been convicted of a serious or violent felony.
  - ☐ [For compliance with Education Code Section 45125.2(a)(3)]  
That the contracting entity named below has contracted with Owner for reimbursement of Owner expense incurred in providing surveillance by school personnel of the employees of the entity and its subcontractors on the Project.
  - ☐ [For compliance with Education Code Section 45125.1(g).  
Note: We believe this section may still be applicable to construction contractors where 45125.2(a) is insufficient to ensure pupil safety, e.g., where workers will be simultaneously working at various locations on a school site.]

That neither myself nor any employees of the contracting entity named below or its subcontractors on the Project who are required by law to submit or have their fingerprints submitted to the Department of Justice, and who may come in contact with pupils, have been convicted of a felony defined in Education Code Section 45122.1.

- ☐ [For compliance where there is limited contact or less with pupils] That the contracting entity named below is exempt from fingerprinting requirements as the Owner has determined the employees of the entity and its subcontractors will have no more than limited contact with Owner's pupils during the Project.

\_\_\_\_\_  
[name of contracting entity]

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

DATE:

SIGNATURE \_\_\_\_\_

## 17-DAVIS BACON COMPLIANCE CERTIFICATION

**PROJECT TITLE/ BID #: Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)**

**OWNER: Greenfield Union School District**

I hereby certify that I will conform to the Davis Bacon Act regarding wages, on-site audits with 48-hour notice, payroll records, submittals of weekly certified payrolls to the Owner, and apprentice and trainee employment requirements.

Date:

Name of Contractor Above

By: \_\_\_\_\_  
Signature

Print Name:

Print Title:

***[THIS FORM IS TO BE USED ON CONSTRUCTION PROJECTS  
UNDER CONTRACTS ENTERED INTO OR FINANCED BY OR WITH  
THE ASSISTANCE OF THE FEDERAL GOVERNMENT.]***

## **18-ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION**

This Escrow Agreement is made and entered into by and between Owner Greenfield Union School District, whose address is 1624 Fairview Road, Bakersfield, CA 93307, and Contractor , whose address is , and Escrow Agent , whose address is .

For the consideration set forth in this Agreement, the Owner, Contractor, and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Construction Agreement entered into between the Owner and Contractor for Planz Elementary – Kindergarten Sitework Ph II in the amount of \$ , dated (referred to as the "Construction Agreement"). Alternatively, on written request of Contractor, Owner shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for retention earnings, the Escrow Agent shall notify the Owner within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Construction Agreement between the Owner and Contractor. Securities shall be held in the name of and shall designate the Contractor as the beneficial owner.
2. Owner shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments under the provisions of the Construction Agreement, provided the Escrow Agent holds securities in the form and amount specified above.
3. When Owner makes payments of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of Contractor until the time the escrow created under this Escrow Agreement is terminated. Contractor may direct investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when Owner pays the Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of Owner. These expenses and payment terms shall be determined by Owner, Contractor, and Escrow Agent.
5. The interest earned on the securities or the money market accounts held in escrow, and all interest earned on that interest, shall be for the sole account of

Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.

6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Owner to Escrow Agent that Owner consents to withdrawal of the amount sought to be withdrawn by Contractor.

7. Owner shall have a right to draw upon the securities in the event of default by Contractor. Upon seven days' written notice of the default to the Escrow Agent from Owner, Escrow Agent shall immediately convert the securities to cash and distribute the cash as instructed by Owner.

8. Upon receipt of written notification from Owner certifying that the work under the Construction Agreement is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Construction Agreement, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all monies and securities on deposit and payment of fees and charges.

9. Escrow Agent shall rely on the written notifications from Owner and Contractor pursuant to Sections 6 to 8, inclusive, of this Escrow Agreement and Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

10. The names of the persons who are authorized to give written notice or to receive written notice on behalf of Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures, are as follows:

On behalf of Owner:

On behalf of Contractor:

Title

Title

Name Above [typed or printed]

Name Above [typed or printed]

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

Address:

Address:



On behalf of Escrow Agent:

Title

\_\_\_\_\_  
Name Above [typed or printed]

\_\_\_\_\_  
Signature

Address:

At the time the Escrow Account is opened, the Owner and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Escrow Agreement.

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

Owner

Contractor

Title Above

Title Above

Name Above [typed or printed]

Name Above [typed or printed]

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

Escrow Agent

Title Above

Name Above [typed or printed]

\_\_\_\_\_  
Signature

## 19-SHOP DRAWING TRANSMITTAL

**PROJECT TITLE/ BID #:** Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)  
**OWNER:** Greenfield Union School District

The procedure governing shop drawing submittals is contained in the Contract Documents. All requirements must be followed by the Contractor. Failure to comply with all requirements will constitute grounds for return of the shop drawing for proper resubmittal. The Contractor shall sequentially number each submittal, using this form.

Date: \_\_\_\_\_ Submittal No. \_\_\_\_\_  
From: \_\_\_\_\_ To: \_\_\_\_\_

This is:      an original submittal      ☐  
                 a 2nd submittal            ☐  
                 a [            ] submittal      ☐

---

Subject of Submittal:

Material or Equipment Designation:

Specification Section(s):

Check either (a) or (b)

- ☐ (a) We have verified that the material or equipment contained in this submittal meets all the requirements specified or shown (no exceptions).
- ☐ (b) We have verified that the material or equipment contained in this submittal meets all the requirements specified or shown, except for the following deviations (List deviations on attached sheet).

The Contractor has reviewed and approved not only the field dimensions but the construction criteria and has also made written notation regarding any information in the shop drawings that does not conform to the Contract Documents. This shop drawing has been coordinated with all other shop drawings received to date by Contractor and this duty of coordination has not been delegated to subcontractors, material suppliers, the architect, or the engineers on this project.

\_\_\_\_\_  
Signature of Contractor or Supplier

## **20-DRUG-FREE WORKPLACE CERTIFICATION**

**PROJECT TITLE/BID #: Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)**  
**OWNER: Greenfield Union School District**

This Drug-Free Workplace Certification is required pursuant to Government Code Section 8350 and following sections, and the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract for the procurement of any property or services from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract awarded by a state agency may be subject to suspension of payments or termination of the contract and the contractor may be subject to debarment from future contracting, if the state agency determines that specified acts have occurred.

Pursuant to Government Code Section 8355, every person or organization awarded a contract from a state agency shall certify that it will provide a drug-free workplace by doing all of the following:

- A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace, and specifying actions which will be taken against employees for violations of the prohibition;
- B. Establishing a drug-free awareness program to inform employees about all of the following:
  - 1. The dangers of drug abuse in the workplace;
  - 2. The person's or organization's policy of maintaining a drug-free workplace;
  - 3. The availability of drug counseling, rehabilitation, and employee-assistance programs;
  - 4. 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), and that as a condition of employment on the Contract the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code Section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substances at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by Section 8355(a) and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the Owner determines that I have either (a) made a false certification or (b) violated this certification by failing to carry out the requirements of Section 8355, the contract awarded is subject to suspension of payments, termination, or both. I further understand that should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of Section 8350 and following sections.

I acknowledge that I am aware of the provisions of Government Code Section 8350 and following sections, and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

Name of Contractor

---

Signature

Print Name Above

Print Title Above

Date:

## **21-CHANGE ORDER NO.**

**PROJECT TITLE/BID #: Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)**  
**OWNER: Greenfield Union School District**

To:

**YOU ARE HEREBY DIRECTED TO PROVIDE THE EXTRA WORK  
NECESSARY TO COMPLY WITH THIS CHANGE ORDER.**

DESCRIPTION OF CHANGE:

AGREED COST (This cost shall not be exceeded):     \$

ADJUSTMENTS TO CONTRACT PRICE:

Original Contract Price:                     \$

Prior Change Order Totals:                 \$

This Change Order Amount:                 \$

New Contract Price:                             \$

ADJUSTMENTS TO TIME FOR COMPLETION:

Original completion date:

Prior adjustments previously agreed:

Time for completion of this Change Order:

New completion date:

THE COMPENSATION (TIME AND COST) SET FORTH IN THIS CHANGE ORDER COMPRISES THE TOTAL COMPENSATION DUE THE CONTRACTOR FOR THE CHANGE DEFINED IN THE CHANGE ORDER, INCLUDING IMPACT ON UNCHANGED WORK. ACCEPTANCE OF THIS CHANGE ORDER CONSTITUTES A FULL AND COMPLETE ACCORD AND SATISFACTION OF ANY AND ALL CLAIMS BY CONTRACTOR ARISING OUT OF OR RELATING TO THE CHANGE ORDER, INCLUDING BUT NOT LIMITED TO CLAIMS FOR CONTRACT BALANCE AND RETENTION, TIME, EXTENDED FIELD OR HOME OFFICE, OR OTHER OVERHEAD, ALL ACCELERATION, IMPACT, DISRUPTION, AND DELAY DAMAGES, ANY AND ALL OTHER DIRECT AND/OR INDIRECT COSTS, CLAIMS BY SUBCONTRACTORS AND SUPPLIERS, AND ANY AND ALL OTHER CLAIMS AGAINST THE OWNER FOR TIME OR MONEY, FROM ANY SOURCE AND UNDER ANY LEGAL THEORY WHATSOEVER, AS TO THE SUBJECT OF THIS CHANGE ORDER. NO SIGNATURE UNDER PROTEST OR ACCOMPANIED BY RESERVATION OF RIGHTS OR PROTEST LANGUAGE, OR ANY OTHER ATTEMPTS TO AVOID SUCH WAIVER SHALL BE OF ANY FORCE OR EFFECT WHATSOEVER. NO ADDITIONS OR DELETIONS TO THIS CHANGE ORDER SHALL BE ALLOWED, EXCEPT WITH WRITTEN PERMISSION OF OWNER.

This Change Order is hereby agreed to, accepted, and approved.

On behalf of Owner:

On behalf of Contractor:

Print Title Above

Print Title Above

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

APPROVED AS TO FORM AND CONTENT:

On behalf of Architect:

Print Title Above

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## 22-CERTIFICATE OF ATTENDANCE AT MANDATORY JOB WALK

*On projects including a mandatory job walk, this form must be submitted  
with the bid or bidder will be declared "non-responsive"*

**PROJECT TITLE/ BID #: Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)**  
**OWNER: Greenfield Union School District**

It is the Owner's intention to provide all contractors with equal access to information regarding this project. Further, the Owner has issued plans and specifications to bidders and has allowed bidders the opportunity to inspect the site with knowledgeable personnel at the job walk. Therefore it is understood that the Owner may declare the bid non-responsive for any of the following conditions:

1. If a bidder attends the entire mandatory job walk but fails to complete this form;
2. If a bidder fails to attend the entire mandatory job walk;
3. If a bidder fails to attend the entire mandatory job walk but certifies that he was in attendance. *[NOTE: This may also lead to a determination that the bidder is non-responsive.]*

Please check one of the following:

- ☐ I attended the entire mandatory job walk  
**-OR-**  
☐ I did not attend the entire mandatory job walk.

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

Executed at \_\_\_\_\_, California, on \_\_\_\_\_, 20\_\_\_\_.

Firm Name:

By:  
Print Name Above

Signed \_\_\_\_\_

Print Title:

## 23-CONTRACTOR'S QUALIFICATIONS QUESTIONNAIRE

### TO BE SUBMITTED WITH THE BID WHEN THERE HAS BEEN NO PREQUALIFICATION PROCESS

**PROJECT TITLE/BID #:** Planz Elem - Kindergarten Sitework Ph II (2019-2036.01)  
**OWNER:** Greenfield Union School District

The prospective Bidder shall furnish all the following information accurately and completely. Failure to fully and completely comply with this requirement may result in rejection of any bid submitted. Additional sheets may be attached if necessary. "You" or "your" as used in this questionnaire refers to the Bidder's firm and any of its owners, officers, directors, shareholders, parties, or principals. Owner has discretion to request additional information depending on the project.

#### —WARNING—

Certain information may lead to a determination of non-responsibility and rejection of the bid.

**(1) Firm name and address:**

**(2) Telephone:**

**(3) Type of firm:** (check one) Individual ☐ Partnership ☐ Corp. ☐

**(4) License No.:**

Class:

DIR Registration No.

Name of license holder:

**(5) Have you or any of your principals ever been licensed under a different name or different license number?** Response must include information pertaining to principals' association outside of the firm bidding this Project. If yes, give name and license number: .

**(6) Names and titles of all principals of the firm:**



**(7) Number of years as contractor.** Include only years in this type of construction and only the years with the current entity in its current form:                      Years

**(8) Person who inspected work site for your firm:**

Name:

Title:

Date of Inspection:

**(9) Years of experience your firm has in public school construction work:**

As general contractor:                      Years

As subcontractor:                      Years

**(10) In the last five years has your firm or any of its principals defaulted so as to cause a loss to a surety?** Response must include information pertaining to principals' associations outside of the firm bidding this Project. If the answer is yes, give date, name, and address of surety and details:

**(11) In the last five years have you or any of your principals been assessed liquidated damages for any project?** Response must include information pertaining to principals' associations outside of the firm bidding this Project. If yes, explain:

**(12) In the last five years have you or any of your principals been in litigation or arbitration or a dispute of any kind on a question or questions relating to a public construction project?** Response must include information pertaining to principals' association outside of the firm bidding this Project. If yes, provide name of public agency and details of the dispute. Attach additional pages as necessary.

**(13) In the last five years have you or any of your principals ever failed to complete a project?** Response must include information pertaining to principals' association outside of the firm bidding this Project. If yes, provide owner's name and details. Attach additional pages as necessary.

**(14) In the last five years have you or any of your principals been assessed back-charges on any public works construction project?** If so, explain, including

the identity of the public entity, the basis for their claims, and the final result. Attach additional pages as necessary.

**(15) In the last five years have you or any of your principals ever failed to complete a project within the time frame originally set for completion, plus any extension of time granted for weather delays?** An extension of time for any reason other than weather delays requires an explanation. Response must include information pertaining to principals' association outside of the firm bidding this Project. If yes, provide owner's name and details. Attach additional pages as necessary.

**(16) List names, addresses, and telephone numbers of three architects or engineers with whom you have worked on a public works project in the last five years:**

Project One:

Project Two:

Project Three:

**(17) Conflicts of Interest:** Do you now or have you in the last five years had any direct or indirect business, financial, or other connection with any official, employee, or consultant of the OWNER or architect? If yes, describe. Attach additional pages as necessary.

**(18) In the last five years have you or any of your principals filed a claim for additional compensation from a public entity on a construction project?** If yes, explain and include the identity of the public entity, the basis for the claim, the response by the public entity, and the final result. Attach additional pages as necessary.

**(19) In the last five years have you or any of your principals ever failed to pre-qualify, or been deemed unqualified, on any public works construction project?** If yes, explain and include the identity of the public entity, the basis for their claims, and the final result. Attach additional pages as necessary.

**(20) In the last five years have you or any of your principals ever been declared a “non-responsible” bidder on any public works construction project?** If yes, explain and include the identity of the public entity, the basis for their claims, and the final result. Attach additional pages as necessary.

**(21) Staff/Roster Functions:** List all members of your staff who will be assigned or responsible for work as a team member on this Project (except clerical) and show job titles, functions, years with firm, and projects completed for company. Include company officers, responsible managing employee (RME), project manager, and superintendent. Provide the following information for each individual (copy this page as many times as required).

**Name and Title:**

**Function:**

**Years with firm:**

**Has the individual had prior exposure as a team member on one of your projects?**

Yes ☐ No ☐

**List of all school projects this person has completed for you:**

**Provide an organizational chart reflecting your proposed project team for the Project, including all persons on your project team.**

**(22) Surety:** Indicate the names of all surety companies utilized by you in the last 10 years. Attach additional pages as necessary.

Surety Name & Address

Period Covered

Surety Name & Address

Period Covered

Surety Name & Address

Period Covered

Surety Name & Address

Period Covered

**(23)** Attach a notarized statement from surety company(ies) proposed to be utilized on this Project, indicating your total bonding capacity and certifying that:

A. Currently available bonding capacity exceeds the value of your contract, as estimated by the OWNER, and;

B. Surety(ies) will provide bonding of the project in the event you are awarded Project.

**(24) Insurance:** Provide a notarized statement from your workers' compensation carrier specifying your current "Experience Modification Rate" for workers' compensation for the State of California. Provide a list of above-referenced ratings and corresponding companies for the last five years.

**(25) Safety:**

A. Does your firm have a written Safety Program:

Yes ☐ No ☐ (If yes, attach copy.)

B. Does your firm have personnel permanently assigned to safety?

Yes ☐ No ☐ (If yes, provide names and duties.)

**(26) Give the public entity's name, telephone number, and the name of the contact person for the three largest public works projects performed for a public entity, other than a school/college/university, that you have completed in the last five years:** Attach additional sheets as necessary.

**(27) List of References:** Provide information on the three largest projects performed for a public school, college, or university in the last five years.

**Contract 1:**

Name:

Address:

Telephone:

Contact Person:

Type of construction project:

Dates of commencement and completion of construction project:

Contract amount:

Architect:

Architect's address:

Telephone:

DSA or public agency inspector:

Address:

Telephone:

**Contract 2:**

Name:

Address:

Telephone:

Contact Person:

Type of construction project:

Dates of commencement and completion of construction project:

Contract amount:

Architect:

Architect's address:

Telephone:

DSA or public agency inspector:

Address:

Telephone:

**Contract 3:**

Name:

Address:

Telephone:

Contact Person:

Type of construction project:

Dates of commencement and completion of construction project:

Contract amount:

Architect:

Architect's address:

Telephone:

DSA or public agency inspector:

Address:

Telephone:

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

Executed this            day of            , 20            , at            (City, County), State of  
.

\_\_\_\_\_  
Signature

Print Name Above

Print Title Above

**27 - IRAN CONTRACTING ACT CERTIFICATION**  
**(Public Contract Code Section 2200 et seq.)**

District Project Name: Planz Elementary - Kindergarten Sitework Ph II  
District Project Number: 2019-2036.01  
District Contract Number:  
Contractor Name:

Subject to the penalties for perjury in the state of California, I (the person identified below and who has signed this certification) hereby certify that: (i) I have inherent authority or have been duly authorized by the Contractor to execute this certification on behalf of the Contractor; and (ii) the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code Section 2200 et seq.) is true and correct:

☐ The Contractor is not:

(i) Identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203; or

(ii) A financial institution that extends for 45 days or more credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code Section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

☐ The District has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the District will be unable to obtain the goods and/or services to be provided pursuant to the Contract

☐ The price payable to the Contractor for the Project as of the date of this certification does not exceed \$1,000,000.

Certifier Signature: \_\_\_\_\_

Printed Name:

Title:

Executed at: \_\_\_\_\_, California

Date Executed:

**Note:** In accordance with Public Contract Code Section 2205, false certification of this form may result in civil penalties equal to the greater of \$250,000 or twice the contract amount, termination of the contract, and/or ineligibility to bid on contracts with a public entity for three years.



## **SUMMARY OF WORK SECTION 01 11 00**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Work by Owner;
  - 3. Owner Furnished Products;
  - 4. Future Work;
  - 5. Owner Occupancy;
  - 6. Base Bid Scope of Work.

#### **1.02 WORK BY OWNER**

- A. Items noted "NIC" (Not in Contract) including, but not limited, to moveable cabinets, furnishings, minor equipment, etc. will be furnished and installed by Owner.

#### **1.03 OWNER FURNISHED PRODUCTS**

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

#### **1.04 FUTURE WORK**

- A. Refer to Architectural Site Plan Sheet for areas designated for completion in the future.
  - 1. Contract work installed for future facilities shall be tagged and a description provided to the Owner of locations for future connection.

**SUMMARY OF WORK  
SECTION 01 11 00**

**1.05 OWNER OCCUPANCY**

A. Partial Occupancy:

1. Owner reserves the right to occupy, place and install equipment as necessary in substantially completed buildings. Cooperate with Owner to minimize conflict and facilitate Owner's operations.

B. Acceptance of Work:

1. Partial occupancy does not constitute acceptance of work. Refer to General Conditions, Article 53 "Contract Closeout" and Article 54 "Completion".

**1.06 BASE BID SCOPE OF WORK**

A. The "Project", of which the "Work" of this contract is a part, is titled "Name of Project".

B. The "Work" of this contract is defined by the Contract Documents and is defined to include all site improvements, utilities, building amenities for a new modular kindergarten building.

1. This section describes the scope of work of the BASE BID for this project.
  - a. The Work shall include but not be limited to:
    - 1) Selective site demolition (concrete, etc.)
    - 2) Selective building demolition (structure, foundations, ramps, utilities, etc.)
    - 3) Earthwork/grading
    - 4) Site concrete (walks, slab and wall foundations)
    - 5) Concrete block walls and reinforcing
    - 6) Landscaping (seeding, irrigation and benches)
2. Contractor shall commence with the on-site activities on June 1, 2021.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION (NOT USED)**

**END OF SECTION 01 11 00**

**ADMINISTRATIVE REQUIREMENTS  
SECTION 01 30 00**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. General administrative requirements;
  - 3. Electronic document submittal service;
  - 4. Preconstruction meeting;
  - 5. Site mobilization meeting;
  - 6. Progress meetings.
  - 7. Construction progress schedule.
  - 8. Contractor's daily reports.
  - 9. Coordination drawings.
  - 10. Submittals for review, information, and project closeout.
  - 11. Number of copies of submittals.
  - 12. Requests for Interpretation (RFI) procedures.
  - 13. Submittal procedures.
- B. Related Sections:
  - 1. Section 01 60 00:       Product Requirements
    - a. General product requirements.
  - 2. Section 01 70 00:       Execution and Closeout Requirements
    - a. Additional coordination requirements.

**1.02 GENERAL ADMINISTRATIVE REQUIREMENTS**

- A. Conform to requirements of Section 01 70 0 "Execution and Closeout Requirements" for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Architect:
  - 1. Requests for Interpretation (RFI).
  - 2. Requests for substitution.
  - 3. Shop drawings, product data, and samples.
  - 4. Test and inspection reports.
  - 5. Design data.
  - 6. Manufacturer's instructions and field reports.
  - 7. Applications for payment and change order requests.
  - 8. Progress schedules.
  - 9. Coordination drawings.
  - 10. Correction Punch List and Final Correction Punch List for Notice of Completion.
  - 11. Closeout submittals.

## **PART 2 PRODUCTS - NOT USED**

## **PART 3 EXECUTION**

### **2.01 ELECTRONIC DOCUMENT SUBMITTAL PROCESS**

- A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an email system.
  - 1. Besides submittals for review, interpretation and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
  - 2. Contractor and Architect are required to use this process.
  - 3. It is Contractor's responsibility to submit documents in allowable format.
  - 4. Subcontractors, suppliers, and Architect's consultants are to be permitted to use the service at no extra charge.
  - 5. Users of the process need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, [www.adobe.com](http://www.adobe.com), or Bluebeam PDF Revu, [www.bluebeam.com](http://www.bluebeam.com)), unless such software capability is provided by the service provider.
  - 6. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.
- B. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

### **2.02 PRECONSTRUCTION MEETING**

- A. Attendance Required:
  - 1. Owner
  - 2. Architect
  - 3. Contractor
- B. 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 to Contract, Contractor and Architect.

6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
  7. Scheduling.
- C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

### **2.03 SITE MOBILIZATION MEETING**

- A. Architect will schedule meeting at the Project site prior to Contractor occupancy.
- B. Attendance Required:
1. Owner.
  2. Contractor.
  3. Architect.
  4. Contractor's superintendent.
  5. Major subcontractors.
- C. Agenda:
1. Use of premises by Owner and Contractor.
  2. Owner's requirements and occupancy prior to completion.
  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. Application for payment procedures.
  9. Procedures for testing.
  10. Procedures for maintaining record documents.
  11. Requirements for start-up of equipment.
  12. Inspection and acceptance of equipment put into service during construction period.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

### **2.04 PROGRESS MEETINGS**

- A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants and preside at meetings.

C. Attendance Required:

1. Contractor's project manager.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

D. Agenda:

1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Maintenance of progress schedule.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Maintenance of quality and work standards.
10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

## **2.05 CONSTRUCTION PROGRESS SCHEDULE**

- A. If preliminary schedule requires revision after review, submit revised schedule within ten (10) days.
- B. Within ten (10) days after review of preliminary schedule, submit draft of proposed complete schedule for review.
  1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- C. Within 10 days after joint review, submit complete schedule.
- D. Submit updated schedule with each Application for Payment.

## **2.06 DAILY CONSTRUCTION REPORTS**

- A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.
- B. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
  1. Date.
  2. High and low temperatures and general weather conditions.
  3. List of subcontractors at Project site.

4. List of separate contractors at Project site.
5. Material deliveries.
6. Safety, environmental or industrial relations incidents.
7. Meetings and significant decisions.
8. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
9. Testing and/or inspections performed.
10. List of verbal instruction given by Owner and/or Architect.
11. Signature of Contractor's authorized representative.

## **2.07 COORDINATION DRAWINGS**

- A. Provide information required by Project Coordinator for preparation of coordination drawings.
- B. Update record drawings on a monthly basis as required as a release for progress payments.
- C. Review drawings prior to submission to Architect.

## **2.08 REQUESTS FOR INTERPRETATION (RFI)**

- A. Definition: A request seeking one of the following:
  1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in the Contract Documents.
  2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of the Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
  1. Prepare a separate RFI for each specific item.
    - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
    - b. Do not forward requests which solely require internal coordination between subcontractors.
  2. Prepare in a format and with content acceptable to Owner.
  3. Prepare using an electronic version of the form appended to this section.
  4. Combine RFI and its attachments into a single electronic file. PDF format is preferred.

- C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from the Contract Documents information requiring interpretation.
  2. Unacceptable Uses for RFIs: Do not use RFIs to request the following:
    - a. Approval of submittals (use procedures specified elsewhere in this section).
    - b. Approval of substitutions (see Section 01 60 00 "Product Requirements")
  3. Improper RFIs: Requests not prepared in conformance to requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
  4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, the Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
- D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
  2. Owner's, Architect's, and Contractor's names.
  3. Discrete and consecutive RFI number and descriptive subject/title.
  4. Issue date and requested reply date.
  5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
  6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
  7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.
- E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
  2. Note dates of when each request is made, and when a response is received.
  3. Highlight items requiring priority or expedited response.
  4. Highlight items for which a timely response has not been received to date.
  5. Identify and include improper or frivolous RFIs.



- G. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 3:00 PM will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
  2. Architect will review RFI and return a response to the Contractor within a maximum of seven (days) unless specifically requested at the time of request.
- H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
1. Response may include a request for additional interpretation, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
  2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
  3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
  4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

## **2.09 SUBMITTAL SCHEDULE**

- A. Submit to Architect for review a schedule for submittals in tabular format.
1. Submit at the same time as the preliminary schedule.
  2. Coordinate with Contractor's construction schedule and schedule of values.
  3. Format schedule to allow tracking of status of submittals throughout duration of construction.
  4. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
  5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.

## **2.10 SUBMITTALS FOR REVIEW**

- A. When the following are specified in individual sections, submit them for review:
1. Product data.
  2. Shop drawings.
  3. Samples for selection.
  4. Samples for verification.

- B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 70 00 "Execution and Closeout Requirements".

## **2.11 SUBMITTALS FOR INFORMATION**

- A. When the following are specified in individual sections, submit them for information:
  - 1. Design data.
  - 2. Certificates.
  - 3. Test reports.
  - 4. Inspection reports.
  - 5. Manufacturer's instructions.
  - 6. Manufacturer's field reports.
  - 7. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner.

## **2.12 SUBMITTALS FOR PROJECT CLOSEOUT**

- A. Submit Correction Punch List.
- B. Submit Final Correction Punch List for Notice of Completion/Owner occupancy.
- C. When the following items are specified in individual sections, submit them at project closeout in conformance with this section and the General Conditions, Article 53 "Contract Closeout":
  - 1. Project record documents.
  - 2. Operation and maintenance data.
  - 3. Warranties.
  - 4. Bonds.
  - 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

## **2.13 NUMBER OF COPIES OF SUBMITTALS**

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

- B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
  - 1. After review, produce duplicates.
  - 2. Retained samples will not be returned to Contractor unless specifically so stated.

## **2.14 SUBMITTAL PROCEDURES**

- A. General Requirements:
  - 1. Use a separate transmittal for each item.
  - 2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
  - 3. Transmit using approved form.
    - a. Use form included at the end of this Section.
  - 4. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
  - 5. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
  - 6. Apply Contractor's stamp, signed or initialed certifying that review, approval, 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.
    - a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
  - 7. Deliver each submittal on date noted in submittal schedule unless an earlier date has been agreed to by all affected parties and is of the benefit to the project.
    - a. Upload submittals in electronic form to Electronic Document Submittal process.
  - 8. Schedule submittals to expedite the Project, and coordinate submission of related items.
    - a. For each submittal for review, allow 21 calendar days excluding delivery time to and from the Contractor.
    - b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 days.
  - 9. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
  - 10. Provide space for Contractor and Architect review stamps.
  - 11. When revised for resubmission, identify all changes made since previous submission.
  - 12. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
  - 13. Incomplete submittals will not be reviewed unless they are partial submittals for distinct portion(s) of the work and have received prior approval for their use.
  - 14. Submittals not requested will be recognized and will be returned "Not Reviewed".

- B. Product Data Procedures:
  - 1. Submit only information required by individual specification sections.
  - 2. Collect required information into a single submittal.
  - 3. Submit concurrently with related shop drawing submittal.
  - 4. Do not submit (Material) Safety Data Sheets for materials or products.
- C. Shop Drawing Procedures:
  - 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related work.
  - 2. Do not reproduce the Contract Documents to create shop drawings.
  - 3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
- D. Samples Procedures:
  - 1. Transmit related items together as single package.
  - 2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

### **3.15 SUBMITTAL REVIEW**

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
- D. Architect's and his consultants' actions on items submitted for review:
  - 1. Authorizing purchasing, fabrication, delivery, and installation:
    - a. "Reviewed" or language with same legal meaning.
    - b. "Reviewed and Corrected" resubmission not required, or language with same legal meaning.
      - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
  - 2. Not-Authorizing fabrication, delivery, and installation.
    - a. "Revise and Resubmit", or language with same legal meaning.
    - b. "Not Acceptable" or language with same legal meaning.
- E. Architect's and his consultants' actions on items submitted for information:
  - 1. Items for which no action was taken:
    - a. "Received" - to notify the Contractor that the submittal has been received for record only.
  - 2. Items for which action was taken:
    - a. "Reviewed" - no further action is required from Contractor.

**END OF SECTION 01 30 00**

**QUALITY REQUIREMENTS  
SECTION 01 40 00**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Inclusions:
  - 1. Submittals.
  - 2. Quality assurance.
  - 3. References and standards.
  - 4. Testing and inspection agencies and services.
  - 5. Control of installation.
  - 6. Tolerances
  - 7. Defect Assessment.
- B. Related Sections:
  - 1. Section 01 30 00: Administrative Requirements
    - a. Submittal procedures.
  - 2. Section 01 42 16: Definitions.
  - 3. Section 01 42 19: Reference Standards.
  - 4. Section 01 60 00: Product Requirements
    - a. Requirements for material and product quality.

**1.02 REFERENCE STANDARDS**

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).
- B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2016.
- C. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.
- D. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.
- E. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2015.
- F. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2010.

### 1.03 SUBMITTALS

- A. See Section 01 30 00 "Administrative Requirements" for submittal procedures.
- B. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.
- C. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
  - 1. Include:
    - a. Date issued.
    - b. Project title and number.
    - c. Name of inspector.
    - d. Date and time of sampling or inspection.
    - e. Identification of product and specifications section.
    - f. Location in the Project.
    - g. Type of test/inspection.
    - h. Date of test/inspection.
    - i. Results of test/inspection.
    - j. Conformance with Contract Documents.
    - k. When requested by Architect, provide interpretation of results.
- D. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
  - 1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
  - 2. Certificates may be recent or previous test results on material or product but must be acceptable to Architect.
- E. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- F. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
  - 1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
  - 2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

## **1.04 REFERENCES AND STANDARDS**

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until the Notice of Completion.
- E. Should specified reference standards conflict with Contract Documents, the Contractor shall request clarification from Architect before proceeding.
- F. Neither the contractual relationships, duties nor responsibilities of the parties in the Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

## **1.05 TESTING AND INSPECTION AGENCIES AND SERVICES**

- A. Owner will employ and pay for services of an independent testing agency to perform other specified testing.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

## **PART 2 PRODUCTS – NOT APPLICABLE**

## **PART 3 EXECUTION**

### **3.01 CONTROL OF INSTALLATION**

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step-in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, the Contractor shall request clarification from Architect before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- E. Work shall be performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

### **3.02 TOLERANCES**

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, the Contractor shall request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

### **3.03 TESTING AND INSPECTION**

- A. Testing Agency Duties:
  - 1. Test samples of mixes submitted by Contractor.
  - 2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
  - 3. Perform specified sampling and testing of products in accordance with specified standards.
  - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 5. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.
  - 6. Perform additional tests and inspections required by Architect.
  - 7. Attend preconstruction meetings and progress meetings.
  - 8. Submit reports of all tests/inspections specified.
- B. Limits on Testing/Inspection Agency Authority:
  - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  - 2. Agency may not approve or accept any portion of the Work.
  - 3. Agency may not assume any duties of Contractor.
  - 4. Agency has no authority to stop the Work.



C. Contractor Responsibilities:

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

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

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

### **3.04 DEFECT ASSESSMENT**

A. Replace Work or portions of the Work not conforming to specified requirements.

**END OF SECTION 01 40 00**

**REGULATORY REQUIREMENTS  
SECTION 01 41 00**

**PART 1 GENERAL**

**1.01 LAWS AND REGULATIONS**

- A. The project shall be constructed under the jurisdiction of all laws of the State of California governing the construction of public buildings including:
  - 1. California Code of Regulations, Title 8.
  - 2. California Code of Regulations, Title 19, Public Safety, State Fire Marshal Regulations.
  - 3. California Code of Regulations, Title 24:
    - a. 2019 California Building Standards Administrative Code (Part 1);
    - b. 2019 California Building Code Volumes 1 and 2 (Part 2);
    - c. 2019 California Fire Code (Part 9);
    - d. 2019 California Green Building Standards Code (Part 11);
    - e. 2019 California Referenced Standards Code, Title 24 C.C.R. (Part 12)
  - 4. Occupational Health and Safety Act.
  - 5. Interpretive Manuals, Code Rules, and Safety Orders of:
    - a. Division of Industrial Safety.
    - b. Department of Industrial Relations.
    - c. Other Agencies.
  - 6. San Joaquin Valley Air Quality Management District
- B. Nothing in the plans or specifications is to be construed to permit work not in conformance with any applicable code or regulation.
- C. Other Regulatory Requirements and General Conditions:
  - 1. T-24, Parts 1-5 must be kept on site during construction.
  - 2. If any conflicts or inconsistencies exist between the specifications and the drawings (including the General Notes), the drawings and General Notes shall take precedence.
  - 3. The Project Inspector (2019 CBC Part 1, Section 4-333(b)) and testing lab (2016 CBC Part 1, Section 4-335.1) must be employed by the owner and approved by the following:
    - a. Architect/Engineer of Record

**PART 2 PRODUCTS      NOT USED**

**PART 3 EXECUTION      NOT USED**

**END OF SECTION 01 41 00**

**DEFINITIONS**  
**SECTION 01 42 16**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Inclusions:
1. This section supplements the definitions contained in the General Conditions.
  2. Other definitions are included in individual specification sections.

**1.02 DEFINITIONS**

- A. Furnish: To supply, deliver, unload, and inspect for damage.
- B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.
- C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never used, or re-used materials or equipment.
- D. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.
- E. Provide: To furnish and install.
- F. Supply: Same as Furnish.

**PART 2 PRODUCTS NOT USED**

**PART 3 EXECUTION NOT USED**

**END OF SECTION 01 42 16**

## **REFERENCE STANDARDS SECTION 01 42 19**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Requirements relating to referenced standards.
  - 2. Reference standards full title and edition date.

#### **1.02 QUALITY ASSURANCE**

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue specified in this section, except where a specific date is established by applicable code.
- C. Obtain copies of standards when required by the Contract Documents.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Date of Notice of Completion.
- E. Should specified reference standards conflict with Contract Documents, the Contractor shall request clarification from the Architect before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

#### **1.03 CONSTRUCTION INDUSTRY ORGANIZATION DOCUMENTS**

- A. ACI -- AMERICAN CONCRETE INSTITUTE INTERNATIONAL
  - 1. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).
  - 2. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).
  - 3. ACI 301 - Specifications for Structural Concrete; 2016.
  - 4. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).
  - 5. ACI 305R - Guide to Hot Weather Concreting; 2010.
  - 6. ACI 306R - Cold Weather Concreting; 2010.
  - 7. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).
  - 8. ACI 347R - Guide to Formwork for Concrete; 2014.

## B. ASTM INTERNATIONAL

1. ASTM A449 - Standard Specification for Hex Cap Screws, Bolts and Studs, Steel, Heat Treated, 120/105/90 ksi Minimum Tensile Strength, General Use; 2014.
2. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2013.
3. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2016.
4. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
5. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement; 2014.
6. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2017.
7. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2016.
8. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2016b.
9. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2016a.
10. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2015a.
11. ASTM C150/C150M - Standard Specification for Portland Cement; 2016.
12. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2016.
13. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).
14. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.
15. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2014.
16. ASTM C834 - Standard Specification for Latex Sealants; 2014.
17. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014a.
18. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2013.
19. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2016.
20. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 2014a.
21. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.
22. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2008 (Reapproved 2012).
23. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types); 2004 (Reapproved 2013).
24. ASTM D2103 - Standard Specification for Polyethylene Film and Sheeting; 2015.

- 25. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi (830 MPa) and 150 ksi (1040 MPa) Minimum Tensile Strength, Inch and Metric Dimensions; 2015a.
- 26. ASTM G155 - Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials; 2013.

C. FM -- FACTORY MUTUAL GLOBAL

- 1. FM (AG) - FM Approval Guide; current edition.

D. SMACNA -- SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC.

- 1. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

E. SWRI -- SEALANT, WATERPROOFING AND RESTORATION INSTITUTE

- 1. SWRI (VAL) - SWR Institute Validated Products Directory; Current Listings at [www.swrionline.org](http://www.swrionline.org).

F. UL -- UNDERWRITERS LABORATORIES INC.

- 1. UL (DIR) - Online Certifications Directory; current listings at [database.ul.com](http://database.ul.com).
- 2. UL (FRD) - Fire Resistance Directory; current edition.

#### **1.04 UNITED STATES GOVERNMENT AND RELATED AGENCIES DOCUMENTS**

A. UNITED STATES CODE

- 1. Title 7, United States Code, 136 through 136y - Federal Insecticide, Fungicide and Rodenticide Act; 1947 (Revised 2001).

B. CFR -- CODE OF FEDERAL REGULATIONS

- 1. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- 2. CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- 3. CFR 37 - Transportation Services for Individuals with Disabilities (ADA); current edition.

C. ATBCB -- US ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD (THE ACCESS BOARD)

- 1. ATBCB PROWAG - Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way; 2011.

#### **PART 2 PRODUCTS – NOT USED**

#### **PART 3 EXECUTION – NOT USED**

**END OF SECTION 01 42 19**

## **TEST AND INSPECTIONS**

### **SECTION 01 45 23**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

**A. Inclusions:**

1. Provisions set forth in Divisions 0 and 1;
2. Tests and inspections of materials;
  - a. Earthwork:
    - 1) Inspection of sub-grade improvement operations, compacted fill, and field density tests.
  - b. Concrete Work:
    - 1) Testing and certification of concrete ingredients, compression cylinders, reinforcing steel, and placement inspections.

##### **1.02 QUALITY ASSURANCE**

**A. Owner's Inspector:**

1. An inspector employed by the Owner in accordance with the requirements of State of California Code of Regulations, Title 24, will be assigned to the work.
  - a. Duties are specifically defined in Title 24, Part I, Section 4-342.
  - b. The work of construction in all stages of progress shall be subject to the personal continuous observation of the inspector.
  - c. They shall have free access to any or all parts of the work at any time.
  - d. The Contractor shall furnish the inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials.
  - e. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this Contract.

##### **1.03 SPECIAL PROVISIONS**

A. Laboratory shall be approved by Owner and Architect.

B. Laboratory shall be in the employ of the Owner.

**C. Duties of Testing Laboratory:**

1. Inspect stock, mark identified stock, select and mark test specimens, perform required tests, inspections as specified, furnish required reports and certificates.

D. Reports:

1. Reports are to be executed immediately upon conclusion of each procedure and forwarded to:
  - a. Architect;
  - b. Contractor;
  - c. Owner;
  - d. Project Inspector;
2. Verification of Test Reports:
  - a. Each testing agency shall submit to the Architect a verified report in duplicate covering all of the tests which are required to be made by that agency during the progress of the project.
  - b. Such report shall be furnished each time that work on the project is suspended, covering the tests up to that time, and at the completion of the project, covering all tests.
3. Payment:
  - a. The Owner shall pay for all tests, except costs of concrete mix design.
  - b. When in the opinion of the Architect or the Division of the State Architect, additional tests are required, then such tests and inspection shall be paid for by the Owner, but the amount paid shall be deducted from the Contract Price.
  - c. Examples of such additional tests are:
    - 1) Tests of material substituted for previously accepted materials, unidentified materials, re-tests made necessary by the failure of materials to comply with the requirements of the specifications, and load tests necessary because certain portions of the structure have not fully met specification or plan requirements.
4. Selection of Samples:
  - a. All samples and specimens for testing shall be selected by the inspector or by the testing laboratory, but not by the Contractor.
  - b. The Contractor shall, at his own expense, furnish, package, mark, and deliver all samples to be tested, when so directed by the inspector, testing laboratory, or as required by the specifications.
  - c. Delivery of samples to the testing laboratory shall be made in ample time to allow tests to be made without delaying construction.
  - d. No extra time will be allowed for the completion of the work by reason of delay in testing samples.
  - e. The Contractor shall allow free access at all times to the representatives of the testing laboratory to the sources from which samples are taken.
5. Preparation of Specimens:
  - a. Taken by, and at expense of fabricator, under direction of testing laboratory and machined or prepared to conform to appropriate ASTM specification.
  - b. Cost of machining specimens is considered part of the testing.



6. Architect reserve the right to demand for test and special examination of any materials, or part thereof, to insure compliance with specifications, and may reject for satisfactory replacement, any material, or part judged defective, as a result thereof.
  - a. This also applies to materials or sources of same substituted for those previously approved.
  - b. Such tests or examinations, even though not specified, shall be performed as and when required.
  - c. Costs paid for by Owner, but the amount paid shall be deducted from the Contract;
7. Owner's Right to Waive Tests and Inspections:
  - a. The Owner reserves the right to waive any part, or all of the tests and inspections, subject to the approval of the Architect.

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

## **PART 3 EXECUTION**

### **3.01 SEQUENCING AND SCHEDULING**

- A. Coordinate work with that of other trades in time to avoid delays to the overall work progress.
- B. Laboratory shall cooperate with all trades whose work affects or is affected by the tests and inspections.
- C. Contractor to cooperate with and provide testing laboratory opportunity and assistance in taking samples, making field tests, and making inspections.

### **3.02 TESTS AND INSPECTIONS**

- A. All special inspections shall conform to the requirements of 2016 CBC, Part 2, Chapter 17A "Special Inspections and Tests".

### **3.03 EARTHWORK (Refer to Section 31 22 00)**

- A. Excavations and Foundations:
  1. Chapter 17A:
    - a. Inspections:
      - 1) Earth fill compactions: 1705A.6 and Table 1705A.6
  2. Testing Agency:
    - a. Any required foundation consultation, examination, or testing shall be done by an approved Foundation Engineer.
    - b. Costs paid by Owner.

- B. Consultation or Procedures for this part of the work shall be only as requested by the Architect at the time work on the site is commenced and may consist of the following:
1. Examination of building sub-grade resulting from the cutting operation, including field density tests if considered necessary.
  2. Verify completed foundation excavations.
  3. Periodic inspection of any required filling and backfilling, including field density tests if considered necessary.
  4. Imported or Native Fill Material: Approved material, perform suitability tests for compaction, qualities, and optimum moisture if required.
  5. Provide Continuous Inspection Supervision during removal and re-compaction of existing soil and placement of fill.
  6. Inspect and approve completed footing excavations.
  7. Field Density Tests shall be made on samples from material in place as required to verify proper compaction densities of fills and backfills.
- C. Densities and Method:
1. Densities specified relate to ASTM Designation D1557 Procedure A.

### **3.04 CONCRETE WORK (Refer to Section 03 31 00)**

- A. Inspections:
1. Job Site Inspection: 1705A.3.3
  2. Batch Plant or Weighmaster Inspection: 1705A.3.3.
  3. Reinforcing Bar Welding Inspection: 1705A.3.1 and 1705A.2.5.
  4. Notification:
    - a. The Contractor shall notify the following people, giving advance notice prior to commencing the designated work:
      - 1) Person Notified: Architect and Construction Manager
        - a) Advance Notice: Two Business Days
        - b) Prior to Commencing: Form Work
        - c) For Inspection: Excavation
      - 2) Person Notified: Architect, Construction Manager, and Inspector
        - a) Advance Notice: Two Business Days
        - b) Prior to Commencing: Pouring Concrete
        - c) For Inspection: Forms and Steel
      - 3) Person Notified: Governing Agency
        - a) Advance Notice: Three Business Days
        - b) Prior to Commencing: Pouring Concrete
        - c) For Inspection: Forms and Steel

5. Bonded Weighmaster Certificates
  - a. Non-structural concrete such as floor slabs on grade, walks, curb & gutter, etc., shall not require continuous batch plant inspection, but instead, a bonded weighmaster shall furnish notarized affidavits certifying that quantities and quality of all materials used in the concrete instead, a bonded weighmaster shall furnish notarized affidavits certifying that quantities and quality of all materials used in the concrete are in accordance with these specifications and the approved mix design.
6. Batch Plant Inspections: When transit mixed concrete is used, continuous inspection shall be maintained at the plant by a qualified concrete technician who shall issue tickets certifying that quantities and quality of all materials used in the concrete are in accordance with these specifications and the approved design mix.
  - a. The Owner will pay the costs of this inspection.
  - b. This inspection will not be required for non-structural concrete as indicated in C.B.C. Section 1705A.3 (exception).
7. No concrete shall be poured except in the presence of the Owner's Inspector and only after the forms and reinforcing steel have been approved by the Architect or his representative.

B. Tests:

1. All concrete materials to be tested and reported prior to any use of same.
2. Cementitious materials shall conform to the requirements of ACI 318, CBC Section 1903A, and ASTM C150.
  - a. One sample shall be taken for each 100 tons of cement, except that when used in bulk loading ready mix plants where separate bins for pre-tested cement are not available, grab samples shall be taken for each shipment of cement placed in the bin with not less than one sample being taken for each day's pour and such samples shall be subsequently tested if required by the Architect, Structural Engineer, or the Division of the State Architect.
3. Aggregate shall be in conformance with ACI 318, as modified by CBC Section 1903A.5.
4. Reinforcing Steel is to be tested prior to use for compliance with CBC Section 1910A.2 and ASTM A615 requirements.
  - a. Samples: To be selected by representative of testing laboratory from material at the building site or place of distribution, to consist of two (2) pieces, each 18 inches (18") long of each size, furnished, cut, and prepared for testing by Contractor, marked and delivered by representative of testing laboratory.
  - b. Tests: One (1) tension and one (1) bend test shall be made of each size of reinforcing steel, including wire fabric. One (1) series of tests shall be made for each ten (10) tons, or fraction thereof, of each size of reinforcing steel if the bundles, as delivered, can be identified as to heat number and the mill analysis accompanies the report. If they cannot be identified as to heat number, then one (1) series of tests shall be made from each two and one-half (2-1/2) tons or fraction thereof.

5. Cylinder Tests shall comply with CBC Section 1905A.1.16.
  - a. Three (3) cylinders of concrete shall be made for each fifty (50) cubic yards of each grade of concrete, or fraction thereof, being placed each day. Each cylinder shall be dated, given a number, the point in the structure from which the sample was taken noted thereon, and the slump noted thereon.
  - b. Test cylinders shall be made at the job and stored in the testing laboratory in accordance with ASTM C31. At the end of twenty-four (24) hours after making, the cylinders shall be stored under moist curing conditions at approximately 70 degrees F. and maintained therein until tested. The cylinders shall be tested in accordance with ASTM C39. The cylinders shall develop the following minimum ultimate compressive strengths:
    - 1) Design Strength: 3000 psi
      - a) 7 Day Test: 1800 psi
      - b) 28 Day Test: 3000 psi
    - 2) Design Strength: 4000 psi
      - a) 7 Day Test: 2300 psi
      - b) 28 Day Test: 4000 psi
  - c. If the strengths of the first two-cylinder tests are satisfactory, the third cylinder shall not be tested, but destroyed. The third cylinder shall be tested if the strengths of the first two cylinders are not satisfactory.
  - d. If the strength of the cylinders does not meet the minimum as mentioned above, core tests of the hardened concrete shall be made as per CBC Section ACI 318, Section 5.5.5.2 and ASTM C42. If the core tests show the concrete strength to be deficient, the concrete shall be deemed defective and removed. The Contractor shall pay all costs of these core tests.
- C. Laboratory Designed Mixes: See Proportioning of Concrete Mixes, Section 03 30 00, "Structural Concrete Work".

### **3.05 CONCRETE UNIT MASONRY (Refer to Section 04 22 00)**

- A. Inspections:
  1. Masonry Inspection: (CBC Section 1705A.4).
    - a. All structural masonry work shall be continuously inspected during laying and grouting by an Inspector specially approved for that purpose by the DSA. The Inspector shall assist the testing agency in making test samples, and perform such tests as are required, and shall check the materials, details of construction, and construction procedures.
      - 1) The special masonry Inspector shall furnish a verified report that, of his own personal knowledge, the work covered by the report has been performed and materials used and installed in every material respect in compliance with the duly approved plans and specifications.

2. Reinforcing Bar Welding Inspection: CBC 1705A.3.1 and 1705A.2.5, AWS D1.4.
  3. Notification: The Contractor shall notify the following people, giving advance notice prior to commencing the designated work:
    - a. Person Notified: Architect, Construction Manager, and Inspector
      - 1) Advance Notice: Two Business Days
      - 2) Prior to Commencing: Grouting Wall (each lift), Laying of Concrete Block
      - 3) For Inspection: Block Work and Steel
    - b. Person Notified: Architect, Construction Manager, Inspector, and DSA
      - 1) Advance Notice: Three Business Days
      - 2) Prior to Commencing: Masonry and Footing
      - 3) For Inspection: Masonry and Footing
  4. Grout Placement:
    - a. No grout shall be placed, except in the presence of the Owner's Inspector (if one is employed on the job) and only after the block work and reinforcing steel have been approved by the Architect or his representative.
  5. All masonry shall be continuously inspected during laying and grouting by an inspector specially approved for that purpose by DSA.
    - a. Special inspection is required during all High-Lift Grouting of concrete block, as required per DSA IR 21-2.13.
- B. Tests:
1. Concrete block shall be tested using the methods and procedures ASTM C140. It shall be tested and approved before any concrete block is laid. Linear shrinkage tests shall conform to ASTM C426.
  2. Mortar and Grout (Comply with CBC Section 2105A.3):
    - a. Test Samples:
      - 1) At the beginning of all masonry work, field sampling shall be done in accordance with the ASTM C1586 and C1019; one (1) set of the mortar and grout shall be taken on three (3) successive working days and at least at one-week intervals thereafter. The samples shall be continuously stored in moist air until tested, for each test given in Table 1 below. All samples shall meet the minimum strengths given therein.
        - a) Additional samples shall be taken whenever any change in materials or job conditions occur, or change in materials or job conditions occur, or whenever in the judgment of the Architect, the Owner's Inspector, or DSA, such tests are necessary to determine the quality of the material.
      - 2) Mortar test specimens shall be taken from the unit soon after spreading. After molding, the molds shall be carefully protected by a covering which shall be kept damp for at least twenty-four (24) hours, after which the specimens shall be stored and tested as required for concrete cylinders.

- 3) In making grout test specimens, the masonry unit molds shall be broken away after the grout has taken its set, but before it has hardened. If an absorbent paper liner is used, the mold may be left in place until the specimen has hardened. The prisms shall be stored as required for concrete cylinders. They shall be tested in the vertical position.
- b. Masonry Core Tests (2016 CBC Section 2105A.4):
  - 1) Not less than two (2) cores having a diameter of six (6) inches shall be taken from each project. Two (2) cores shall be taken from each building for each 5,000 square feet of the greater of the wall area, or the floor area or fraction thereof. The Architect or Structural Engineer in responsible charge of the project or the Inspector shall select the areas for sampling. One half of the number of cores taken shall be tested in shear. The shear wall loadings shall test both joints between the grout core and the outside wythes of the masonry. Core samples shall not be soaked before testing. Materials and workmanship shall be such that for all masonry, when tested in compression, cores shall show an ultimate strength at least equal to 1,500 psi. When tested in shear, the unit shear on the cross section of the core shall be not less than 97 psi.
  - 2) Shear testing apparatus shall be of a design approved by DSA. Visual examination of all cores shall be made to ascertain if the joints are filled.
  - 3) The testing agency shall inspect the coring of the masonry walls and shall prepare a report of coring operations for the testing laboratory files and mail one copy to DSA, plus provide copies to the Contractor, Inspector, Construction Manager, and Architect. Such reports shall include the total number of cores cut, the location, and the condition of all cores cut on each project, regardless of whether or not the core specimens failed during cutting operation. All cores shall be submitted to the laboratory for examination.
  - 4) Note:
    - a) Contractor shall restore walls from which cores are taken with whole face shells or complete units, as approved by Architect.
- c. Cement: Refer to Concrete Work of this Section.
- d. Aggregates: Test samples of the aggregates to be used in the grout and mortar shall be taken and tested in accordance with ASTM C404.
- e. Reinforcing Steel: Refer to 3.04 Concrete Work of this Section.

## **TABLE 1**

### **MINIMUM MORTAR AND GROUT STRENGTHS COMPRESSION TESTS**

1. Specimen: Mortar on 2 inch x 4 inch cylinders
  - a. At 7 Days: 1100 psi
  - b. At 28 Days: 1800 psi
2. Specimen: Grout in typical prism
  - a. At 7 Days: 1200 psi
  - b. At 28 Days: 2000 psi

### **QUICK REFERENCE GUIDE FOR TESTS AND INSPECTIONS (AS APPLICABLE)**

#### **TITLE 24, PART 2 (2016 CBC)      VOLUME 2** **TESTS AND INSPECTIONS REQUIREMENTS**

##### **A. SOILS AND FOUNDATIONS (CHAPTER 18A):**

1. Quality:
  - a. Compaction Control Testing of Earth Fill 3304.1, 1803A
  - b. Soils 1705A.6

##### **B. CONCRETE (CHAPTER 19A):**

1. Materials:
  - a. Portland Cement 1705A.3.2, 1910A.1
  - b. Concrete Aggregates 1903A.5
  - c. Reinforcing Bars 1705A.3.2, 1910A.2
2. Quality:
  - a. Proportions of Concrete ACI 318, 1905A
  - b. Strength Tests of Concrete 1913A.4
3. Inspection:
  - a. Jobsite 1905A
  - b. Batch Plant 1705A.3.3
  - c. Waiver of Batch Plant 1705A.3.3.1
  - d. Reinforcing Bar Placement 1705A.3.5
  - e. Post-Install Anchors in Concrete 1910A.5
  - f. Concrete Preplacement 1705A.3.5

##### **C. MASONRY (CHAPTER 21A)**

1. Materials:
  - a. Concrete Masonry Units 2103.A.1, 1705A.4
  - b. Portland Cement, Lime 2103A
  - c. Mortar and Grout Aggregates 2103A.2.1
  - d. Reinforcing Bars 2103A.13.3

- 2. Quality:
  - a. Portland Cement Tests 1903A.1
  - b. Mortar and Grout Tests 2015A.3
  - c. Masonry Prism Tests 2015A.3
  - d. Masonry Core Tests 2015A.4
  - e. Masonry Unit Tests 2015A.2.2.2.1
  - f. Reinforcing Bar Tests 1910A.2
- 3. Inspection:
  - a. Reinforcing Masonry 1705A.4
- D. Reinforcing Bar Welding 1705A.3.1, AWS D1.4

**E. SAFEGUARDS DURING CONSTRUCTION (CHAPTER 33)**

**END OF SECTION 01 45 23**



## **TEMPORARY FACILITIES AND CONTROLS**

### **SECTION 01 50 00**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Temporary sanitary facilities.
  - 2. Security requirements.
  - 3. Waste removal facilities and services.
  - 4. Project identification sign.

##### **1.02 REFERENCE STANDARDS**

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.
- B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

##### **1.03 TEMPORARY UTILITIES**

- A. Owner will provide the following:
  - 1. Electrical power and metering, consisting of connection to existing facilities.
  - 2. Water supply, consisting of connection to existing facilities.

##### **1.04 TEMPORARY SANITARY FACILITIES**

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Use of existing facilities is not permitted.
- C. Maintain daily in clean and sanitary condition.

##### **1.05 BARRIERS**

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

- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

#### **1.06 FENCING**

- A. Provide 6-foot-high fence around construction site; equip with vehicular and pedestrian gates with locks.

#### **1.07 SECURITY**

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

#### **1.08 VEHICULAR ACCESS AND PARKING**

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

#### **1.09 WASTE REMOVAL**

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

### **1.10 PROJECT IDENTIFICATION**

- A. Provide project identification sign of design and construction indicated on Drawings.
- B. Erect on site at location established by Architect.
- C. No other signs are allowed without Owner permission except those required by law.

### **1.11 FIELD OFFICES**

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate six (6) persons.
- C. Provide separate private office similarly equipped and furnished, for use by Owner Project Inspector.
- D. Locate offices a minimum distance of 30 feet from existing and new structures.

### **1.12 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS**

- A. Remove temporary utilities, equipment, facilities and materials prior to Final Application for Payment inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Contractor shall grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition.
- E. Restore new permanent facilities used during construction to a specified condition.

## **PART 2 PRODUCTS - NOT USED**

## **PART 3 EXECUTION - NOT USED**

**END OF SECTION 01 50 00**

**PRODUCT REQUIREMENTS  
SECTION 01 60 00**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. General product requirements.
  - 3. Transportation, handling, storage and protection.
  - 4. Product option requirements.
  - 5. Substitution limitations.
  - 6. Maintenance materials, including extra materials, spare parts, tools, and software.
- B. Related Sections:
  - 1. Section 01 40 00:       Quality Requirements
    - a. Product quality monitoring.

**1.02 REFERENCE STANDARDS**

- A. 16 CFR 260.13 - Guides for the Use of Environmental Marketing Claims; Federal Trade Commission; Recycled Content; Current Edition.

**1.03 SUBMITTALS**

- A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. Submit within 35 days after date of Notice of Contract Award.
- C. For products specified only by reference standards, list applicable reference standards.
- D. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- E. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

- F. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
  - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

#### **1.04 QUALITY ASSURANCE**

- A. Manufacturer's Inventory of Product Content: Publicly available inventory of all ingredients identified by name and Chemical Abstract Service Registration Number (CAS RN).
- B. For ingredients considered a trade secret or intellectual property, the name and CAS RN may be omitted, provided the ingredient's role, amount, and GreenScreen Benchmark are given.
- C. Recycled Content: Determine percentage of post-consumer and pre-consumer (post-industrial) content separately, using the guidelines contained in 16 CFR 260.13.
- D. Previously used, reused, refurbished, and salvaged products are not considered recycled.
- E. Wood fabricated from timber abandoned in transit to original mill is considered reused, not recycled.
- F. Determine percentage of recycled content of any item by dividing the weight of recycled content in the item by the total weight of all material in the item.
- G. Determine value of recycled content of each item separately, by multiplying the content percentage by the value of the item.
- H. Acceptable Evidence:
  - 1. For percentage of recycled content, information from manufacturer.
  - 2. For cost, Contractor's cost data.

### **PART 2 PRODUCTS**

#### **2.01 NEW PRODUCTS**

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. DO NOT USE products having any of the following characteristics:
  - 1. Made using or containing CFC's or HCFC's.
  - 2. Containing lead, cadmium, asbestos.

## **2.02 PRODUCT OPTIONS**

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

## **2.03 MAINTENANCE MATERIALS**

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

## **PART 3 EXECUTION**

### **3.01 TRANSPORTATION AND HANDLING**

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

### **3.02 STORAGE AND PROTECTION**

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

**END OF SECTION 01 60 00**

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

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Inclusions:
  - 1. Examination, preparation, and general installation procedures.
  - 2. Pre-installation meetings.
  - 3. Cutting and patching.
  - 4. Surveying for laying out the work.
  - 5. Cleaning and protection.
  - 6. Demonstration and instruction of Owner personnel.
  - 7. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
  - 8. General requirements for maintenance service.
- B. Related Requirements
  - 1. Section 01 11 00: Summary of Work:
    - a. Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
  - 2. Section 01 30 00: Administration Requirements
    - a. Submittals procedures, Electronic document submittal service.
  - 3. Section 01 40 00: Quality Requirements
  - 4. Section 01 45 23: Tests and Inspections
    - a. Testing and inspection procedures.
  - 5. Section 01 51 00: Temporary Facilities and Controls
    - a. Temporary exterior enclosures and interior partitions.
  - 6. Individual Product Specification Sections:
    - a. Advance notification to other sections of openings required in work of those sections.
    - b. Limitations on cutting structural members.

**1.02 REFERENCE STANDARDS**

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

**1.03 SUBMITTALS**

- A. See Section 01 30 00 "Administration Requirements" for submittal procedures.



- B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
  - 1. On request, submit documentation verifying accuracy of survey work.
  - 2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
  - 3. Submit surveys and survey logs for the project record.
- C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
  - a. Structural integrity of any element of Project.
  - b. Integrity of weather exposed or moisture resistant element.
  - c. Efficiency, maintenance, or safety of any operational element.
  - d. Visual qualities of sight exposed elements.
  - e. Work of Owner or separate Contractor.
- D. Project Record Documents: Accurately record actual locations of capped and active utilities.

#### **1.04 QUALIFICATIONS**

- A. For survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.
- B. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located.

#### **1.05 PROJECT CONDITIONS**

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
  - 1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
  - 2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.

- F. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
  - 1. Minimize amount of bare soil exposed at one time.
  - 2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
  - 3. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
- H. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

## **1.06 COORDINATION**

- A. See Section 01 11 00 "Summary of Work" for occupancy-related requirements.
- B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Notify affected utility companies and comply with their requirements.
- D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- G. Coordinate completion and clean-up of work of separate sections.
- H. 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.

## **PART 2 PRODUCTS**

### **2.01 PATCHING MATERIALS**

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

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

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

### **3.02 PREPARATION**

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

### **3.03 PRE-INSTALLATION MEETINGS**

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
  - 1. Review conditions of examination, preparation and installation procedures.
  - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

### **3.04 LAYING OUT THE WORK**

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect of any discrepancies discovered.
- C. Owner will locate and protect survey control and reference points.
- D. Control datum for survey is that indicated on drawings.
- E. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- F. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- G. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- H. Utilize recognized engineering survey practices.
- I. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
  - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes and invert elevations.
  - 2. Grid or axis for structures.
  - 3. Building foundation, column locations and ground floor elevations.

- J. Periodically verify layouts by same means.
- K. Maintain a complete and accurate log of control and survey work as it progresses.
- L. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

### **3.05 GENERAL INSTALLATION REQUIREMENTS**

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

### **3.06 CUTTING AND PATCHING**

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. Perform whatever cutting and patching is necessary to:
  - 1. Complete the work.
  - 2. Fit products together to integrate with other work.
  - 3. Provide openings for penetration of mechanical, electrical, and other services.
  - 4. Match work that has been cut to adjacent work.
  - 5. Repair areas adjacent to cuts to required condition.
  - 6. Repair new work damaged by subsequent work.
  - 7. Remove samples of installed work for testing when requested.
  - 8. Remove and replace defective and non-conforming work.
- C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

- E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- F. Restore work with new products in accordance with requirements of Contract Documents.
- G. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Patching:
  - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
  - 2. Match color, texture, and appearance.
  - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

### **3.07 PROGRESS CLEANING**

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

### **3.08 PROTECTION OF INSTALLED WORK**

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Protect finished slabs, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

### **3.09 FINAL CLEANING**

- A. Execute final cleaning prior to final project assessment.
  - 1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.
- B. Use cleaning materials that are nonhazardous.
- C. Clean site; sweep paved areas, rake clean landscaped surfaces.
- D. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

### **3.10 CLOSEOUT PROCEDURES**

- A. Make submittals that are required by governing or other authorities.
  - 1. Provide copies to Architect and Owner.
- B. Accompany Architect and Project Inspector on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's comprehensive list of items to be completed or corrected.
- C. Notify Architect when work is considered ready for Architect's Final Construction Compliance Inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Notice of Completion inspection.
- E. Owner will occupy portions of the building as specified in Section 01 11 00 "Summary of Work".
- F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.
- G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- H. Notify Architect when work is considered finally complete and ready for Architect's Construction Compliance final inspection.

### **3.11 MAINTENANCE**

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Notice of Completion or the length of the specified warranty, whichever is longer.

- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

**END OF SECTION 01 70 00**



## CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL SECTION 01 74 00

### PART 1 GENERAL

#### 1.01 CONSTRUCTION WASTE MANAGEMENT

A. Waste Management Requirements:

1. California Green Building Standards Code (Title 24, Part 11), Section 5.408.1 requires this project recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste and demolition waste.
2. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination or other factors.
3. Required Recycling, Salvage and Reuse: The following may not be disposed of in landfills or by incineration:
  - a. Aluminum and plastic beverage containers.
  - b. Corrugated cardboard.
  - c. Wood pallets.
  - d. Clean dimensional wood: May be used as blocking or furring.
  - e. Land clearing debris, including brush, branches, logs and stumps.
  - f. Concrete: May be crushed and used as riprap, aggregate, sub-base material or fill if acceptable to the Soils Engineer.
  - g. Bricks: May be used on project if whole, or crushed and used as landscape cover, sub-base material or fill.
  - h. Concrete masonry units: May be used for erosion control or landscape features.
  - i. Precast concrete panels: May be used for erosion control or landscape features.
  - j. Asphalt paving: May be recycled into paving for project.
  - k. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
  - l. Plastic buckets.
  - m. Paint.
  - n. Plastic sheeting.
4. Certification for this project is dependent on diversion of 65 %, by weight, of potential landfill trash/waste by recycling and/or salvage.
5. The following recycling incentive programs are mandatory for this project: Contractor is responsible for implementation:
  - a. \_\_\_\_\_: Revenue or savings accrue to Contractor.
  - b. \_\_\_\_\_: Rebates and credits must be applied for by Owner and shall accrue to Owner.

6. Owner has made arrangements for salvage of the following materials by others:
  - a. \_\_\_\_\_: Recipient will provide containers and pick up.
  - b. \_\_\_\_\_: Contractor shall deliver to recipient's location at \_\_\_\_\_ weekly.
7. Contractor shall develop and follow a Waste Management Plan designed to implement these requirements.
8. The following sources may be useful in developing the Waste Management Plan:
  - a. State Recycling Department, at \_\_\_\_\_.
  - b. Recycling Haulers and Markets: The attached list contains local haulers and markets for recyclable materials. This list is provided for information only and is not necessarily comprehensive; other haulers and markets are acceptable.
  - c. Recycling Economics Information: The attached list contains information that may be useful in estimating the costs or savings or recycling options.
9. Methods of trash/waste disposal that are not acceptable are:
  - a. Burning on the project site.
  - b. Burying on the project site.
  - c. Dumping or burying on other property, public or private.
  - d. Other illegal dumping or burying.
  - e. Incineration, either on- or off-site.
10. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

## **1.02 RELATED REQUIREMENTS**

- A. Section 01 11 00 "Summary": List of items to be salvaged from the existing building for relocation in project or for Owner.
- B. Section 01 30 00 "Administrative Requirements": Additional requirements for project meetings, reports, submittal procedures, and project documentation.
- C. Section 01 50 00 "Temporary Facilities and Controls": Additional requirements related to trash/waste collection and removal facilities and services.
- D. Section 01 60 00 "Product Requirements": Waste prevention requirements related to delivery, storage, and handling.
- E. Section 01 70 00 "Execution and Closeout Requirements": Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

### 1.03 DEFINITIONS

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

- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

#### **1.04 SUBMITTALS**

- A. See Section 01 30 00 "Administrative Requirements", for submittal procedures.
- B. Waste Management Plan: Include the following information:
1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
  2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s).
  3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
  4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
  5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
  6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.
  7. Recycling Incentives: Describe procedures required to obtain credits, rebates, or similar incentives.
  8. Recycling Incentive Programs:
    - a. Where revenue accrues to Contractor, submit copies of documentation required to qualify for incentive.
    - b. Where revenue accrues to Owner, submit any additional documentation required by Owner in addition to information provided in periodic Waste Disposal Report.

**END OF SECTION 01 74 00**

**SELECTIVE SITE DEMOLITION  
SECTION 02 41 13**

**PART 1 GENERAL**

**1.01 SUMMARY**

**A. Inclusions:**

1. Provisions set forth in Divisions 0 and 1;
2. Site Demolition;
  - a. Removal of all trees, buildings and structures to clear site.
3. Back filling and site restoration;
4. Protection of trees and other landscape material not slated for removal;
5. Disposal of rubbish and debris offsite;
6. Asbestos abatement
7. Coordination of salvage material with Owner;
8. Reuse and recycling;
9. Barricades, signs, protective structures and devices;
10. Clean-up

**B. Related Sections:**

- |                     |  |
|---------------------|--|
| 1. Section 01 74 19 | Construction Waste Management and Disposal |
| 2. Section 31 11 00 | Site Clearing                              |
| 3. Section 31 22 00 | Earthwork                                  |

**C. Work by Owner:**

1. Items noted "NIC" (Not in Contract) including, but not limited to, asbestos and contaminated soil abatement, will be provided by separate Contractor.
  - a. Asbestos Abatement:
    - 1) All asbestos abatement will be performed prior to start of demolition of this Section.
    - a) Asbestos abatement will be performed by separate Contractor and will be performed as indicated.
  - b. Contaminated Soil Abatement:
    - 1) Contaminated soil abatement will be performed by separate Contractor. Coordinate demolition work with contaminated Soil Abatement Contractor.

**1.02 SUBMITTALS**

**A. Record Drawings:**

1. Keep a record of the location and size of all capped pipe and/or conduit.
2. Submit record drawings per General Conditions.

### **1.03 QUALITY ASSURANCE**

- A. Regulatory Compliance:
  - 1. Work shall comply with applicable provisions of local and State safety and health ordinances.
    - a. Prior to start of any demolition, the County of Kern Environmental Health Services Department and Basic Compliance Engineering shall be given 48-hour notice by the Contractor.
  - 2. Take out and maintain required permits, approvals, and licenses necessary to legally complete this work.
  - 3. Insure that subcontractors are properly licensed and have required permits to perform their work.

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

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Examine the demolition site to determine the extent of the work included in this Contract.
- B. Accept the premises in the condition as found on the first day of work under this Contract.

#### **3.02 PREPARATION**

- A. Notify District or utility companies concerning cut-off or restoration of service, or of relocation or modification of any such service that the work of this contract may require.
- B. Protect and maintain in operation utility or sewer line that is required to remain operative during the period of this contract.

#### **3.03 INSTALLATION OR APPLICATION**

- A. Furnish and maintain temporary construction, scaffolding, ladders, runways, hoists, etc.
- B. Maintain a clean and safe work area, and all other affected premises.
- C. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning handling and protection against exposure or environmental pollution.
  - 1. Notify Architect immediately upon encountering hazardous materials.

### **3.04 PROTECTION OR ADJUSTMENTS**

- A. Enclose area of work with fence barricades.
- B. The working area shall be kept securely locked at all times work is in progress.
- C. Post signs and warning devices necessary to exclude all persons, except those directly connected with the work from work areas.
- D. Protect adjacent buildings, shrubs, trees, and lawns from damage.
- E. Do not interfere with use of adjacent buildings or safe ingress or egress.
- F. Use of explosives will not be permitted.

### **3.05 CLEANING OR REPAIR**

- A. Debris resulting from the work of this Section shall be removed and hauled away from the site.
  - 1. Debris and rubbish shall not be allowed to accumulate on the site.
- B. All material generated by this work shall be disposed of properly outside the project limits, in accordance with all applicable regulations, laws and ordinances.
  - 1. Sprinkle loose material while being stored, handled or loaded.
- C. Do not burn rubbish at the site.

### **3.06 CONDITION OF FINISHED WORK**

- A. Trees and shrubs, where indicated, shall be removed along with their roots, stumps, etc.
- B. Protections, tools, materials, plant apparatus, and rubbish or debris shall be removed.
- C. Existing areas to remain, public or private property, that may have been damaged, made dirty, or otherwise disorderly as a result of his work shall be restored to good order.

### **3.07 SALVAGE**

- A. The Owner reserves the right to retain ownership of any equipment or fixtures removed from the property.
  - 1. Removed equipment and fixtures shall be stored neatly in an area designated by the Owner for a period of 48 hours.
    - a. Place in neat piles or stacks.

2. Items that are not claimed by the Owner within the 48-hour time period shall be removed from the site and properly disposed.
  3. Improvements or materials removed from the building shall not be transferred by sale, gift, or in any manner whatsoever to the general public.
    - a. Sale or disposal to duly licensed contractors or materialmen is permitted.
    - b. Contractor shall assume all responsibilities arising out of such operation.
- B. Items indicated to be removed, but of salvageable value to the Contractor, may be removed from structure as work progresses.
1. Transport salvaged items from site as they are removed. Storage of removed items onsite will not be permitted.
  2. Items or materials removed from the building shall not be transferred by sale, gift, or in any manner whatsoever to the general public.
    - a. Sale or disposal to duly licensed contractors or materialmen is permitted.
    - b. Contractor shall assume all responsibilities arising out of such operation.

### **3.08 RECYCLING AND REUSE**

- A. Construction Waste Management Plan:
1. Where the local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that:
    - a. Identifies the construction waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
    - b. Determines if construction waste materials will be sorted on-site (source separate) or bulk mixed (single stream).
    - c. Determines if construction waste materials will be sorted on-site (source separate) or bulk mixed (single stream).
    - d. Determines if construction waste materials will be sorted on-site (source separate) or bulk mixed (single stream).
    - e. Construction Waste Management Plan:
- B. Where the local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that:
1. Utilize a Waste Management Company that can provide verifiable documentation that the percentage of construction waste material diverted from the landfill complies with this section.
    - a. 65% of construction waste shall be recycled or salvaged and diverted from the landfills per CGBC, Title 24, Part 11, Section 5.408.

**END OF SECTION 02 41 13**



# **SELECTIVE BUILDING DEMOLITION**

## **02 41 19**

### **PART 1 GENERAL INFORMATION**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Selective Demolition;
    - a. Extent of demolition work as indicated on Drawings.
  - 3. Back filling and site restoration;
  - 4. Disposal of rubbish and debris offsite;
  - 5. Barricades, signs, protective structures, and devices;
  - 6. Clean up.
- B. Related Sections:
  - 1. Section 01 74 19                      Construction Waste Management and Disposal

#### **1.02 SUBMITTALS**

- A. Record Drawings:
  - 1. Keep a record of the location and size of all capped pipe and/or conduit.
  - 2. Submit record drawings per General Conditions.

#### **1.03 QUALITY ASSURANCE**

- A. Regulatory Compliance:
  - 1. Work shall comply with applicable provisions of local and State safety and health ordinances.
    - a. Prior to start of any demolition, the County of Kern Environmental Health Services Department and Basic Compliance Engineering shall be given 48-hour notice by the Contractor.
  - 2. Take out and maintain required permits, approvals, and licenses necessary to legally complete this work.
  - 3. Insure that subcontractors are properly licensed and have required permits to perform their work.

### **PART 2 PRODUCTS**

Not Used

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Examine the demolition site to determine the extent of the work included in this Contract.

- B. Accept the premises in the condition as found on the first day of work under this Contract.

### **3.02 PREPARATION**

- A. Notify utility companies concerning cut off or restoration of service or of relocation or modification of any such service that the work of this contract may require.
- B. Protect and maintain in operation utility or sewer lines that are required to remain operative during the period of this contract.

### **3.03 INSTALLATION OR APPLICATION**

- A. Furnish and maintain temporary construction, scaffolding, ladders, runways, hoists, etc.
- B. Maintain a clean and safe work area, and all other affected premises.
- C. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning handling and protection against exposure or environmental pollution.
  - 1. Notify Architect immediately upon encountering hazardous materials.

### **3.04 PROTECTION OR ADJUSTMENTS**

- A. Enclose area of work with fence barricades.
- B. The working area shall be kept securely locked at all times work is in progress.
- C. Post signs and warning devices necessary to exclude all persons, except those directly connected with the work from work areas.
- D. Protect adjacent buildings, shrubs, trees, and lawns from damage.
- E. Do not interfere with use of adjacent buildings, or safe ingress or egress.
- F. Use of explosives will not be permitted.

### **3.05 CLEANING OR REPAIR**

- A. Debris resulting from the work of this Section shall be removed and hauled away from the site.
  - 1. Debris and rubbish shall not be allowed to accumulate on the site.

- B. All material generated by this work shall be disposed of properly outside the project limits in accordance with all applicable regulations, laws, and ordinances.
  - 1. Sprinkle loose material while being stored, handled, or loaded.
- C. Burning of removed materials is not permitted within the project limits.

### **3.06 CONDITIONS OF FINISHED WORK**

- A. Trees and shrubs where indicated shall be removed along with their roots, stumps, etc.
  - 1. Remove all roots within two feet around edge of stump or shrub.
- B. Protections, tools, materials, plant apparatus, and rubbish or debris shall be removed. Sprinkle loose material while being stored, handled, or loaded.
- C. Existing areas to remain, public or private property, that may have been damaged, made dirty, or otherwise disorderly as a result of this work shall be restored to good order.
- D. Glue residue from removal of floor coverings, wall coverings, tackboard panels, wall accessories, ceiling tiles, or similar components, shall be scraped down, mechanically or by hand, to remove bumps or un-level surfaces to a condition that normal preparation and patching by subsequent trades is within normal trade standards.

### **3.07 SALVAGE**

- A. Unless noted otherwise, all salvageable items determined to be of value, including, but not limited to, casework, stainless steel, toilet accessories, toilet partitions, copper wiring, plumbing fixtures, mechanical equipment, copper wiring, lighting fixtures, structural steel, shall be carefully removed, cleaned, and stored in the staging area. Notify the District Facilities Planning representative in writing that there are salvageable items for their review. If, after 72 hours of receipt of notification, the items have not been removed, the Contractor shall legally dispose of them. The 72-hour time period does not include weekends or holidays and shall start upon Facilities Planning's receipt of written notice.
- B. The District shall be able to examine and remove any of the items salvaged from the project. It is the Contractor's responsibility to protect the salvaged items during the 72-hour period. Should any of the salvaged items be disposed before the District has examined them, the Contractor shall reimburse the District for these items.

- C. The Owner reserves the right to retain ownership of any equipment, fixtures, or materials removed from the property.
  - 1. Removed equipment and fixtures shall be stored neatly in an area designated by the Owner for a period of 72 weekday hours.
  - 2. Items that are not claimed by the Owner within the 72-hour time period shall be removed from the site and properly disposed.
  - 3. Improvements or materials removed from the building shall not be transferred by sale, gift, or in any manner whatsoever to the general public.
    - a. Sale or disposal to duly licensed contractors or materialmen is permitted.
    - b. Contractor shall assume all responsibilities arising out of such operation.
- D. Items indicated to be removed, but of salvageable value to the Contractor may be removed from structure as work progresses.
  - 1. Transport salvaged items from site as they are removed. Storage of removed items onsite will not be permitted.
  - 2. Items or materials removed from the building shall not be transferred by sale, gift, or in any manner whatsoever to the general public.
    - a. Sale or disposal to duly licensed contractors or material-men is permitted.
    - b. Contractor shall assume all responsibilities arising out of such operation.

**END OF SECTION 02 41 19**

## **CONCRETE FORMING SECTION 03 11 00**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1:
  - 2. Formwork for cast-in place concrete, including shoring, bracing and anchorage.
  - 3. Openings for other work.
  - 4. Form accessories.
  - 5. Form stripping.
- B. Related Sections:
  - 1. Section 03 21 00:       Reinforcing Steel
  - 2. Section 03 31 00:       Structural Concrete Work

#### **1.02 REFERENCES**

- A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International.
- B. ACI 318 - Building Code Requirements for Reinforced Concrete and Commentary; American Concrete Institute International.
- C. ACI 347R - Guide to Formwork for Concrete; American Concrete Institute International.
- D. PS 1 - Construction and Industrial Plywood; National Institute of Standards and Technology (Department of Commerce).

#### **1.03 DESIGN REQUIREMENTS**

- A. The contractor is responsible for the design, engineer and construct formwork, shoring, reshoring, and bracing to conform to design and code requirements; resultant concrete to conform to required shape, line and dimension. Engineering design work to be completed by a professional engineer licensed in the state in which the project is located.
- B. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete. Design work to be completed by a professional engineer licensed in the state in which the project is located.

#### **1.04 SUBMITTALS**

- A. See Division 1 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on void form materials and installation requirements.
- C. Shop Drawings: Indicate pertinent dimensions, materials, bracing, and arrangement of joints and ties. Shop drawings to be reviewed by the professional engineer responsible for the design of the formwork and submitted to the contractor for record.
- D. Openings and Blockouts: Shop drawings shall indicate the exact size and locations of only the slab edges of all openings, blockouts, sleeves and penetrations in structural elements only for review.

#### **1.05 QUALITY ASSURANCE**

- A. Perform work of this section in accordance with ACI 347R, ACI 301, and ACI 318.
- B. Design formwork under direct supervision of a Professional Engineer experienced in design of concrete formwork and licensed in the state in which the project is located.

#### **1.06 REGULATORY REQUIREMENTS**

- A. Conform to applicable code for design, fabrication, erection and removal of formwork.

#### **1.07 AIR QUALITY REQUIREMENTS**

- A. Comply with the requirements of Section 01 41 00 "Regulatory Requirements" as they are applicable to the work of this section, and as though they are repeated verbatim herein.

#### **1.08 DELIVERY, STORAGE, AND PROTECTION**

- A. Deliver form materials and installation instructions in manufacturer's packaging.
- B. Store forms off ground in ventilated and protected manner to prevent deterioration from moisture or damage.

## **PART 2 PRODUCTS**

### **2.01 WOOD FORM MATERIALS**

- A. Form Materials: At the discretion of the Contractor to achieve design requirements and specified finishes.
- B. Softwood Plywood: PS 1, B-B High Density Concrete Form Overlay, Class I.
- C. Plywood: Douglas Fir species; solid one side grade; sound undamaged sheets with clean, true edges.
- D. Lumber: Douglas Fir species; structural grade; with grade stamp clearly visible.

### **2.02 PREFABRICATED FORMS**

- A. Preformed Steel Forms: Minimum 16 gage well matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to structural tolerances and appearance of finished surfaces.
- B. Glass Fiber Fabric Reinforced Plastic Forms: Matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to structural tolerances and appearance of finished concrete surface.

### **2.03 FORMWORK ACCESSORIES**

- A. Form Ties: Removable or snap-off type, galvanized metal, fixed or adjustable length, cone type, with waterproofing washer, 1 inch back break dimension, free of defects that could leave holes larger than 1 inch in concrete surface.
- B. Form Release Agent: Colorless material that will not stain concrete, absorb moisture, impair natural bonding of concrete finish coatings, or affect color characteristics of concrete finish coatings.
- C. Corners: Chamfered, wood strip type; maximum possible lengths.
- D. Dovetail Anchor Slot: Galvanized steel, minimum 14 gage thick, foam filled, release tape sealed slots, anchors for securing to concrete formwork.
- E. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.

## **PART 3 EXECUTION**

### **1.01 EXAMINATION**

- A. Contractor shall verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

## **1.02 EARTH FORMS**

- A. Earth forms may be permitted only where specifically allowed in the Geotechnical report.
- B. Hand trim sides and bottom of earth forms. Remove loose soil prior to placing concrete.
- C. Where earth forms are used, increase sizes of structural elements shown in the drawings by a minimum of three inches.

## **1.03 ERECTION – FORMWORK**

- A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI 301.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
- C. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.
- D. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping.
- E. Align joints and make watertight. Keep form joints to a minimum.
- F. Obtain approval before framing openings in structural members that are not indicated on drawings.
- G. Provide filler and chamfer strips on external corners of beams, joists, columns, and walls where shown on architectural drawings.
- H. Install void forms in accordance with manufacturer's recommendations. Protect forms from moisture or crushing.
- I. Coordinate this section with other sections of work that require attachment of components to formwork.

## **1.04 APPLICATION - FORM RELEASE AGENT**

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.



### **1.05 INSERTS, EMBEDDED PARTS, AND OPENINGS**

- A. Provide formed openings where required for items to be embedded in or passing through concrete work.
- B. Locate and set in place items that will be cast directly into concrete.
- C. Coordinate with work of other sections in forming and placing openings, slots, recesses, sleeves, bolts, anchors, other inserts, and components of other work.
- D. Install accessories in accordance with manufacturer's instructions, so they are straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- F. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.

### **1.06 FORM CLEANING**

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
  - 1. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.
  - 2. During cold weather, remove ice and snow from within forms. Do not use de-icing salts. Do not use water to clean out forms, unless formwork and concrete construction proceed within heated enclosure. Use compressed air or other means to remove foreign matter.

### **1.07 FORMWORK TOLERANCES**

- A. Construct formwork to maintain tolerances required by ACI 301.
- B. Camber slabs per drawings.

### **1.08 FIELD QUALITY CONTROL**

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 45 23 "Tests and Inspections".
- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and to verify that supports, fastenings, wedges, ties, and items are secure.

## **1.09 FORM REMOVAL**

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms to prevent damage to form materials or to fresh concrete. Discard damaged forms.
- D. Remove formwork in such a sequence as to achieve similar concrete surface coloration.

**END OF SECTION 03 11 00**

## **REINFORCING STEEL SECTION 03 21 00**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Reinforcing steel for cast-in-place concrete and concrete masonry units.
  - 2. Supports and accessories for steel reinforcement.
- B. Related Sections
  - 1. Section 03 11 00: Concrete Forming
  - 2. Section 03 31 00: Cast-in-Place Concrete.
  - 3. Section 04 24 00: Concrete Unit Masonry Units

#### **1.02 REFERENCES**

- A. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International.
- B. ACI 318 - Building Code Requirements For Reinforced Concrete and Commentary; American Concrete Institute International.
- C. ACI SP-66 - ACI Detailing Manual; American Concrete Institute International.
- D. ASTM A 82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
- E. ASTM A 184/A 184M - Standard Specification for Welded Deformed Steel Bar Mats for Concrete Reinforcement.
- F. ASTM A 185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
- G. ASTM A 497/A 497M - Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete.
- H. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- I. ASTM A 704/A 704M - Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
- J. ASTM A 706/A 706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.

- K. ASTM A 996/A 996M - Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement.
- L. AWS D1.4 - Structural Welding Code - Reinforcing Steel; American Welding Society.
- M. CRSI (DA4) - Manual of Standard Practice; Concrete Reinforcing Steel Institute.
- N. CRSI (P1) - Placing Reinforcing Bars; Concrete Reinforcing Steel Institute.

### **1.03 SUBMITTALS**

- A. Shop Drawings: Only when deviations are made from the contract documents, submit shop drawings under provision of Section 01 31 00 "Project Management and Coordination" with deviations clearly identified.
  - 1. Indicate sizes, spacings, locations and quantities of reinforcing steel, wire fabric, bending and cutting schedules, splicing, stirrup spacing, supporting and spacing devices.
- B. Manufacturer's Certificate: Certify that reinforcing steel and accessories supplied for this project meet or exceed specified requirements.
- C. Reports: Submit certified copies of mill test report of reinforcement materials analysis, indicate physical and chemical analysis.
- D. Welders Certificates: Submit certifications for welders employed on the project, verifying AWS qualifications with the previous 12 months.

### **1.04 QUALITY ASSURANCE**

- A. Perform work of this section in accordance with CRSI (DA4), CRSI (P1), ACI 301, and ACI SP-66.

### **1.05 AIR QUALITY REQUIREMENTS**

- A. Comply with the requirements of Section 01 41 00 "Regularity Requirements" as they are applicable to the work of this section, and as though they are repeated verbatim herein.

## **PART 2 PRODUCTS**

### **2.01 REINFORCEMENT**

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 60.
  - 1. Deformed billet-steel bars.
  - 2. Unfinished.

- B. Reinforcing Steel: ASTM A 706/A 706M, deformed low-alloy steel bars.
  - 1. Deformed billet-steel bars.
  - 2. Unfinished.
- C. Steel Welded Wire Reinforcement: ASTM A185/A 185M, plain type.
  - 1. Welded Wire Mat Reinforcing: mesh size and gage as indicated on drawings.
- D. Steel Welded Wire Reinforcement: ASTM A 497, deformed type.
  - 1. Flat Sheets.
  - 2. Mesh Size and Wire Gage: As indicated on drawings.
- E. Reinforcement Accessories:
  - 1. Tie Wire: Annealed, minimum 16 gage acceptable patented system.
  - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement, including load bearing pad on bottom to prevent vapor barrier puncture.
  - 3. Provide stainless steel, plastic, or plastic coated steel components for placement within 1½" of weathering surfaces.

## **2.02 FABRICATION**

- A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.
- B. Welding of reinforcement is permitted only with the specific approval of Structural Engineer. Perform welding in accordance with AWS D1.4.
- C. Obtain approval from the architect for additional reinforcing splices not indicated on drawings.

## **PART 3 EXECUTION**

### **3.01 PLACEMENT**

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
  - 1. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.
  - 2. Do not displace or damage vapor barrier.
  - 3. Accommodate placement of formed openings.

### **3.02 FIELD QUALITY CONTROL**

- A. An independent testing agency, as specified in Section 01 45 23 "Tests and Inspections", will inspect installed reinforcement for conformance to contract documents before concrete placement.

**END OF SECTION 03 21 00**

## **STRUCTURAL CONCRETE WORK**

### **SECTION 03 31 00**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY:**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Footings for exterior concrete block walls;
  - 3. Placing of bolts, anchors, frames, inserts, etc.;
  - 4. Protection and patching of concrete;
  - 5. Submittal preparation and concrete mix designs;
  - 6. Superplasticizers and admixtures;
  - 7. Control and expansion joints;
  - 8. Clean-up.
- B. Related Sections:
  - 1. Section 03 11 00: Concrete Forming
  - 2. Section 03 21 00: Steel Reinforcing.
  - 3. Section 32 13 13: Site Concrete.

##### **1.02 REFERENCES**

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International.
- B. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International.
- C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International.
- D. ACI 305R - Hot Weather Concreting; American Concrete Institute International.
- E. ACI 306R - Cold Weather Concreting; American Concrete Institute International.
- F. ACI 308R - Guide to Curing Concrete; American Concrete Institute International.
- G. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International.
- H. ASTM C 33 - Standard Specification for Concrete Aggregates.
- I. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- J. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete.

- K. ASTM C 143/C 143M - Standard Test Method for Slump of Hydraulic-Cement Concrete.
- L. ASTM C 150 - Standard Specification for Portland Cement.
- M. ASTM C 173/C 173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
- N. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete.
- O. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete.
- P. ASTM C 618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
- Q. ASTM C 685/C 685M – Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing.
- R. ASTM C 881/C 881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
- S. ASTM C 1059 - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete.

### **1.03 DEFINITIONS**

- A. Severe Exposure: Concrete which is in contact with moisture or deicing salts, such as pavements, sidewalks, parking garage floors, etc.
- B. Moderate Exposure: Concrete which is occasionally exposed to moisture, such as exterior walls, beams, girders, and slabs not in contact with soil, etc.

### **1.04 SUBMITTALS**

- A. General: Submit in accordance with Section 01 30 00 “Administrative Requirements”.
- B. Shop Drawings: Submit drawings locating slab-on-grade construction joints, control joints, and isolation joints.
- C. Product Data: Submit product data for proprietary products.
- D. Samples:
  - 1. Provide 12 inch by 18-inch concrete sample of smooth rubbed [grout cleaned] [cork float] finishes showing final texture to be expected.
- E. Mix Designs:
  - 1. Submit proposed concrete mix designs for each class or use at least 30 days



- prior to required delivery.
  - 2. Mixes shall be prepared by a professional engineer licensed in the state in which the project is located.
  - 3. Specifically indicate where each class of concrete is to be used.
  - 4. Indicate individual and combined aggregate gradations and aggregate source and characteristics.
- F. Test Reports: Submit aggregate and concrete mix test reports from independent testing laboratory as required by Section 01 45 23 "Tests and Inspections".

### **1.05 QUALITY ASSURANCE**

- A. Certifications:
  - 1. Submit material certification for admixtures and aggregates, certifying their compliance with specifications.
  - 2. Submit certified mill test reports for each lot of cement.
- B. Perform work of this section in accordance with ACI 301 and ACI 318.
- C. Acquire cement from same source and aggregate from same source for entire project.
- D. Follow recommendations of ACI 305R for concreting during hot weather.
- E. Follow recommendations of ACI 306R for concreting during cold weather.

### **1.06 TESTING REQUIREMENTS**

- A. Testing will be performed under the provisions of Section 01 45 23 "Tests and Inspections", except as otherwise specified.

### **1.07 PRE-INSTALLATION CONFERENCE**

- A. Conduct pre-installation conference in accordance with Section 01 31 00 "Project Management and Coordination".

### **1.08 DELIVERY, STORAGE, AND HANDLING**

- A. General: Comply with requirements of Section 01 60 00 "Product Requirements".
- B. Deliver packaged products to site in manufacturer's sealed and labeled containers; inspect to verify compliance with specified requirements.
- C. Label containers to indicate manufacturer's name, product name, date of manufacture, and instructions for use.

- D. Store liquid materials in tightly covered containers in well ventilated area at ambient temperatures recommended by manufacturer. Store dry materials on raised platforms and cover to prevent moisture damage. Maintain containers in clean condition, free of foreign materials and residue with labels in legible condition.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

## **1.09 AIR QUALITY REQUIREMENTS**

- A. Comply with the requirements of Section 01 41 00 "Regulatory Requirements" as they are applicable to the work of this section, and as though they are repeated verbatim therein.

## **PART 2 PRODUCTS**

### **2.01 FORMWORK**

- A. Comply with the requirements of Section 03 11 00 "Concrete Forming".

### **2.02 REINFORCEMENT**

- A. Comply with the requirements of Section 03 21 00 "Steel Reinforcing".

### **2.03 CONCRETE MATERIALS**

- A. Portland Cement:
  - 1. ASTM C150, Type as indicated in the structural drawings.
  - 2. Air-entraining portland cement, as defined by ASTM C150, is prohibited.
  - 3. [Do not use Type III cement in lightweight structural concrete.]
- B. Aggregate:
  - 1. Coarse Aggregate:
    - a. ASTM C33 for normal weight aggregate.
    - b. ASTM C330 for lightweight aggregate.
  - 2. Fine Aggregate: ASTM C33.
  - 3. Exposed Aggregate: To match Architect's sample.
- C. Water: Clean, fresh and potable.
- D. Admixtures:
  - 1. Calcium chloride, thiocyanates, or admixtures containing more than 0.05 percent chloride ions are not permitted unless approved by Architect.
  - 2. Air Entraining: ASTM C260.
  - 3. Water-reducing: ASTM C494, Type A.

4. Water-reducing, Non-corrosive, Non-chloride Accelerator:
    - a. ASTM C494, Type E.
    - b. Submit long term non-corrosive test data from independent testing laboratory using accelerated test method such as electrical potential measure.
  5. Water-reducing, Retarding: ASTM C494, Type D.
  6. Chemical Corrosion Inhibitor:
    - a. Calcium nitrite in liquid form.
    - b. Acceptable Product: DCI by Grace Construction Products, Cambridge, MA.
- E. Bonding Admixture:
1. Acrylic or styrene butadiene, non-remulsifiable.
  2. Acceptable Products:
    - a. Flex-Con or SBR Latex, Euclid Chemical Company, Cleveland, OH.
    - b. Everbond, L&M Construction Chemicals, Inc., Omaha, NE.
    - c. Acryl Set, Master Builders, Cleveland, OH.
    - d. Intralok, W. R. Meadows, Inc., Elgin IL.
- F. Bonding Grout:
1. Mix consisting of portland cement, part fine sand passing No. 30 mesh sieve, bonding admixture, and water in proportions as recommended by bonding admixture manufacturer.
  2. Minimum 1:1 cement to sand ratio.
  3. Mix to achieve consistency of thick cream.

## **2.04 CURING MATERIALS**

- A. Sheet Curing Materials: ASTM C171; white opaque polyethylene film, white polyethylene coated burlap sheeting, or regular waterproof paper.

## **2.05 PATCHING AND REPAIR MATERIALS**

- A. Epoxy Adhesive:
1. 100 percent solids, two component material suitable for use on dry or damp surfaces, conforming to ASTM C881.
  2. Acceptable Products and Manufacturers:
    - a. Concrese Liquid LPL, Master Builders, Inc., Cleveland, OH.
    - b. Sikadur Hi-Mod 32, Sika Corporation, Lyndhurst, NJ.
    - c. Euco 452 or 620 System, Euclid Chemical Company, Cleveland, OH.
- B. Patching Compound:
1. Polymer modified cementitious mortar.
  2. Acceptable Products and Manufacturers:
    - a. Thin Coat, Concrete Coat, or Verticoat, Euclid Chemical Company, Cleveland, OH.
    - b. Duratop, L&M Construction Chemicals, Inc., Omaha, NE.
    - c. Sikatop 121, 122, or 123, Sika Corporation, Lyndhurst, NJ.

C. Patching Mortar:

1. Comprised of same materials and approximately same proportions as used for surrounding concrete, except with coarse aggregate omitted.
2. Consisting of not more than 1 part cement to 2-1/2 parts sand.
3. Substitute white portland cement for portion of gray portland cement to match color of surrounding exposed concrete.
4. Limit mixing water to no more than necessary for handling and placing. Maximum water/cement ratio of 0.50.

D. Bonding Agent:

1. Acrylic, ASTM C1059, Type II, Non redispersable.
2. Acceptable Products and Manufacturers:
  - a. Everbond, L&M Construction Chemicals, Inc., Omaha, NE.
  - b. Daraweld-C, Grace Construction Products, Cambridge, MA.
  - c. Intralok, W. R. Meadows, Inc., Elgin IL.

## **2.06 CONCRETE MIXES**

A. Mix Design:

1. Submit design mixes for each type and class of concrete based on laboratory trial batch method or field experience methods described in ACI-318, Chapter 5.
2. If trial batch method is used, employ an independent testing agency acceptable to Architect for preparing and reporting proposed mix designs. Mix designs are to be prepared by a professional engineer licensed in the state in which the project is located.
3. Contractor employed testing agency shall not be same firm as Owner employed testing agency.
4. Use concrete of approved mix designs only.
5. The proportioning of ingredients shall provide a concrete readily worked into forms and around reinforcement under conditions of placement to be employed, without segregation or excessive bleeding.
6. Do not place concrete until design mix for that class and type of concrete is reviewed by Architect.
7. Indicate locations in structure where each mix design is to be used.
8. Identify each mix design with code number which will be used on batch tickets.

B. Design Compressive Strengths: 3000 psi (normal weight).

1. Normal Weight Concrete:
  - a. Compressive strength, when tested in accordance with ASTM C 39/C 39M, strength at 7 days shall be at least 60% of the minimum required 28 day strength unless noted otherwise on drawings.
  - b. Maximum slump 4 inches +/- 1".

- C. Maximum Size of Coarse Aggregate:
1.  $\frac{1}{5}$  narrowest dimension between form sides.
  2.  $\frac{1}{3}$  depth of slabs.
  3.  $\frac{3}{4}$  of minimum clear distance between reinforcing bars, wires, or bundles of bars.
  4. 1 inch maximum for normal weight concrete or  $\frac{3}{4}$  inch maximum for light weight concrete.
- D. Concrete Slump at Point of Discharge:
1. Ramps and Sloping Surfaces: Not more than 3 inches.
  2. Reinforced Foundations: Not less than 1 inch and not more than 4 inches.
  3. Concrete Containing Superplasticizer: Not more than 9 inches after addition of superplasticizer. Slump before addition of superplasticizer: 2 to 3 inches.
  4. Other Concrete: Not less than 1 inch and not more than 4 inches.
  5. Allowable tolerances of up to 1 inch above maximum indicated provided average of 10 most recent batches tested is less than maximum.
- E. Minimum Cement Content: Not less than 470 pounds of total cementitious material per cubic yard of concrete. Not more than 25% flyash or pozzolan cement substitute and not less than 385 pounds of cement per cubic yard of concrete.
- F. Water-Cement Ratios for Concrete (by weight):
1. Maximum permissible water cement ratio: 0.50 unless noted otherwise on drawings.
- G. Admixtures:
1. Only use admixtures which have been tested and approved in mix designs.
  2. Air entraining Admixture:
    - a. Use in concrete exposed to freezing and thawing at any time during construction or in completed structure.
    - b. Use in concrete placed at ambient temperatures below 40 degrees F.
    - c. Tolerance on air content as delivered: Plus or minus 1- $\frac{1}{2}$  percent.
  3. Conform to air content requirements indicated on Drawings.
- H. Shrinkage Tests:
1. Prior to placing any concrete for walls or horizontal surfaces, a trial batch of each mix design of structural concrete shall be prepared using the aggregates, cement and admixture (if any) proposed for the project. From each trial batch at least 3 specimens for determining drying shrinkage shall be prepared. The drying shrinkage specimens shall be a 4" x 4" x 11" prisms fabricated, cured, dried, and measured in accordance with the requirements of Tentative Method of Test for Length Change of Cement Mortar and Concrete, ASTM C157. The measurements shall be made and reported separately for 7 and 28 days of drying after 7 days of moist curing. The effective gage length of the specimens shall be 10", and except for the foundation concrete, the average drying shrinkage at 35 days shall not exceed .054%.

2. Previous Test: Ready-mixed concrete manufacturer may furnish certified test reports from approved Testing Laboratory as proof of meeting shrinkage requirements, provided aggregate used and concrete covered by such test report conform to mix design approved for use on this project. Method used, use an independent testing facility acceptable to Architect for preparing and reporting proposed mix designs.
- I. Use accelerating admixtures in cold weather only when approved by Architect/Structural Engineer. Use of admixtures will not relax cold weather placement requirements.

## **2.07 MIXING**

- A. Ready-Mix Concrete:
  1. Comply with ASTM C 94/C 94M.
  2. Before using trucks for batching, mixing, and transporting concrete, thoroughly clean trucks and equipment of materials capable of contaminating concrete.
  3. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 is required.
  4. When air temperature is between 85 degrees F and 90 degrees F, reduce mixing and delivery time from 90 minutes to 75 minutes, and when air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.
  5. Do not add water to ready-mix concrete at Project site except when slump is below specified limits and total water does not exceed the design water-cement ratio; inject added water into mixer and mix thoroughly before discharging.
- B. Provide certificate signed by authorized official of supplier with each load of concrete stating following:
  1. Time truck left plant.
  2. Mix of concrete, identify with code number of mix design.
  3. Amount of water and cement in mix.
  4. Amount and type of admixtures.
  5. Amount of water added at project site.
  6. Time truck is unloaded at project site.
- C. Truck mixers without batch tickets will be rejected.
- D. Retain certificates at Project site. Submit to Architect for review upon request.

## **2.08 PRODUCTION**

- A. Ready Mixed Concrete
  1. Except as otherwise provided in these specifications, ready mixed concrete shall be batched, mixed, and transported in accordance with ASTM C94 "Specification for Ready Mixed Concrete."

**B. Mixing Water Control**

1. Concrete which arrives at the jobsite with slump below that specified for placement may be adjusted by the addition of water to increase slump, provided the maximum slump is not exceeded and the maximum water content of the design mix is not exceeded. Following any such water addition, the concrete shall be mixed at mixing speed for at least 30 revolutions of the drum.
2. After adjustment is made to the proper slump, the concrete shall be discharged as long as it retains its placeability without the further addition of water.
3. Concrete shall be placed within 1½ hours after mixer is charged in average conditions. Time shall be reduced to one hour during hot weather concreting.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Examine conditions and proceed with Work.
- B. Verify forms, reinforcement, anchors, plates, joint materials, vapor retarder and other items to be cast into concrete are accurately placed and held securely.
- C. Verify forms are free of debris and water.
- D. Verify excavations are free of loose material and water.

**3.02 TESTING**

- A. Concrete materials and operations shall be tested and inspected for compliance with the specifications and requirements.

**3.03 TESTING AGENCY**

- A. The testing agency shall be designated by the owner. Ample time shall be allowed for preliminary tests as required prior to concreting operations.
- B. All testing agency personnel shall meet the requirements of ASTM E329, "Recommended Practice of Inspecting and Testing Agencies for Concrete and Steel in Construction."
- C. All testing agency personnel shall have the knowledge and ability to perform the necessary tests equivalent to the minimum guideline for Certification of Concrete Field Testing Technicians, Grade 1 in accordance with ACI CP-2.

**3.04 DUTIES AND SERVICES**

- A. The duties and responsibilities of the testing agency and the contractor and services to be performed by each are as designated in ACI 301, Chapter 16, "Specifications for Structural Concrete for Buildings."

### **3.05 EVALUATION AND ACCEPTANCE**

- A. Test results of standard cylinders, molded, cured, and tested according to ASTM C31 and C39 should be evaluated separately for each concrete mix according to ACI 214, "Recommended Practice for Evaluation of Concrete Compression Test Results of Field Concrete."
- B. The criteria for acceptance of concrete shall be as detailed in ACI 318, Chapter 5, Section 5.6, "Evaluation and Acceptance of Concrete" or as per ASTM C94, Section 17 "Strength" and Section 18 "Failure to Meet Strength Requirements."
- C. As referenced in ASTM C94 – Section 4.4, "When the strength of concrete is used as a basis for acceptance, the manufacturer shall be entitled to copies of all test reports."

### **3.06 PREPARATION**

- A. Construction Joints:
  - 1. Clean previously placed concrete of laitance.
  - 2. Clean reinforcement and accessories of mortar from previous concrete placement operations.
  - 3. Apply bonding agent in accordance with manufacturer's recommendations.
  - 4. Moisten surface of previously placed concrete.

### **3.07 PLACEMENT**

- A. Place concrete according to ACI 301 and 304R, except as modified and supplemented on Drawings or in this Section.
- B. Notify Architect and Owner's testing laboratory minimum of 48 hours prior to commencement of placing operations.
- C. Cold Weather Concreting:
  - 1. Comply with requirements of ACI 306.1.
  - 2. Do not place concrete when ambient air temperature is expected to fall below 40 degrees F within 24 hours, except with prior written approval of Architect.
  - 3. Remove frost, ice, and snow from formwork, reinforcing, and accessories prior to placing concrete.
  - 4. Do not place concrete foundations, footings on frozen ground.
  - 5. Limit concrete temperature at time of discharge to 55 degrees F for sections less than 12 inches in any dimension and to 50 degrees F for other sections.
- D. Hot Weather Concreting:
  - 1. Comply with requirements of ACI 305R when ambient air temperature exceeds 75 degrees F.
  - 2. Use water-reducing, retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions to extend setting time to limits specified as approved by Architect.



3. Cool aggregates, cool mixing water, substitute ice for part of mixing water, or take other measures to limit concrete temperature at time of discharge to 90 degrees F.
  4. Cover reinforcing steel and steel forms with water-soaked burlap or use fog spray to limit temperature of steel to 120 degrees F immediately prior to concrete placement.
  5. Use evaporation retardant between finishing passes.
- E. At time of placement, provide concrete temperature between 50 degrees F and 90 degrees F.
- F. Ensure reinforcement, inserts, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- G. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- H. Place concrete continuously.
- I. Do not interrupt successive placement; do not permit cold joints to occur.
- J. Maintain surfaces receiving concrete at approximately same temperature as concrete being placed.
- K. Maintain surface of hardened concrete below 100 degrees F.
- L. Convey concrete from mixer to place of deposit by method that will prevent segregation or loss of material, and that will not require addition of water to produce desired slump at point of placement. Do not use supported reinforcing as runway base for concrete conveying equipment.
- M. Depositing:
1. Deposit concrete as nearly as practicable to its final location.
  2. Place concrete continuously between construction joints.
  3. Deposit concrete in layers not exceeding 24 inches in depth.
  4. Avoid inclined layers.
  5. Place each layer while preceding layer is still plastic.
  6. Do not allow free fall of concrete to exceed 4 feet. Do not allow free fall of concrete containing high-range water reducing admixture to exceed 10 feet.
  7. Drop concrete in vertical direction, not at incline.
  8. If forms and reinforcing above level of concrete already in place become coated with accumulations of hardened or partially hardened concrete, remove accumulations before proceeding.
  9. Place concrete without displacing reinforcing and accessories.
- N. Consolidation:
1. Vibrate concrete to eliminate formation of surface air voids, honeycombs and sand streaks.

2. Use mechanical, internal vibrators with proper frequency, rpm, and spud size. Select spud for size and spacing of reinforcement and clearance to formwork. Supplement vibration by hand-spading, rodding, or tamping.
3. Insert and withdraw vibrator vertically at spacing not to exceed 1-1/2 times radius of action of vibrator, maximum of 24-inch centers.
4. Insert vibrators into placed layer and at least 6 inches into preceding layer.
5. Do not allow vibrator to touch form face or embedded items.
6. Do not use mechanical vibration for slabs less than 4 inches thick. Use hand spading and tamping in these locations.

### **3.08 DEPOSITING**

- A. Concrete shall be continuously deposited. When continuous placement is not possible, construction joints shall be located as approved by the Architect. Concrete shall be deposited as close to its final point of placement as possible.
- B. Concrete shall be consolidated by vibration, spading, rodding or forking. Work concrete around reinforcements, embedded items and into corners. Eliminate all air or rock pockets and other causes of honeycombing, pitting or planes of weakness.
- C. Internal vibration shall have a minimum frequency with amplitude to consolidate the concrete effectively. See ACI 309, "Recommended Practice for Consolidation of Concrete."
  1. Vibrators shall be operated by experienced and competent workmen.
  2. Use of vibrators to transport concrete shall not be allowed.
  3. Vibrators shall be vertically inserted every 18 inches for 5 to 15 seconds and then withdrawn.

### **3.09 FINISHING**

- A. General: Provide finishes at specified locations, unless indicated otherwise.
- B. Finishing Formed Surfaces:
  1. Rough Form Finish:
    - a. Leave surfaces with texture imparted by forms, except patch tie holes and defects.
    - b. Remove fins and other projections exceeding 1/4 inch in height.
    - c. Locations: Concrete surfaces not exposed to view.

### **3.10 CURING**

- A. General:
  1. Comply with ACI-308, except as modified or supplemented.
  2. Start immediately after placing and finishing concrete.

3. Protect from premature drying, temperature extremes, temperature variations, rain, flowing water, and mechanical injury.
  4. Cure continuously, without allowing to dry, for minimum period required for hydration of cement and hardening of concrete.
  5. Maintain temperature of concrete above 50 degrees F for curing period.
  6. Minimum Length of Curing Period:
    - a. High Early Strength Concrete: 3 days.
    - b. Other Concrete: 7 days.
- B. Acceptable Curing Methods:
1. Concrete to receive Waterproofing or Dampproofing:
    - a. Moist curing, moisture-retaining sheet covering, or chemical curing compounds.
  2. Other Concrete: Moist curing, moisture-retaining sheet covering.
- C. Acceptable Curing Procedures:
1. Moist Curing Unformed Surfaces:
    - a. Fabric Mats: Cover surfaces with wet burlap or other absorptive material which will not discolor concrete; keep continuously wet.
  2. Curing of surfaces which are moist cured for first 24 hours may be cured by other acceptable methods for remaining curing period provided they are not allowed to become dry.

### **3.11 FIELD QUALITY CONTROL**

- A. Field testing will be performed under the provisions of Section 01 45 23 "Tests and Inspections".
- B. Independent testing laboratory, employed by Owner, is responsible for:
1. Sampling Fresh Concrete: ASTM C172, sample at point of discharge from mixer and additionally at point of discharge from end of pipe for concrete conveyed by pumping methods; if water is added at Project site, obtain another sample for testing.
  2. Concrete Temperature: Test each time slump and air content are tested and each time set of compressive strength test specimens is made.
  3. Slump: ASTM C143; one test from first truck at point of discharge each day, one test each time set of compressive strength test specimens is made, and when change in consistency occurs.
  4. Air Content of Plastic Mix:
    - a. For Normal Weight, Air Entrained Concrete: ASTM C231, pressure method or ASTM C173, volumetric method.
    - b. For Lightweight, Air Entrained Concrete: ASTM C173, volumetric method.
    - c. Make one test each time a set of compressive strength test specimens is made.
  5. Compressive Strength Tests:
    - a. Make and cure test specimens in accordance with ASTM C31, from concrete sampled at point of discharge from mixer and additionally at point of discharge from end of pipe for concrete conveyed by pumping methods.

- b. Make one set of 4 test cylinder specimens for every 100 cubic yards, or for every 5000 square feet of slabs and walls, or fraction thereof, of each class of concrete, with at least one set for each class each day.
  - c. Test cylinders in accordance with ASTM C39, 2 at 7 days for information, and 2 at 28 days for acceptance.
  - d. When frequency of testing will provide less than five strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches, or from each batch if fewer than 5 are used.
6. Environmental Conditions:
- a. When ambient air temperature falls below 40 degrees F, record maximum and minimum air temperature in each 24-hour period; record air temperature inside protective enclosure; record minimum temperature of surface of hardened concrete.
  - b. When ambient air temperature rises above 85 degrees F, record maximum and minimum air temperature in each 24-hour period; record minimum relative humidity; record maximum wind velocity, and record maximum temperature of surface of hardened concrete.
7. Observe conveying, placement and consolidation of concrete for conformance to Specifications.
8. Observe condition of formed surfaces upon removal of formwork prior to repair of surface defects and observe repair of surface defects.
9. Observe curing procedures for conformance with Specifications, record dates of concrete placement, start of preliminary curing, start of final curing, end of curing period.
10. Observe Preparations for Placement of Concrete:
- a. Inspect handling, conveying, and placing equipment, inspect vibrating and compacting equipment.
  - b. Inspect preparation of construction, expansion, and isolation joints.
11. Observe preparations for protection from hot weather, cold weather, sun, and rain and preparations for curing.
12. Observations of Concrete Mixing:
- a. Monitor and record amount of water added at Project site.
  - b. Observe minimum and maximum mixing times.
13. Other Inspections:
- a. Grouting under base plates.
  - b. Grouting anchor bolts and reinforcing steel in hardened concrete.
14. Test for Water Soluble Chloride Ion Content in Hardened Concrete:
- a. Test in accordance with procedure described in FHWA Report No. FHWA RD-77-85.
  - b. Make one test for each set of compressive strength test specimens.
  - c. Test may be waived by Architect upon written request from Contractor after review of concrete design mix has been made.

C. Evaluation and Acceptance of Concrete:

- 1. Strength Test: Defined as average strength of two 28-day cylinder tests from each set of cylinders.

2. Acceptance Criteria Based on Strength Tests: Strength level of individual class of concrete is considered satisfactory if both:
    - a. Average of three consecutive strength test results equal or exceed required design compressive strength, and
    - b. No individual strength test results falls below required design compressive strength by more than 500 psi.
  3. Acceptance Criteria Based on Field Tests:
    - a. Core Tests: Where strength tests indicate concrete of deficient strength, obtain and test cores in accordance with ASTM C42, ACI 318 and ACI-301, at locations directed by Architect.
    - b. Strength level of concrete in area represented by core test is considered adequate if complies with the requirements of ACI 318.
    - c. Fill core holes with low slump concrete or patching mortar used to repair surface defects.
  4. Revise concrete mix proportions, curing procedures and protection as necessary to provide concrete conforming to Specifications.
- D. Acceptance of Structure:
1. Acceptance of structure for dimensional tolerances, appearance, and strength will be based on ACI-301, Chapter 18.
  2. Remove and replace concrete which does not meet acceptance criteria.

### **3.12 PATCHING AND REPAIRING DEFECTIVE CONCRETE**

- A. General:
1. Rewettable bonding agent may be used only in areas not subject to wet conditions.
  2. Patching compound may only be used for concrete not exposed to view.
- B. Repairing Formed Surfaces:
1. Surface Defects Requiring Repair:
    - a. Color and texture irregularities.
    - b. Honeycomb, air bubbles, rock pockets, and spalls.
    - c. Fins, burrs and other surface projections.
    - d. Cracks.
    - e. Stains and other discolorations that cannot be removed by cleaning.
  2. Patch defective areas and tie holes immediately after removal of forms.
  3. Cut out honeycomb, rock pockets, and voids over 1/4 inch down to solid concrete but not less than 1-inch depth.
  4. Make edges of cuts perpendicular to concrete surface.
  5. Clean and dampen area including 6 inches of surrounding surface with water.
  6. Apply bonding grout by brushing into surface, after surface water has evaporated.
  7. Place patching mortar or patching compound before grout has set or dried.
  8. Compact patching material in place and strike off slightly higher than surrounding surface.
  9. Finish after minimum of one hour to match surrounding surface.

10. Cure repair areas by same methods as surrounding concrete or keep continuously damp for 7 days.

C. Repairing Unformed Surfaces:

1. Surface Defects Requiring Repair:

- a. Fine crazing cracks.
- b. Cracks larger than 0.012-inch-wide or cracks which penetrate to reinforcing.
- c. Cracks penetrating completely through non-reinforced sections.
- d. Spalling, popouts, honeycomb, and rock pockets.
- e. High and low areas in slabs.

2. Correct high areas in hardened concrete by grinding after concrete has cured at least 14 days.

3. Correct high and low areas during, or immediately after, completion of initial floating operations by cutting high areas and by placing fresh concrete in low areas.

4. Repair defective areas, except isolated random cracks and single holes not exceeding 1-inch diameter, by cutting out and replacing with patching mortar or patching compound.

- a. Remove defective areas to sound concrete with clean, square cuts.
- b. Dampen concrete surfaces in contact with patching material and apply bonding grout by brushing into surface, after surface water has disappeared.
- c. Place patching mortar or patching compound before grout has set or dried.
- d. Compact and finish to blend with adjacent finished concrete.
- e. Cure in same manner as adjacent concrete.

5. Repair isolated random cracks and single holes not over 1-inch diameter with patching mortar.

- a. Groove top of cracks and cut out holes to sound concrete and clean area.
- b. Dampen cleaned surfaces and apply bonding grout by brushing into surface, after surface water has disappeared.
- c. Place patching material before bonding grout is set or dry.
- d. Compact in place and finish to match adjacent concrete.
- e. Keep patched area continuously moist for not less than 72 hours.

D. Structural Repairs: Contractor shall propose materials, methods, and procedures to the Architect for review and approval prior to proceed with structural repairs.

### **3.13 PROTECTION**

A. Protect finished work.

B. Protect concrete from construction traffic, weather, or mechanical damage for 14 days after placing.

C. Provide raised runways for traffic areas.

D. Protect concrete from staining.

**END OF SECTION 03 31 00**

**REINFORCED CONCRETE UNIT MASONRY  
SECTION 04 22 00**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Concrete block work;
  - 3. Mortar and grout in connection with the installation of concrete block;
  - 4. Placement of steel reinforcing for concrete block;
  - 5. Supervision of dowel installation in concrete work;
  - 6. Setting and incorporating into the concrete block of all accessories, sheet metal work, miscellaneous iron, anchor bolts, etc. furnished by other trades;
  - 7. Associated hardware;
  - 8. Submittal preparation;
  - 9. Clean up.
- B. Related Sections:
  - 1. Section 03 21 00:       Reinforcing Steel
    - a. Furnishing of reinforcing steel and installation of steel dowels cast in concrete for concrete block.
  - 2. Section 03 31 00:       Structural Concrete Work
    - a. Footings for masonry walls.

**1.02 SUBMITTALS**

- A. Samples or Mock-ups:
  - 1. Submit one (1) sample of the manufacturer's complete custom color range to the Architect for color selection purposes prior to ordering material.

**1.03 QUALITY ASSURANCE**

- A. Tests and Inspections:
  - 1. Tests and Inspections shall be per Section 01 45 23 "Tests and Inspections".
  - 2. Continuous inspection of masonry shall be performed by special inspector approved by DSA during laying and grouting.
- B. Concrete Masonry Units:
  - 1. Furnish manufacturer's certificate attesting that units delivered to site meet material and property requirements specified, including linear shrinkage requirements; otherwise, concrete masonry units shall be sampled from material delivered to the site by the testing laboratory or project inspector,



and tested by the testing laboratory as specified in ASTM C140 for compliance, and tested for linear shrinkage according to ASTM C426. Testing shall be completed, and the units approved prior to placing units in the work.

2. Tolerances:
  - a. Unit masonry shall be placed within one-eighth (1/8") of noted dimensions>
  - b. Reinforcement shall be placed within tolerances recommended by ACI Detailing Manual – Special Publication, SP-66.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

#### **A. Concrete Block:**

1. Concrete block shall comply with per ASTM C90, Type I, medium weight Requirements.
  - a. Color shall be as directed by Architect
  - b. Types and size of block shall be as shown on drawings (8x8x16 scored to emulate 8x8x8 block).
  - c. Block mix shall have a water repellant admixture, SPG # VL 25/25 or BASF Rheopel Plus.
2. Basalite Concrete Products, LLC, dba Basalite Selma, contact rep: David Willis e-mail: david.willis@paccoast.com, (559) 896-1649.
3. Desert Block, Bakersfield, contact rep: Roger Beckett, e-mail: info@desertblock.com, (661) 858-2072.
4. Or approved equal.

#### **B. Portland Cement:**

1. Portland cement shall conform to ASTM C-150, Type II, with the following exceptions:
  - a. The cement shall not contain more than 0.60 percent total alkali when calculated as Sodium Oxide.
  - b. The percentage of Tricalcium Silicate is not limited.

#### **C. Grout:**

1. Comply with ASTM C476, Coarse Aggregate
2. Coarse grout proportioned by weight shall contain not less than 564 pounds of cementitious material per cubic yard.
3. Strength: 2000 psi at 28 days.
4. Sika Grout Aid Type II shall be used in grout.

#### **D. Hydrated Lime:**

1. Hydrated lime shall conform to Type S per ASTM C270.

- E. Water:
  - 1. Water shall be clean, free from deleterious acids, alkali, oil, and organic matter.
- F. Mortar:
  - 1. Mortar Type "S" per ASTM C270, proportions based on loose volumes:
    - a. Portland Cement: 1 part
    - b. Hydrated lime or lime putty: 1/4 part (min.)
    - c. Sand (damp, loose volumes): Not less than 2 1/4 and not more than 3 times the sum of the separate volumes of cementitious materials.
  - 2. Pre-mixed Mortar Type "S" per ASTM C270
    - a. Amerimix
    - b. Spec-Mix
    - c. Or approved equal
  - 3. Mortar shall have a water repellant admixture; SPG # VL 25/25 or BASF Rheopel Plus.
  - 4. Mortar Strength:
    - a. Mortar shall attain a minimum compressive strength of 1800 psi at 28 days.
  - 5. Mortar Color:
    - a. Natural gray.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Start of work shall be considered as acceptance of existing conditions.

#### **3.02 PREPARATION**

- A. Masonry units shall be clean and free from dust, grease, or other objectionable material.

#### **3.03 DELIVERY, STORAGE, AND HANDLING**

- A. Cement shall be stored in such a manner as to protect it from inclusion of foreign material and damage by moisture.
- B. Only one (1) brand of cement shall be used for this work.

#### **3.04 INSTALLATION OR APPLICATION**

- A. Install per the manufacturer's latest written recommendations.

B. Joints

1. Block shall be laid with three-eighths inch (3/8") minimum thick mortar bed on entire horizontal surface of block.
2. Solidly fill head joints.
3. Mortar joints shall be straight, clean, and uniform in thickness and shall be tooled with a steel rod as required to obtain a concave-rodged joint.
  - a. Produce a dense joint surface well-bonded to the block at the edges.
4. Walls to receive plaster, or in concealed locations, shall have flush struck joints.
5. Joints to be concealed under paint shall be filled flush and then sacked to produce a dense surface without sheen.

C. Alignment:

1. Block shall be laid in running bond, unless otherwise indicated.
2. Block shall be laid in a manner that preserves an unobstructed vertical continuity of the cells to be filled.
3. Remove overhanging mortar or other obstruction from inside the cells and from the reinforcing.

D. Mortar:

1. Materials for mortar shall be measured in suitable calibrated devices.
  - a. Shovel measurements will not be accepted.
2. Lime shall be the last material added to the mix.
3. Mix for at least 3 minutes in a mechanical batch mixer.
4. Re-tempering of mortar shall be done only by adding water into a basin made with the mortar.
  - a. Carefully work the water into the mortar.
  - b. Mortar that is non-plastic or over 1-1/2 hours old shall not be used.

E. Placing of Reinforcement:

1. Clean reinforcement to be free of mortar, oil, dirt, loose mill scale, excessive rust, or other coatings that would destroy or reduce the bond.
2. Bends shall be made around a pin having a diameter of not less than four (4) times the bar diameter for stirrups and ties and six (6) times the bar diameter for other bars, except for bars larger than one-inch (1") which shall be eight (8) times the bar diameter.
  - a. Bars shall be bent cold.
3. Reinforcing shall be accurately placed.
4. Reinforcing shall be fully embedded in grout.
  - a. Do not embed in mortar or mortar joints, except for wall mesh as indicated on the drawings.
5. Maintain one-half inch (1/2") minimum clearance between any bar and masonry.

6. Where the low-lift grouting method is used, the vertical bars shall be placed prior to the erection of the wall and shall be held in position at top and bottom, and at intervals not exceeding 192 diameters of the reinforcement with at least No. 16 gauge annealed wire.
7. Reinforcement that will be included in a grout pour shall be positioned and wired in place before the cells are grouted.
  - a. It is not permissible to "stick" the bars in the grout.

F. Dowels:

1. Supervise and be responsible for the proper installation of reinforcing dowels by others.
  - a. Dowels shall not be bent to obtain the proper alignment.

G. Splicing:

1. Splices shall be made with a lap of at least seventy-two (72) bar diameters, unless otherwise noted.
2. Bars shall be placed in contact and wired together to maintain proper clearances.
3. Stagger horizontal splices at least four feet (4'-0").
4. No splices in the vertical reinforcement will be allowed, unless shown on the drawings

H. Embedded Items:

1. Cooperate with other tradesmen to ensure that conduit, anchor bolts, sleeves, inserts, hangers, hollow metal door frames, etc., are properly installed and secured in correct position.
2. Embedded items shall be thoroughly clean and free from rust, scale, oil, or other foreign matter.
3. Do not embed pipes, other than electrical conduit.
  - a. Rigid electrical conduit may be embedded in structural masonry where indicated on the approved drawings
4. Accurately secure embedded and secure items set in place before the grouting of the cells is started.
  - a. Set bolts in place by using a wood template.
5. Bolts shall be grouted in place, with not less than one inch of grout between the bolt and the masonry.

I. Low Lift Grouting:

1. The method of grouting, either the high lift or the low lift method, shall be as specified. Low lift grouting shall conform to Title 24, Section 2104A.5.1.2.1.1.
2. Proportioning:
  - a. Material: Cement
    - 1) Proportions: 1
  - b. Material: Sand
    - 1) Proportions: 2.25 to 3.0

- c. Material: Pea Gravel
  - 1) Proportions: 1.0 to 2.0 (Aggregates measured in a damp, loose volume)
- 3. Required Admixture: Sika Grout Aid Type II, BASF Rheopel Plus
- 4. Add water in the amount necessary to cause the grout to flow into all joints of the masonry without segregation.
- 5. Grout shall attain a minimum compressive strength of 2000 psi at 28 days.
- 6. Fill all cells with grout in lifts not exceeding 4'-0" in height.
  - a. Masonry units shall not be laid more than 4'-0" in height before grouting.
- 7. If grouting is stopped for one hour or more, horizontal construction joints shall be formed by stopping the grout 1 ½ " below the top of the unit.
- 8. Grout shall be rodded with a heavy reinforcing bar or vibrated with a mechanical vibrator immediately after placing.

### **3.05 CLEANING OR REPAIR**

- A. Use care to keep the masonry clean.
  - 1. Mortar dropped or spattered on the work shall be removed immediately, and the surface washed clean.
- B. Remove all surplus material, equipment, and debris from the premises which result from this operation.

**END OF SECTION 04 22 00**

## **SECTION 05 12 10 HANDRAILS AND GUARDRAILS**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Pipe handrails;
  - 3. Hot dip galvanizing, exterior railings;
  - 4. Cast handrail wall brackets;
  - 5. Submittal preparation;
  - 6. Clean up.
- B. Related Sections:
  - 1. Section 03 21 00: Reinforcing Steel
  - 2. Section 09 91 13: Exterior Painting

#### **1.02 SUBMITTALS**

- A. Shop Drawings or Layout Drawings:
  - 1. Submit shop drawings to Architect for review and approval prior to starting work.

#### **1.03 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. Workmen shall be skilled in this type of steel fabrication and erection.
  - 2. Welders shall be qualified by tests prescribed in the "Standards Qualification Procedure" of the AWS.

### **PART 2 PRODUCTS**

#### **2.01 MATERIALS**

- A. Pipe rails shall be Schedule 40 standard steel pipe.
  - 1. Size per drawings.
  - 2. Hot Dip Galvanize after fabrication per ASTM A123, Grade 75.
  - 3. Shop priming shall meet Fed Spec TT-P-86, Type II; Sherwin-Williams Kromik Metal Primer or equal.
    - a. Exterior pipe rails shall not be shop primed.
  - 4. Galvanized finish repair.
    - a. Repair compound: ASTM D520, Type III high purity grade zinc dust. 24 lbs/gallon minimum weight per gallon. 52% by volume minimum solids content. 94% by weight in dry film minimum metallic zinc content. Galviline Galvanizing Repair, ZRC Worldwide. (800) 831-3275.

- B. Cast Handrail Wall Brackets:
  - 1. Malleable Iron:
    - a. Quality Standard: Style RB 14125 by R&B Wagner, Inc or approved equal.
  - 2. Hot Dip Galvanize after fabrication per ASTM A-123, Grade 75.
  - 3. Shop priming shall meet Fed Spec TT-P-86, Type II; Sherwin-Williams Kromik Metal Primer or equal.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify all required backing and blocking prior to enclosing framing.
- B. Verify framing or surfaces are acceptable prior to installing finish materials.
- C. Verify all dimensions, including grade elevations.
- D. Verify detail of existing field conditions.
  - 1. Coordinate adjustments for existing conditions with Architect prior to performing work.

### **3.02 FABRICATION**

- A. Layout:
  - 1. Fabrication shall be of welded construction in the largest assemblies feasible to fit into the hot dip tanks. Minimize number of field welds after the hot dip process.
    - a. Re-entrant corners shall be shaped to a notch-free radius of at least one-half inch (1/2").
- B. Railings and Handrails:
  - 1. Handrails for stairs and ramps shall be 1-1/4" to 1-1/2" diameter (1-1/2" nominal) and mounted 1-1/2" clear from side walls. CBC Section 1133B.4.2.5 and 1133B.5.5.1.
  - 2. All welded joints and surfaces shall be ground smooth, no sharp or abrasive corners, edges, or surfaces. Wall surfaces adjacent to handrail shall be smooth. CBC Section 1133B.4.2.6 and 1133B.5.5.1.
- C. Welding:
  - 1. Welding shall be done by the electric shielded arc process.
  - 2. Conform to the requirements of the latest edition of the AISC "Specification for the Design, Fabrication and Erection of Structural Steel Buildings".
  - 3. Conform to Sections 3 and 4 of the AWS "Structural Welding Code D1.1".
  - 4. Electrodes shall be E-70 AWS.

D. Cutting:

1. Gas cutting shall be done by machine wherever possible.

E. Bolted Connections:

1. Bolt holes shall be one-sixteenth inch (1/16") larger than the nominal diameter of the bolt.
  - a. Holes may be punched if the thickness of the material is less than the nominal diameter plus one-eighth inch (1/8").
  - b. Holes shall be drilled or sub-punched and reamed if the thickness of the material is greater than the nominal diameter plus one-eighth inch (1/8").

F. Painting:

1. Refer to Section 09 91 13 "Exterior Painting."

### **3.03 INSTALLATION OR APPLICATION**

A. Connections:

1. Bolts shall be zinc-plated machine bolts, unless otherwise noted.
2. Field welding shall meet all fabrication requirements listed above.
  - a. Grind off zinc plating at point of connections prior to welding where required.
  - b. After welding, all joints shall be ground smooth, degreased, and touch up galvanized with a 100% zinc compound.
3. Cast Handrail Brackets:
  - a. Attach to structure with lag bolts as detailed on Drawings.
  - b. Use lag-screw expansion shields when attaching brackets to concrete/masonry.

### **3.04 QUALITY CONTROL**

A. Tolerances:

1. Tolerances shall be as set forth in the latest edition of the AISC "Specification for the Design, Fabrication, and Erection of Structural Steel Buildings."
2. Handrails shall be set true-to-line and parallel to the slope of the walk or tops of nosing within 1/4" of dimensions indicated on the plans.

### **3.05 CLEANING OR REPAIR**

A. Clean and straighten material before fabrication.

1. Remove scale and rust.

B. Correct deformations resulting from fabrication processes.

1. Heat shrinkage of low alloy structural steels will not be permitted.



### **3.06 CONDITION OF FINISHED WORK**

- A. Handrails shall have returns to within 1/2" of the adjacent wall or closed returns to supporting pipes.
- B. Handrails shall have welded end closures.
- C. Edges shall be ground smooth and free of sharp edges.
- D. Pipe splicing and butt joints shall be welded using beveled end welds.
  - 1. Grind smooth top to totally conceal weld.
- E. No sandpaper marks, hammer marks, or blemishes will be allowed.

**END OF SECTION 05 12 00**

## **EXTERIOR PAINTING SECTION 09 91 13**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

**A. Inclusions:**

1. Provisions set forth in Divisions 0 and 1;
2. Surface Preparation:
  - a. Sanding, scraping, putty work, and cleaning of work to be painted.
  - b. Washing, priming, and backpriming of sheet metal work.
3. Painting, except factory finished materials:
  - a. Exterior surfaces.
  - b. Metal work, and trim.
  - c. Other normally painted surfaces.
  - d. If color of finish is not specifically listed on the Color Schedule, the Architect shall select from standard colors and finishes available.
  - e. Existing work shall be painted where specified.
  - f. Backpriming of wood and metal work;
  - g. Sealing of masonry or concrete surfaces;
  - h. Painting on exposed concrete block surfaces;
  - i. Painting of handrails;
  - j. Touch-up painting;
  - k. Labor, materials, tools, and equipment;
  - l. Preparation of submittals;
  - m. Clean up.

**B. Related Sections:**

1. Section 04 22 00: Reinforced Concrete Unit Masonry
2. Section 05 12 10: Handrails and Guardrails

**C. Performance Requirements:**

1. Complete coverage, void of blemishes.

**D. References:**

1. ASTM D16 Standard Terminology for Paint, Related Coatings, Materials, and Applications.

#### **1.02 DEFINITIONS**

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 35 units at 85 degrees, according to ASTM D 523.

- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees according to ASTM D 523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees according to ASTM D 523.
- G. Gloss Level 7: More than 85 units at 60 degrees according to ASTM D 523.
- H. EG: Ethylene Glycol. Ethylene glycol is listed as a hazardous air pollutant (HAP) by the U.S. EPA.
- I. Blocking: Two painted surfaces sticking together such as a painted door sticking to a painted jamb.
- J. RAVOC: Reactivity adjusted VOC 'Reactivity means the ability of a VOC to promote ozone formation.
- K. PDCA: Painting & Decorating Contractors of America [www.pdca.org](http://www.pdca.org).
- L. SSPC: SSPC Surface Preparation Standards and Specifications [www.sspc.org](http://www.sspc.org).
- M. Green Wise: Green Wise products are tested in an ISO accredited laboratory to meet environmentally determined performance standards established by Coatings Research Group, Inc.

### **1.03 SUBMITTALS**

- A. Product or Material Data:
  - 1. Submit product description and test data for all proposed products or materials for review and acceptance by Architect prior to start of work.
  - 2. Submit preparation, priming, and application instructions for each material proposed for use over job specific substrates.
  - 3. Substitutions shall show a line-by-line item review between the substituted product and the specified product for comparison and the specified Dunn-Edwards or Glidden Professional product in the paint schedule. The comparison shall include:
    - a. % Titanium Dioxide
    - b. % Solids by Weight
    - c. Type of vehicle
    - d. Solvent type
    - e. VOC content - Also list allowance per the Calif. Green Building Code

- f. Finish
- g. MPI rating
- h. Scrub test results
- 4. It will be the discretion of the Architect to accept proposed substitutions.

**B. Samples or Mockups:**

- 1. Submit a complete set of color selection samples of proposed materials for color selection by Architect prior to ordering materials.
- 2. Submit 8"x10" minimum size brush-out color samples of colors selected for use by the Architect.

## **1.04 QUALITY ASSURANCE**

**A. Regulatory Compliance:**

- 1. Materials must meet the standard set by the State of California for environmental protection and hazardous material content.
- 2. California Green Building Code

**B. Single Source Responsibility:**

- 1. Provide primers and undercoat products from the same manufacturer as the finish coats.
- 2. Review other sections in which primers are provided to ensure compatibility of the total coating systems for various substrates. On request, furnish information on characteristics or finish materials to ensure use of compatible primers.

**C. Manufacturer Qualifications:**

- 1. Company specializing in manufacturing the products specified with minimum of three (3) years of documented experience.

**D. Applicator Qualifications:** Company specializing in performing the type of work specified with minimum three (3) years of experience and approved by manufacturer.

## **1.05 ENVIRONMENTAL REQUIREMENTS**

**A. Contractor shall ensure that temperatures, relative humidity, and other environmental conditions for material storage, handling, and installation are maintained within the manufacturer's suggested limits.**

- 1. Apply water-based paints only when the temperature of surfaces to be painted and air temperatures is between 50 and 90 degrees F.
- 2. Apply solvent-based paints only when the temperature of the surfaces to be painted and the air temperature is between 45 and 95 degrees F.
- 3. Do not apply paints in snow, fog, rain, or misty conditions when the relative humidity exceeds 85% or when temperatures are less than 5 degrees above the dew point, or to damp or wet surfaces.

**B. Provide adequate lighting for proper installation of materials.**

- C. Provide adequate ventilation for proper installation of materials.
- D. Paints, primers, and thinners shall not contain any organic compounds or metals prohibited for use in these products in California.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Handling, storage, and application of the materials covered under this Section of the specifications shall be performed in accordance with the manufacturer's latest written recommendations.
- B. Materials shall be delivered to the site in original unopened containers showing the brand name and product identification number, date of manufacture, color name and number, and VOC content.
- C. Rejected materials shall be immediately removed from the site.
- D. Take precautions to minimize the potential for accumulation of paint fumes and the potential for fire.

#### **1.07 FIELD CONDITIONS**

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates and humidity and temperature limitations.
- C. Do not apply exterior paint and finishes during rain or snow or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- D. Minimum Application Temperature for Latex Paints: 50 °F for exterior unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 foot-candles measured mid-height at substrate surface.

### **PART 2 PRODUCTS**

#### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Dunn Edwards.
- B. Benjamin Moore;
- C. Sherwin Williams;

- D. Glidden Professional
- E. Devoe Coatings
- F. Tnemec Industrial Coatings
- G. Carboline

## 2.02 MATERIALS

- A. Paints and Finishes: Ready mixed, unless required to be a field-catalyzed paint.
  - 1. Provide paints and finishes of a soft past consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties and capable of drying or curing free of streaks or sags.
- B. Use only the highest quality products from the manufacturer's product line.
  - 1. Do not reduce, thin or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
- C. All coats shall be the products of the same manufacturer.
- D. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.
- E. Colorants: The use of colorants containing hazardous chemicals, such as ethylene glycol, is prohibited.
- F. Flammability: Comply with applicable code for surface burning characteristics.
- G. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by the Architect from the manufacturer's full line.
- H. Colors: Refer to "Color Schedule".

## 2.03 ACCESSORY MATERIALS

- A. Accessory materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Inspect all surfaces to receive paint.
  - 1. Application of paint indicates an acceptance of the underlying surface.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
  - 1. Concrete: 12 percent
  - 2. Masonry (Clay and CMU): 12 percent
  - 3. Portland Cement Plaster: 12 percent
- C. Portland Cement Plaster Substrates: Verify that plaster is fully cured, including pH testing to determined that alkalinity is within limits established by the manufacturer.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
- F. Application of coating indicates acceptance of surfaces and conditions.

### **3.02 PREPARATION**

- A. General:
  - 1. Remove hardware and hardware access, plates, machined surfaces, light fixtures, and similar items in places that are not to be painted or provide surface-applied protection prior to surface preparation and painting. Remove these items if necessary, for complete painting of the items and adjacent surfaces. Coordinate removal of items with the appropriate trade and Construction Manager. Clean surfaces before applying paint or surface treatments. Remove oils and grease from surfaces prior to final cleaning of surfaces.
    - a. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
  - 2. Schedule cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces. Items shall be reinstalled in the same manner that they were removed.
    - a. Remove incompatible primers and re-prime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

**B. Concrete, Masonry, and Stucco:**

1. Prepare concrete, masonry, and stucco surfaces to be painted by removing efflorescence, caulk, dust, dirt, grease, oils, and other forms of release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
  - a. Use abrasive blast cleaning methods if recommended by the paint manufacturer.
  - b. Determine alkalinity and moisture content of surfaces by performing appropriate test. Pay special attention to concrete masonry unit mortar joints and patch concrete surfaces with Ardex or other approved patching compounds. If surfaces are sufficiently alkaline to cause blistering and burning of finished paint, correct the condition before application per manufacturer's recommendation. Do not paint surfaces where moisture content of surfaces exceeds that permitted in the manufacturer's printed directions.
  - c. Clean concrete floors to receive paint or coatings with a 5% muriatic acid. Flush the floor with water to remove the acid, neutralize with ammonia, then water rinse and allow drying before painting.

**C. Metal:**

1. Remove oil grease, mill scale, rust, corrosive materials, and other soluble contaminants using solvents, or cleaning compounds in conjunction with wiping, dipping, steam cleaning, or degreasing.
2. Wash and etch galvanized material.
3. Touch up any abrasions or chips in mill finish prior to application of finish, assuring compatibility of touch-up and patching material with subsequent paint system to be applied.
4. Follow the Structural Steel Painting Council (SSPC) recommendations.
5. Prime the surfaces immediately after preparation.

**3.03 SEQUENCING AND SCHEDULING**

- A. Sequence work to avoid potential damage from other trades.

**3.04 INSTALLATION OR APPLICATION**

- A. Apply paint per Section 3.09 "PAINT SCHEDULE" at the end of this spec section.
- B. Application shall be in accordance with the manufacturer's latest written recommendations.



- C. Mixing and Thinning: Unless otherwise recommended by the manufacturer, paints may be thinned immediately prior to application with an approved manufacturer's thinner and used only within recommended limits of the printed directions when necessary to suit conditions of surface temperature, weather, and application methods. The use of thinner shall not relieve the Contractor from obtaining complete hiding, film thickness, or required gloss. Paints of different manufacturers shall not be mixed.
- D. Additional Requirements:
  - 1. Each coat shall be tinted a slightly different shade.
  - 2. Paint areas visible through grills, screens, or registers flat black.
  - 3. Door tops, bottoms, and edges shall receive the same finish as door faces.
- E. Shop-primed steel to be painted shall receive an additional field-applied primer coat per the schedule below. The shop coating shall be considered as a protective coat to inhibit rust during storage and erection. Prior to re-priming, clean all surfaces per SSPC SC-1 with non-petroleum based solvent cleaner.
- F. Block fillers: Provide block fill as scheduled to conform to the following per PDCA Standard P 12-05:
  - 1. Level 3 – Premium fill: One or multiple coats of high-performance block filler manufactured to be applied at a high dry film build. Block filler shall be back rolled to eliminate voids and reduce the majority of the masonry profile depth.
- G. Paint may be sprayed when approved by Architect. Non-metal surface (when allowed to be sprayed) must be properly back brushed or rolled.

### **3.05 QUALITY CONTROL**

- A. Tolerances:
  - 1. No holidays, sags, runs, crawls, brush marks, or other blemishes.
  - 2. All primers and finish coats shall be applied at manufacturers recommended spread rates to produce manufacturer's recommended dry film thickness per coat.
- B. Field Inspection:
  - 1. Project Inspector
  - 2. Architect of Record
  - 3. Owner Representative
- C. Dry Film Thickness Testing: Owner may engage the service of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
  - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
  - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

### **3.06 CLEANING OR REPAIR**

- A. Keep premises clean during the progress of the work.
- B. Painting shall not occur during dusty conditions.
- C. Thoroughly clean-up work and adjacent areas upon completion of the work.
- D. Sweep areas clean.
- E. Remove tools, excess materials, and debris from site.
- F. Remove spilled or spattered paint.
- G. Touch up all scratched or damaged paint.
- H. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing and refinishing, as approved by Architect and leave in an undamaged condition.

### **3.07 CONDITION OF FINISHED WORK**

- A. Complete coverage.
- B. Sharp, true lines and edges.

### **3.08 EXTRA STOCK**

- A. Contractor shall provide extra stock of 5% of each type of paint/coating and color used in new unopened 1-quart containers.

### **3.09 PAINT SCHEDULE (Based on Dunn-Edwards Paints)**

- A. Concrete:
  - 1. Painted surfaces – Eggshell Finish:
    - a. 1<sup>st</sup> Coat (Primer):
      - 1) Primer, alkali resistant, water-based interior/exterior.
        - a) Benjamin Moore, Ultra Spec Masonry Primer 609
        - b) Dunn-Edwards, EFF-Stop Select ESSL00.
        - c) Sherwin Williams, Loxon Primer A24W8300
    - b. 2<sup>nd</sup> Coat:
      - 1) Exterior 100% Acrylic Eggshell
        - a) Benjamin Moore, Ultra Spec Ext Low Lustre N455
        - b) Dunn-Edwards, Spartashield SSSL30 (Gloss Level 3)
        - c) Sherwin Williams, A-100 Satin, A82-100 Series

- c. 3<sup>rd</sup> Coat:
  - 1) Exterior 100% Acrylic Eggshell
    - a) Benjamin Moore, Ultra Spec Ext Low Lustre N455
    - b) Dunn-Edwards, Spartashield SSSL30 (Gloss Level 3)
    - c) Sherwin Williams, A-100 Satin, A82-100 Series
- 2. Painted surfaces – Semi-Gloss Finish:
  - a. 1<sup>st</sup> Coat (Primer):
    - 1) Primer, alkali resistant, waterbased, interior/exterior.
      - a) Benjamin Moore, Ultra Spec Masonry Primer 609
      - b) Dunn-Edwards, EFF-Stop Select ESSL00.
      - c) Sherwin Williams, Loxon Primer A24W8300
  - b. 2<sup>nd</sup> Coat:
    - 1) Exterior 100% Acrylic Semi-Gloss
      - a) Benjamin Moore, Ultra Spec Ext Satin N448
      - b) Dunn-Edwards, Spartashield SSSL50 (Gloss Level 5)
      - c) Sherwin Williams, A-100 Gloss
  - c. 3<sup>rd</sup> Coat:
    - 1) Exterior 100% Acrylic Semi-Gloss
      - a) Benjamin Moore, Ultra Spec Ext Satin N448
      - b) Dunn-Edwards, Spartashield SSSL50 (Gloss Level 5)
      - c) Sherwin Williams, A-100 Gloss
- B. Concrete Block:
  - 1. Painted surfaces – Eggshell Finish:
    - a. 1<sup>st</sup> Coat (Filler):
      - 1) Latex block filler
        - a) Benjamin Moore, Ultra Spec Block Filler 571
        - b) Dunn-Edwards, Smooth BLOCFIL Premium SBSL00
        - c) Sherwin Williams, Preprite Block Filler B25W25
    - b. 2<sup>nd</sup> Coat:
      - 1) Exterior 100% Acrylic Eggshell
        - a) Benjamin Moore, Ultra Spec Ext Low Lustre N455
        - b) Dunn-Edwards, Spartashield SSSL30 (Gloss Level 3);
        - c) Sherwin Williams, A-100 Satin
    - c. 3<sup>rd</sup> Coat:
      - 1) Exterior 100% Acrylic Eggshell
        - a) Benjamin Moore, Ultra Spec Ext Low Lustre N455
        - b) Dunn-Edwards, Spartashield SSSL30 (Gloss Level 3)
        - c) .Sherwin Williams, A-100 Satin
  - 2. Painted surfaces – Semi-Gloss Finish:
    - a. 1<sup>st</sup> Coat (Filler):
      - 1) Latex block filler
        - a) Benjamin Moore, Ultra Spec Block Filler 571
        - b) Dunn-Edwards, Smooth BLOCFIL Premium SBSL00
        - c) Sherwin Williams, Prepate Block Filler B25W25

- b. 2<sup>nd</sup> Coat:
      - 1) Exterior 100% Acrylic Semi-Gloss
        - a) Benjamin Moore, Ultra Spec Ext Gloss N449
        - b) Dunn-Edwards, Spartashield SSSL50 (Gloss Level 5)
        - c) Sherwin Williams, A-100 Gloss
    - c. 3<sup>rd</sup> Coat:
      - 1) Exterior 100% Acrylic Semi-Gloss
        - a) Benjamin Moore, Ultra Spec Ext Gloss N449
        - b) Dunn-Edwards, Spartashield SSSL50 (Gloss Level 5)
        - c) Sherwin Williams, A-100 Gloss
- C. Metal Work:
  - 1. Non-Ferrous Metals (galvanized)
    - a. 1<sup>st</sup> Coat (Primer):
      - 1) Galvanized Metal Primer
        - a) Benjamin Moore, Corotech Bonding Primer V175
        - b) Dunn-Edwards, Ultrashield Galvanized Metal Primer ULGM00
        - c) Sherwin Williams, DTM Wash Primer B71Y1
    - b. 2<sup>nd</sup> Coat:
      - 1) Exterior 100% Acrylic Semi-Gloss
        - a) Benjamin Moore, Corotech Acrylic DTM S/G V331
        - b) Dunn-Edwards, Spartashield SSSL50 (Gloss Level 5)
        - c) Sherwin Moore, PI WB Alkyd Urethane 53
    - c. 3<sup>rd</sup> Coat:
      - 1) Exterior 100% Acrylic Semi-Gloss
        - a) Benjamin Moore, Corotech Acrylic DTM S/G V331
        - b) Dunn-Edwards, Spartashield SSSL50 (Gloss Level 5)
        - c) Sherwin Williams, PI WB Alkyd Urethane 53
- D. Portland Cement Plaster:
  - 1. Painted Eggshell Finish:
    - a. 1<sup>st</sup> Coat (Primer):
      - 1) Epoxy-fortified acrylic primer/sealer for interior and exterior
        - a) Benjamin Moore, Ultra Spec Masonry Primer 609
        - b) Dunn-Edwards, Eff-Stop Select ESSL00
        - c) Sherwin Williams, Loxon Primer A24W8300
    - b. 2<sup>nd</sup> Coat:
      - 1) Exterior 100% Acrylic Flat
        - a) Benjamin Moore, Ultra Spec Ext Flat N447
        - b) Dunn-Edwards, Spartashield SSSL10 (Gloss Level 1)
        - c) Sherwin Williams, A-100 Flat A6 Series
    - c. 3<sup>rd</sup> Coat:
      - 1) Exterior 100% Acrylic Flat
        - a) Benjamin Moore, Ultra Spec Ext Flat N447
        - b) Dunn-Edwards, Spartashield SSSL10 (Gloss Level 1)
        - c) Sherwin Williams, A-100 Flat A6 Series

- 2. Painted Elastomeric Finish:
  - a. 1<sup>st</sup> Coat (Primer):
    - 1) Epoxy-fortified acrylic primer/sealer for interior and exterior
      - a) Benjamin Moore, Ultra Spec Masonry Primer 609
      - b) Dunn-Edwards, Eff-Stop Select ESSL00
      - c) Sherwin Williams, Loxon Primer A24W8300
  - b. 2<sup>nd</sup> Coat:
    - 1) Durable elastomeric wall coating
      - a) Benjamin Moore, Ultra Spec Elastomeric 359, 360
      - b) Dunn-Edwards, Enduralastic 5
      - c) Sherwin Williams, Conlex Sherlastic Elastomeric CF16 Series

**END OF SECTION 09 91 13**

## **SECTION 31 10 00 SITE CLEARING**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Clear site of plant life and grass;
  - 3. Remove root system of trees and shrubs;
  - 4. Remove surface debris;
  - 5. Reuse or recycling
  - 6. Clean up.
- B. Related Sections:
  - 1. Section 31 22 00      Earthwork
  - 2. Section 31 31 19      Vegetation Control

#### **1.02 SUBMITTALS**

- A. Record Drawings:
  - 1. Keep a record of the location and size of all capped pipe and /or conduit.
  - 2. Submit record drawings per General Conditions.

#### **1.03 QUALITY ASSURANCE**

- A. Regulatory Compliance:
  - 1. Work shall comply with applicable provisions of local and State safety and health ordinances.
    - a. Burning of removed materials is not permitted within the project limits.
  - 2. Take out and maintain required permits, approval and licenses necessary to legally complete this Work.
  - 3. Insure that subcontractors are properly licensed and have required permits to perform their work.

### **PART 2 PRODUCTS**

#### **2.01 MATERIALS**

- A. Provide materials, not specifically described, but required for proper completion of the work of this Section, as selected by the Contractor.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work.
  - 1. Do not proceed until unsatisfactory conditions are corrected.
- B. Accept the premises in the condition as found on the first day of work under this Contract.

### **3.02 PREPARATION**

- A. Notify utility companies concerning cut-off or restoration of service, or of relocation or modification of any such service that the work of this contract may require.
  - 1. Where utility cuffing, capping, or plugging is required, perform such work in accordance with requirements of the utility company or governmental agency having jurisdiction.
- B. Utilities:
  - 1. Protect and maintain in operation utility, irrigation, or sewer lines that are required to remain operative during the period of this contract.
    - a. If service is interrupted as a result of Work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
    - b. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
    - c. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Architect and secure his instructions.
      - 1) Do not proceed with permanent relocation of utilities until written instructions are received from the Architect.

### **3.03 PROTECTION OR ADJUSTMENTS**

- A. Enclose area of work with fence barricades.
  - 1. Protect trees and shrubs, where indicated to remain, by providing an additional fence around the tree or shrub so trees and shrubs will not be damaged in any way as part of the Work.
- B. The working area shall be kept securely locked at all times work is in progress.

- C. Post signs and warnings devices necessary to exclude all persons, except those directly connected with the work from work areas.
  - 1. Barricade open depressions and holes occurring as part of this Work, and post warning lights on property adjacent to or with public access.
    - a. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
- D. Maintain access to the project site at all times.
- E. Protect adjacent buildings, shrubs, trees, and lawns from damage.
  - 1. Protect structures, utilities, sidewalks, pavements and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by operations under this Section.
- F. Do not interfere with use of adjacent buildings or safe ingress or egress.
- G. Use of explosives will not be permitted.

### **3.04 CLEARING**

- A. Remove from Site:
  - 1. Vegetation, including roots of plants not shown, to remain.
    - a. Roots under and/or within five feet of proposed structures shall be completely removed to a minimum depth of two (2) feet below the bottom of the lowest proposed structural footing or two (2) feet below existing grade, whichever is lower.
      - 1) Roots deeper than the elevation indicated above, shall be excavated to allow no roots larger than one and one-half (1-1/2) inches in diameter.
      - 2) Surface vegetation shall not be used as engineered fill or blended with and compacted.
    - b. Remove roots outside five feet of proposed structures and larger than 1-1/2 inch in diameter to a depth of at least 12 (12) inches below the existing ground surface.
      - 1) Treat roots smaller than one and one-half (1-1/2) inch in diameter remaining in the soil with a weed killer as specified in Section 02282 – Vegetation Control.
  - 2. Rubbish and debris;
  - 3. Rocks larger than 1 1/2" in diameter not shown to remain.
  - 4. Remove vineyard vegetation, posts, wires, and irrigation lines designated for removal on Drawings.
    - a. All underground irrigation lines shall be unearthed and removed from site.
      - 1) Plug or cap lines at property lines.
        - a) Coordinate with Construction Manager, when applicable, or Architect.



5. Reuse or recycling: Per T24, Part 11, CGBSC Section 5.408.3 100% of trees, stumps, rocks, and associated vegetation resulting from land clearing shall be recycled or reused.
  - a. Utilize a Waste Management Company that can provide verifiable documentation that waste was diverted from landfills.
  - b. Conform to Waste Management Plan Developed for this project.

### **3.05 CONSERVATION OF TOPSOIL**

- A. After the area has been cleared of vegetation, strip the existing topsoil to a depth necessary to provide at least 6-inch depth of topsoil in areas shown on the Drawings to receive turf or plants, and to fill planters, without contamination with sub-soils.
  1. Coordinate topsoil volume required with Construction Manager, when applicable, or Architect. Remove excess topsoil from property and dispose of offsite in legal manner.
- B. Stockpile in an area clear of new construction.
  1. Maintain the stockpile in a manner, which will not obstruct the natural flow of drainage.
  2. Maintain stockpile free from debris and trash.
- C. Keep the topsoil damp to prevent dust and drying out.

### **3.06 CLEANING OR REPAIR**

- A. Debris resulting from the work of this Section shall be removed and hauled away from the site.
  1. Debris and rubbish shall not be allowed to accumulate on the site.
- B. All material generated by this work shall be disposed of properly outside the project limits, in accordance with all applicable regulations, laws, and ordinances.
  1. Sprinkle loose material while being stored, handled, or loaded.
- C. Burning of removed materials is not permitted within the project limits.

### **3.07 CONDITION OF FINISHED WORK**

- A. Protections, tools, materials, plant apparatus, and rubbish or debris shall be removed.
- B. Existing areas to remain, public or private property, that may have been damaged, made dirty, or otherwise disorderly as a result of this work shall be restored to good order.

**END OF SECTION 31 10 00**

## **EARTHWORK SECTION 31 22 00**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Earth moving;
  - 3. Application of water as required for compaction or dust control;
  - 4. Importing or removal of soil as required to complete the work;
  - 5. Preparation of sub-grade below walks and paving;
  - 6. Dust control during earthwork operations;
  - 7. Clean up.

#### **1.02 QUALITY ASSURANCE**

- A. Regulatory Compliance:
  - 1. Work shall be performed in strict compliance with laws, ordinances, or regulations that govern this work.
- B. Project Record Documents:
  - 1. Any deviations from the work shown on the contract documents shall be clearly indicated on the project record documents.

### **PART 2 PRODUCTS**

#### **1.01 MATERIALS**

- A. Earth:
  - 1. Filling and back-filling earth shall be clean and essentially granular with sufficient silt and clay binders.
- B. Imported Fill:
  - 1. If it becomes necessary to import materials from offsite to complete the site grading, import soils shall consist of essentially granular, silty sands with low expansion potential and free of grasses, weeds, debris, rocks larger than 4" in maximum dimension and soluble sulfates in excess of 200 parts per million. Import fill shall contain sufficient silt and clay binders to render them stable in footing trenches and capable of maintaining specified elevation tolerances during paving operations.

2. Any earthen materials proposed to be brought onto the school sites are subject to testing to verify they are in compliance with Department of Toxic Substance Control (DTSC) standards. Owner shall determine if testing of materials is required prior to any materials being brought onto the site. Testing of materials may take up to two weeks to verify compliance with DTSC standards.
3. Imported fill material shall be approved by the Soils Engineer.
4. Contact the Soils Engineer a minimum of 48 hours prior to the placement of fill materials to allow for proper review of the bottom of excavations.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Contractor shall thoroughly examine the project site prior to submitting his bid to familiarize himself with the conditions of the site and the conditions in which he will be required to work.
- B. Contractor shall thoroughly examine contract documents prior to bid.
  1. Documents do not necessarily indicate a balanced site.
- C. Contractor shall familiarize himself with the locations of utilities found onsite and shall protect utilities not shown to be removed.
  1. Coordinate excavations near existing utilities with utility companies.

### **3.02 INSTALLATION**

- A. Excavations:
  1. Structural Over-Excavation:
    - a. Excavate to provide at least 12" of engineered fill beneath all footings and throughout the entire building.
      - 1) Extend over-excavation a minimum of five feet beyond the extent of exterior structural footings.
    - b. Comply with noted requirements shown on drawings.
    - c. Roots unearthed during excavation work shall be completely removed to a minimum depth of two (2) feet below the bottom of the lowest proposed structural footing or two (2) feet below finished subgrade, whichever is lower.
      - 1) Roots deeper than the elevation indicated above shall be excavated to allow no roots larger than one and one-half (1-1/2) inches in diameter.
    - d. Contractor shall notify Architect/Project Inspector for proper inspection/review of the bottom of the excavations can occur prior to continuing work.

2. Excavations for Concrete Footings:
  - a. Trench and excavation bottoms shall be smooth and uniform;
  - b. Do not excavate below required bottom of footing elevations;
    - 1) If over-excavated areas occur, they shall not be backfilled with earth materials.
    - 2) Fill with concrete to match footing at contractor's expense.
  - c. Keep excavations free of standing water.

B. Fill

1. Preparation for Fill:
  - a. Blade area to achieve a smooth uniform appearance.
  - b. Scarify to a depth of 6".
  - c. Moisten to near optimum moisture content.
  - d. Compact to required compaction to a depth of 6".
2. Placing and Compacting Fill:
  - a. Place fill material in even layers which do not exceed 8" thickness after compaction.
  - b. Compact to required compaction.
    - 1) Not less than 90% of maximum dry density per ASTM D1557.
    - 2) Rework layers not complying with minimum density requirements until compliance is achieved.
  - c. Fill to within 0.1 feet of indicated finished grades.
  - d. Surface of fill to be smooth and uniform.
3. Placing Fill on a Slope:
  - a. For sub-grades steeper than 10 to 1, place fill in flat bench layers.
    - 1) Benches shall be min. 10'-0" in width

C. Back-Filling:

1. After completion and inspection of concrete footings, fill voids between footings and earth banks with clean soil.
  - a. Place in layers that do not exceed 6" in thickness after compaction.
  - b. Compact to required compaction as specified for placing and compacting fill.
  - c. Fill to within 0.1 feet of indicated finished grades.
  - d. Surface to be smooth and uniform.
2. No jetting or ponding will be allowed, unless approved by the Structural Engineer of Record.

D. Finish Grading:

1. After cutting, filling, and back-filling are complete, finish grade site to within 0.1 feet of indicated grades, except as noted below.
  - a. Lawn or turf areas: 1" below adjacent walks.
  - b. Grade a sufficient distance behind curbs to allow for placement of forms.

E. Dust Control:

1. During all phases of the earthwork, water material and site to reduce dust.

F. Noise Control:

1. Use reasonable measures to control noise.

G. Cleanup:

1. Rake clean.
2. Remove unsuitable materials, excess materials, and debris, and dispose of offsite in a legal manner.
3. Adjacent roadways shall be kept clean during the progress of this work.
4. Upon completion of this work, water spray clean adjacent roadways.

### **3.03 PROTECTION**

A. Contractor shall protect all adjacent properties from damage resulting from the work of this Section.

B. Contractor shall protect the work of other trades from damage resulting from the work of this Section.

1. Layout or survey markers shall be carefully maintained.
  - a. Damaged markers must be replaced at the contractor's expense.

C. Provide and maintain proper barricades or barriers to ensure safety of workers and the general public.

1. Provide dusk-to-dawn warning lights at hazards adjacent to public access.
2. Protect existing concrete walks, curbs, and other permanent structures that are to remain.
  - a. Repair or replace damaged items to the satisfaction of the Architect.

D. Contractor shall take precautions to avoid loss of soil or debris during transit.

E. Underground Utilities:

1. Maintain all underground utilities, unless noted otherwise.
  - a. Comply with utility company requirements.
2. Notify Owner and utility company of any utilities to be cut off, modified, or relocated.
  - a. Comply with utility company requirements.

F. Take necessary precautions to guard against water accumulation in trenches, under buildings, or on adjacent property during the course of this work.

G. Take necessary precautions to guard against erosion of the project site or adjacent property during the course of this work.

### **3.04 QUALITY CONTROL**

A. Tolerances:

1. Variation from indicated grades may not exceed 1/10 of a foot.

B. Certification of Grades:

1. Contractor shall hire a California state licensed civil engineer or surveyor to certify that the grades established during the earthwork comply with the requirements of the contract documents.
2. Contractor shall deliver to Owner an electronic copy the grading plan (1"=30'-0" scale) as-graded plan.
  - a. Plan shall be produced in a professional manner.
  - b. Plan shall show as-graded elevations.
  - c. Plan shall be stamped and signed by the civil engineer or land surveyor hired by the Contractor to certify the grading.
3. The Owner reserves the right, at their own discretion, to hire an independent civil engineer to perform a survey of the project site to confirm the accuracy of the grading work.

C. Field Testing:

1. Field density testing shall be performed as directed by the Soils Engineer.

**END OF SECTION 31 22 00**

## **VEGETATION CONTROL SECTION 31 31 19**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Pre-construction vegetation control;
  - 3. Clean up.
- B. Related Sections:
  - 1. Section 32 13 13            Site Concrete
- C. Performance Requirements:
  - 1. Sterilization shall prevent seed germination and plant growth, under paving, sidewalks, curbs, gutters, and other areas indicated on the drawings.

#### **1.02 SUBMITALS**

- A. Product or Material Data:
  - 1. Submit copies of material data sheets to the Architect for review prior to application.
  - 2. Submittal shall include the manufacturers data sheets showing the appropriate application rate for the proposed use.

#### **1.03 QUALITY ASSURANCE**

- A. Regulatory Compliance:
  - 1. Comply with regulations governing the storage and application of these materials.
  - 2. Conform to State of California requirements for licensure and authority to use toxicant chemicals.
- B. Qualifications:
  - 1. Application shall be performed by an applicator approved by the chemical manufacturer.
- C. Environmental Requirements:
  - 1. Apply materials only under environmental conditions within the manufacturer's range of recommended conditions.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Use one of the following materials in working solution in strict conformance with governmental regulations:
  - 1. Under paving, sidewalks, curbs, gutters:
    - a. Treflan (Trifluralin);
    - b. Pramitol 25E (prometon)
    - c. Or approved equal.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine the area upon which work is to be performed.
  - 1. Correct detrimental conditions prior to application.

### **3.02 DELIVERY, STORAGE AND HANDLING**

- A. Store materials in strict conformance with the manufacturer's written recommendations and government regulations.

### **3.03 INSTALLATION OR APPLICATION**

- A. Apply in accordance with the manufacturer's recommendation.
- B. Apply to area receiving paving, sidewalks, curbs, and gutters immediately prior to installation.
- C. Apply herbicide material to bottom of apparatus yards, jump pits, and sand areas immediately prior to installation of protective surfacing.

### **3.04 PROTECTION OR ADJUSTMENTS**

- A. Take precautions to protect adjoining property and areas designated for planting.

**END OF SECTION 31 31 19**



**^SITE CONCRETE PAVING  
SECTION 32 13 00**

**PART 1 GENERAL**

**1.01 SUMMARY**

A. Inclusions:

1. Provisions set forth in Divisions 0 and 1;
2. Concrete flatwork other than buildings and structures;
  - a. Including concrete walks
3. Concrete finishing of site concrete;
4. Curing, protection, and patching of site concrete;
5. Vegetation control;
6. Expansion and tool joints in site concrete;
7. Caulking of expansion joints in site concrete;
8. Forming and shoring for site concrete;
9. Placing of sleeves, inserts, and embedded items in site concrete;
10. Clean sand fill under concrete flatwork or slabs as required for leveling and/or final grading of base;
11. Submittal preparation;
12. Clean up.

B. Related Sections:

1. Section 31 00 00           Earthwork
2. Section 31 31 19       Vegetation Control

**1.02 SUBMITTALS**

A. Product or Material Data:

1. Submit copies of the concrete mix design to the Architect for review prior to installing materials.
2. Submit copies of the product data to the Architect for review prior to installing the following:
  - a. Expansion joints.
  - b. Joint caulking material.

B. Samples or Mockups:

1. Provide a minimum 48" square mock-up of concrete finishes to jobsite for approval of finishes prior to pouring exposed portions of work.
  - a. Mock-up may be incorporated into the project.

C. Shop Drawings or Layout Drawings:

1. Submit copies of shop drawings to the Architect for review prior to beginning fabrication.

### **1.03 QUALITY ASSURANCE**

#### **A. Regulatory Compliance:**

1. Walks and sidewalks shall have a continuous common surface, not interrupted by steps or by abrupt changes in level exceeding 1/2 inch and shall be a minimum of 48 inches in width. Surfaces shall be slip-resistant as follows:
  - a. Slopes less than 5 percent:
    - 1) Surfaces with a slope of less than 5%- gradient shall be at least as slip-resistant as that described as a medium broom finish. Refer to CBC 11B-302.

#### **B. Testing:**

1. Prior to preparation of finish sub-grade for work of this Section, the Contractor shall give appropriate notification to the Inspector and allow adequate time for compaction tests to be taken when required by the Inspector prior to work to sub-grade.

#### **C. California Code of Regulations (CCR):** Provide only approved DSAAC detectable warning products as provided in the California Code of Regulations (CCR). Title 24, Part 1, Articles 2, 3, and 4 and Part 2, Section 205 definition of "Detectable Warning," Section 1127B.5 for "Curb Ramps," and Section 1133B.8.5 for "Detectable Warnings at Hazardous Vehicle Areas".

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

#### **A. Portland Cement:**

1. Conform to ASTM C150, Type II or V, with the following exceptions:
  - a. Cement shall not contain more than 0.60% total alkali when calculated as Sodium Oxide.

#### **B. Fly Ash:**

1. Conform to ASTM C618, Class F
  - a. Fly Ash may substitute cement for up to 30% of mix C+P content provided that the design mix meets 28-day strength requirements.

#### **C. Aggregates:**

1. Conform to ASTM C33.
2. Fine aggregate shall consist of washed natural sand.
  - a. Fine aggregate shall not contain more than two percent (2%) by weight of deleterious substances.
  - b. Fine aggregate shall meet the requirements of Table 1 below.

3. Coarse Aggregate shall consist of a clean, crushed rock or washed gravel.
  - a. Shall not contain more than five percent (5%) by weight of flat, thin, elongated, or laminated material.
  - b. Shall not contain more than two percent (2%) by weight shale or cherty material.
  - c. Coarse aggregate shall be 3/4" maximum size, see requirements of Table 1 below.

Table 1 - GRADING OF COMBINED AGGREGATES

1. Sieve (Woven Wire Cloth): Passing a 1-1/2"
  - a. Percent by Weight 3/4" Maximum
2. Sieve (Woven Wire Cloth): Passing a 1"
  - a. Percent by Weight 3/4" Maximum
3. Sieve (Woven Wire Cloth): Passing a 3/4"
  - a. Percent by Weight 3/4" Maximum: 90-100
4. Sieve (Woven Wire Cloth): Passing a 3/8"
  - a. Percent by Weight 3/4" Maximum: 55-75
5. Sieve (Woven Wire Cloth): Passing a #4
  - a. Percent by Weight 3/4" Maximum: 40-60
6. Sieve (Woven Wire Cloth): Passing a #8
  - a. Percent by Weight 3/4" Maximum: 30-46
7. Sieve (Woven Wire Cloth): Passing a #16
  - a. Percent by Weight 3/4" Maximum: 23-40
8. Sieve (Woven Wire Cloth): Passing a #30
  - a. Percent by Weight 3/4" Maximum: 13-28
9. Sieve (Woven Wire Cloth): Passing a #50
  - a. Percent by Weight 3/4" Maximum: 5-15
10. Sieve (Woven Wire Cloth): Passing a #100
  - a. Percent by Weight 3/4" Maximum: 0-5

Note: "Pea Gravel" mixes (mixes with 3/8" max. aggregate size), other than mixes used for exposed aggregate finish, will not be allowed.

D. Water shall be potable, clean and free from organic materials.

## **2.02 ACCESSORIES**

A. Concrete Expansion Joints:

1. Expansion joints shall be formed with 3/8" x 3-1/2" expansion joint and 3/8" x 1/2" expansion joint cap.
  - a. Quality Standard:
    - 1) Sealtight by W. R. Meadows:
      - a) Fibre Expansion Joint.
      - b) Snap-Cap Expansion Joint Cap.

2. Expansion joint sealant shall be self-leveling polyurethane sealant for horizontal expansion joints.
  - a. Conform to ASTM C 920, Type M, Grade P, Class 25, and Fed Spec. TT-S-00227E, Type I, Class A:
    - 1) W.R. Meadows, Sealtight Pourthane SL
    - 2) BASF Masterseal SL2;
    - 3) Or approved equal.
- B. Clean sand fill under concrete flatwork or slabs shall conform to the fine aggregate specification above.
- C. Curing Compound shall white-pigmented.
  1. Conform to ASTM C309.
- D. Synthetic Fibers:
  1. Monofilament or fibrillated polypropylene fibers.
  2. Acceptable Products:
    - a. Fiberstrand, Euclid Chemical Company, Cleveland, OH.
    - b. Fibermesh, Fibermesh, Chattanooga, TN.
    - c. Forta CR, Forta Corporation, Grove City, PA.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Start of work shall be considered as acceptance of existing conditions.

### **3.02 DELIVERY, STORAGE, AND HANDLING**

- A. A weighmasters certificate shall accompany each load of concrete.
  1. This certificate is to be delivered to the Project Inspector and Project Manager.
- B. Cement shall be stored in such a manner to protect it from damage.
- C. Only one (1) brand of cement shall be used for this work.

### **3.03 SEQUENCING AND SCHEDULING**

- A. Concrete shall be poured within 90 minutes of mixing.

### **3.04 VEGETATION CONTROL**

- A. Immediately prior to installing concrete, vegetation control chemicals shall be applied to the soil.

### **3.05 INSTALLATION OR APPLICATION**

- A. Install per the manufacturer's latest written recommendations.
- B. Concrete shall conform to the recommendations of the Portland Cement Association and the American Concrete Institute, unless otherwise shown or noted in these specifications.
- C. Preparation and Compaction:
  - 1. Concrete flatwork or vehicle traffic areas shall be placed over rolled sub-grade.
    - a. Proof roll sub-grade and rework unsuitable areas prior to installing leveling sand fill.
    - b. Compact subgrade to 95% relative compaction in traffic areas.
    - c. Compact subgrade to 90% relative compaction in pedestrian walks and other slab areas.
- D. Forms:
  - 1. Forms shall be built true-to-line and grade.
  - 2. Forms shall be rigid enough to prevent excessive deflection between supports.
    - a. Supporting studs or joists shall not be spaced more than twelve inches on center.
  - 3. The site curbs and gutters shall conform to the CalTrans specifications. The surfaces are to be true and straight. The maximum tolerance for the top, edges or any face is 0.01' (1/8") from the edge of a ten foot straight-edge.
  - 4. The curved site curbs and gutters shall conform to the CalTrans specifications. The surfaces are to be true and uniform using flexible formboards. The maximum tolerance for the top, edges or any face is 0.01' (1/8") from the edge of a ten foot straight-edge.
  - 5. Arrangement and construction shall be subject to the approval of the Architect.
    - a. Responsibility for adequacy of the forms rests with the Contractor.
  - 6. Coordinate to properly receive other construction, accessories, and anchorage.
    - a. Install sleeves, inserts, bolts, conduit, or other devices prior to placing concrete.
- E. Form ties or bolts shall be used to fasten the forms.
  - 1. Use sufficient strength and number to prevent spreading of forms.
    - a. Wire ties will not be permitted.
  - 2. Ties shall be of such type that they can be entirely removed or cut back one inch (1") or more from the finished concrete surface.

F. Form Coating:

1. Forms shall be coated with non-staining form oil.
  - a. Apply shortly before the concrete is placed, prior to placing the reinforcement.

G. Form Removal:

1. Form removal shall be performed in such a manner as to prevent damage to the concrete. Do not remove forms until the concrete has sufficiently hardened to permit their removal with safety.
  - a. Form removal will not be allowed in less time than as follows:

<u>Type of Work</u>	<u>Minimum Time</u>
Walls, Vertical Forms	24 hours
Slabs	24 hours

Note: Time is measured from addition of cement to aggregate.

H. Embedded Items:

1. Cooperate with all trades to ensure that all conduit, anchor bolts, sleeves, inserts, hangers, trench drains, grates, etc., are properly installed and secured in correct position.
  - a. Embedded items shall be thoroughly clean and free from rust, scale, oil, or other foreign matter.
  - b. All embedded items shall be securely held in their final positions by means of templates before concrete is poured.
  - c. All pipes and conduits penetrating slabs shall be sleeved with PVC pipe, sized 1/2" larger I.D. vs pipe O.D. (1/4" gap around) and topped with self-leveling sealant.

I. Reinforcement:

1. Concrete walks under roof areas shall be reinforced with #3 bars at 24" on center each way minimum, unless noted otherwise.
  - a. Provide #4 bar dowels at 24" O.C. into adjacent footings.
2. Locate reinforcement at mid height of flatwork or slab.

J. Mixing:

1. Transit-Mixed Concrete:
  - a. Mix and deliver in accordance with the requirements of ASTM C-94.
  - b. Weighmasters Certificate shall accommodate each load of concrete.
  - c. Water/(cement+fly ash) ratio shall be 0.50 or less.
2. Slump:
  - a. The amount of mixing water used shall not cause the slump to exceed the maximum allowed slump of 4 1/2".
  - b. Slump test shall conform to ASTM C-143.

K. Placing:

1. Concrete shall be used while fresh and before it has taken an initial set.
  - a. Re-tempering partially hardened concrete will not be permitted.
2. Place concrete in horizontal layers of such thickness that can be satisfactorily consolidated with vibrators.
3. Place concrete as close as possible to its final position.
  - a. Use of vibrators for extensive shifting shall not be permitted.
4. Fresh concrete shall not be permitted to fall more than six feet (6'-0"). Maximum spacing of deep-tooled joints for site work shall be as follows:
  - a. 6 feet on center for sidewalks.
5. Deep tool joints shall be a minimum of 1 1/8" deep with 3/8" radii edging.
6. Tool edges of flatwork or slabs at construction joints and other exposed corners.
7. Tool and expansion joints shall be located where shown on plans. Align joints of curbs or curbs and gutters with adjacent sidewalks.
  - a. Tool joints shall be uniform, straight, made perpendicular to building face, and parallel to each other for a uniform and consistent look.
8. Expansion joints shall be placed at a maximum of 24 feet on center for sidewalks.
  - a. Place expansion joints to align with the corners of buildings or structures and to align with the center of structural columns.

L. Cold Weather Requirements:

1. Do not place concrete on frozen ground.
2. Do not mix or place when atmospheric temperature is below 35 degrees F.
3. Protect concrete from freezing or frost for a period of five (5) days after placing.
4. Calcium Chloride shall not be added to the mix.

M. Curing:

1. Keep newly placed concrete moist for the first seven (7) days after the concrete has been placed.
2. Horizontal Surfaces:
  - a. Slabs poured in hot or dry weather shall have a fog spray applied to them during troweling.
  - b. Slabs shall be cured with curing compound.
    - 1) Spray-applied curing compound having white pigment.
      - i) Conform to ASTM C-309.
      - ii) Fully coat surface to a solid white color.
    - i) After curing, wash surface with a 10% solution of muriatic acid and flush with fresh water to expose slip-resistive aggregate.

### **3.06 QUALITY CONTROL**

- A. Tolerances:
  - 1. Concrete flatwork shall be true-to-plane to within 1/4" in 10'-0".
- B. Field Testing: Any concrete in question to its quality may be tested at the discretion of the Architect, Inspector, or Owner. The Inspector may take concrete test cylinders from each batch of concrete.

### **3.07 PROTECTION OR ADJUSTMENTS**

- A. Defective Concrete:
  - 1. Concrete will be considered defective for the following reasons:
    - a. Not meeting the minimum strength requirement.
    - b. Not formed as indicated.
    - c. Not true to intended alignment.
    - d. Containing voids or rock pockets.
    - e. Surface deviation of greater than specified tolerance.
    - f. Concrete damaged due to erection operations.
    - g. Concrete that does not fully conform to the specifications.
    - h. Inconsistent surface finishes.
  - 2. Defective concrete shall be removed and replaced with concrete complying with the drawings and specifications.
    - a. Unless otherwise approved by the Architect.

### **3.08 SCHEDULES**

- A. Typical Concrete Finish Schedule:
  - 1. Type of Finish: heavy broom finish
    - a. Type of Surface: concrete slopes exceeding 6%
  - 2. Type of Finish: medium broom finish
    - b. Type of Surface: all other areas
- B. Concrete Test Strength Schedule
  - 1. Type: un-reinforced, reinforced concrete
    - a. Required Strength: 2500 psi
    - b. Minimum 7 Day Test: 1800 psi
    - c. Minimum 28 Day Test: 2500 psi

### **2.09 CLEANING OR REPAIR**

- A. Formwork Cleaning:
  - 1. Remove dirt, chips, sawdust, nails, and other foreign matter from the forms before concrete is placed.
  - 2. Previously used forms shall be thoroughly cleaned of all dirt, mortar, and other foreign matter before reusing.



- B. Upon completion of other work, clean exterior finished concrete surfaces.
- C. Areas shall be swept and cleaned.
- D. Remove from the premises surplus material, equipment and debris that result from this work.

**END OF SECTION 32 13 00**

## **SECTION 32 33 00 SITE FURNISHINGS**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Site benches;
  - 3. Accessories and associated hardware;
  - 4. Submittal preparation;
  - 5. Clean up.
- B. Related Sections:
  - 1. Section 32 13 13: Site Concrete

#### **1.02 SUBMITTALS**

- A. Product or Material Data:
  - 1. Submit copies of manufacturer's installation recommendations to Architect prior to beginning installation.
- B. Samples or Mockups:
  - 1. Submit one (1) sample of the manufacturer's complete color range to the Architect for color selection purposes prior to ordering material.
- C. Shop Drawings or Layout Drawings:
  - 1. Submit copies of shop drawings to the Architect for review prior to beginning fabrication.

#### **1.03 QUALITY ASSURANCE**

- A. Qualifications:
  - 1. Installers shall have a minimum of two (2) years experience installing this type of equipment.
- B. Sequencing and Scheduling:
  - 1. Coordinate installation of this equipment with other associated trades.

### **PART 2 PRODUCTS**

#### **2.01 MANUFACTURERS**

- A. DuMor Inc.; 138 Industrial Circle, Mifflintown, PA 17059; 800-598-4018;  
Email: sales@dumor.com; Website: www.dumor.com

- B. Wausau Tile; P.O. Box 1520, Wausau, WI 54402; 800-388-8728;  
Email: wtile@wausautile.com; Website: www.wausautile.com
- C. Landscape Forms; E. 7800 Michigan Ave., Kalamazoo, MI 49048;  
Website: www.landscapeforms.com

## **2.02 BENCHES**

- A. Basis of Design:
  - 1. DuMor; Model 164 Series, Customized per drawings.
- B. Materials:
  - 1. Supports:
    - a. End Supports shall be ASTM A48 Class 30 cast iron.
  - 2. Seat Assembly:
    - a. Seat straps shall be manufactured from 1/4" x 1 1/2" ASTM A36 carbon steel flat bar.
    - b. Support pipes shall be manufactured from 1 1/2" (1 15/16" OD) ASTM A513 schedule 40 steel tubing.
    - c. Seat contour straps shall be manufactured from 3/8" thick ASTM A36 steel plate.
  - 3. Anchoring:
    - a. Stainless steel expansion anchors (1/2" x 3 3/4") provided.
- C. Dimensions
  - 1. 6-foot bench
    - a. Overall: 75" long x 22 3/8" deep x 25 1/8" high
- D. Finish:
  - 1. Powder Coating
    - a. All parts are processed through an 8-stage iron phosphorous wash system.
    - b. Parts are coated with a zinc-rich epoxy primer to an AVERAGE of 4-5 mils.
    - c. Parts are then finished with a top-coat of TGIC-polyester powder to an AVERAGE of 4-5 mils.
    - d. Powder is cured at the powder manufacturers specifications using combination of infrared and convection heat for approximately 20 minutes.
    - e. Finished parts shall comply with the following American Standard Test Method (ASTM) for coating and coating method: ASTM-D-523, ASTM-D-3363, ASTM-D-1737, ASTM-D-3359, ASTM-D-2794, ASTM-B-117 and ASTM-D-3451.

## **2.03 ACCESSORIES OR HARDWARE**

- A. All hardware shall be stainless steel or hot dipped galvanized, suitable for exterior use.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify layout prior to beginning work.
- B. Start of work shall be considered as acceptance of existing conditions.

### **3.02 SEQUENCING AND SCHEDULING**

- A. Coordinate installation of this equipment with other associated trades.

### **3.03 DELIVERY, STORAGE, AND HANDLING**

- A. Properly store and handle materials to avoid damage, rust, and other adverse conditions that may affect the quality of the finished product.

### **3.04 INSTALLATION OR APPLICATION**

- A. Handle and install benches per the manufacturer's latest written recommendations and installation instructions.

### **3.05 QUALITY CONTROL**

- A. Field Inspection:
  - 1. Project Inspector shall review installation and depth of footings.

### **3.06 CONDITION OF FINISHED WORK**

- A. Work shall be plumb, square, and true-to-line.
- B. Work shall be clean, undamaged, and in new condition.
  - 1. Remove excess earth and debris created by the work of this Section.

**END OF SECTION 32 33 00**

**SECTION 32 80 00  
IRRIGATION SYSTEM**

**PART 1 GENERAL INFORMATION**

**1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Provide an underground irrigation system as shown and specified. The work includes:
    - a. Automatic irrigation system including piping, fittings, sprinkler heads, and accessories.
    - b. Valves and fittings.
    - c. installation of new irrigation two wire controller and installation of new 2-wire cable.
    - d. Two wire decoders and lightning arrestors and grounding rods.
    - e. Testing.
    - f. Excavating and backfilling irrigation system work.
    - g. Associated exterior plumbing and accessories to tie into existing irrigation system.
    - h. Pipe sleeves.
    - i. Record drawings.
- B. Related Work:
  - 1. Section 32 92 19: Seeding
  - 2. Section 32 93 00: Planting

**1.02 SUBMITTALS**

- A. Submit manufacturer's product data and installation instructions for each of the system components. No substitutions will be allowed without prior written approval by the Landscape Architect.
- B. Submit complete material list/catalog cut sheets prior to performing work for Landscape Architect review.
- C. Upon irrigation system acceptance, submit written operating and maintenance instructions. Provide format and contents as directed by the Landscape Architect.
- E. Provide irrigation system record drawings (As Built) in .pdf format. Also, provide District with two full size hard copy plans of the as-built information in photo mylar format. Plans shall be professionally drafted to scale with recorded placement dimensions.
  - 1. Indicate horizontal and vertical locations, referenced to permanent surface improvements.
  - 2. Identify field changes of dimensions, details, and changes made by Architects Supplemental Instructions, Change Orders, or Request For Information responses.

## SECTION 32 80 00 IRRIGATION SYSTEM

- F. Controller Charts: After final acceptance of the 'As-Built' record drawings, two (2) reduced copies of the controller charts (furnished by the contractor) shall be provided to the owner. Controller chart shall be reduced to fit inside controller box enclosure. Controller charts shall color key irrigation circuits and be laminated in plastic. One of the controller chart copies shall be installed inside controller enclosure.
- G. Submit operating and maintenance data.  
Provide instruction manual, which lists complete instructions for system equipment operation.
- H. Contractor shall provide two sets of keys to each controller/enclosure.
- I. Contractor shall provide tools for two (2) sets of special tools required for removing, disassembling and adjusting each type of sprinkler and valve supplied on the project.
- J. Contractor shall provide two (2) five foot (5') valve keys for operating isolation valves.

### 1.03 QUALITY ASSURANCE

- A. Installer's Qualifications:
  - 1. Minimum of 5 years experience installing irrigation systems of comparable size.
- B. Materials, equipment, and methods of installation shall comply with the following codes and standards:
  - 1. All local, municipal, and state laws, rules, and regulations governing or relating to any portion of this work, and hereby incorporated into and made part of these specifications and drawings shall take precedence;
  - 2. American Society for Testing and Materials (ASTM);
  - 3. The Irrigation Association (IA).
- C. Excavating, backfilling, and compacting operations shall comply with requirements of Section 02200 – Earthwork, as modified when indicated by this Section.
- D. Obtain Landscape Architect's acceptance of installed and tested irrigation system **prior to installing backfill materials**.

### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver irrigation system components in manufacturer's original undamaged and unopened containers with labels intact and legible.
- B. Deliver plastic piping in bundles, packaged to provide adequate protection of pipe ends, both threaded or plain.
- C. Store and handle materials to prevent damage and deterioration.
- D. Provide secure, locked storage for valves, sprinkler heads, and similar

## **SECTION 32 80 00 IRRIGATION SYSTEM**

components that cannot be immediately replaced to prevent installation delays.

### **1.05 PROJECT CONDITIONS**

- A. Contact DigAlert (811) to open a ticket to have underground utilities marked prior to commencement of any excavation. **This is a state law.**
- B. Promptly notify the Landscape Architect through the Architect of unexpected sub-surface conditions.
- C. Irrigation system layout is diagrammatic. Exact location of piping, sprinkler heads, valves, and other components shall be established by Contractor in the field at time of installation.
  - 1. Space sprinkler components as indicated.
  - 2. Minor adjustments in system layout will be permitted to clear existing fixed obstructions. Final system layout shall be acceptable to the Landscape Architect.
- D. Cutting and Patching:
  - 1. Cut through concrete and masonry with core drills. Jack hammers are not permitted.
  - 2. Materials and finishes for patching shall match existing cut surface materials and finish.
  - 3. Methods and materials used for cutting and patching shall be acceptable to the Architect.

## **PART 2 PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Manufacturer: Hunter Industries
- B. Other acceptable manufacturers:
  - 1. Pacific-Western or equal
  - 2. Nibco or Matco
  - 3. 3M
- C. See Irrigation Legend.

### **2.02 MATERIALS**

- A. General:
  - 1. Provide only new materials, without flaws or defects, and of the highest quality of their specified class and kind.
  - 2. Comply with pipe sizes indicated. No substitution of smaller pipes will be permitted. Larger sizes may be used subject to acceptance of the Landscape Architect. Remove damaged and defective pipe.
  - 3. Provide pipe continuously and permanently, marked with manufacturer's name or trademark size schedule and type of pipe, working pressure at 73 degrees F. and National Sanitation Foundation (NSF) approval.

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**B. Plastic Pipe, Fittings, and Connections:**

1. Polyvinyl Chloride Pipe:
  - a. ASTM D2241, rigid, unplasticized PVC, extruded from virgin parent material. Provide pipe homogeneous through and free from visible cracks, holes, foreign materials, blisters, wrinkles, and dents.
    - 1) Main Line 2-1/2" diameter or smaller:
      - (a) Schedule 40 PVC.
    - 2) Main Line 3" diameter or larger:
      - (a) "O" ring type Class 200.
    - 3) Lateral Lines:
      - (a) Schedule 40 PVC.
2. PVC Pipe Fittings:
  - a. Fittings for "O" ring type Class 200 pipe shall be ductile iron fittings. Harco or Leemco. Install per manufacturer's specifications.
  - b. Fittings for Schedule 40 PVC shall be ASTM D2241 Schedule 40 PVC molded fittings suitable for solvent weld, slip joint Ring Tite seal or screwed connections. Fittings made of other materials are not permitted.
    - 1) Size slip fitting socket taper to permit a dry unsoftened pipe end to be inserted no more than halfway into the socket. Saddle and cross fittings are not permitted.
    - 2) Use galvanized male adapters for plastic-to-metal connections. Hand tighten male adapters, plus one turn with a strap wrench.

**C. BACK FLOW PREVENTION**

- a. Existing backflow prevention device to remain

**D. Sprinkler Heads, Valves, and Associated Equipment:**

1. Refer to drawings materials list.

**E. Controls:**

1. Refer to drawings materials list.
2. Two wire systems

**F. Control Wire:**

1. Control and Ground Wire:
  - a. Type UF 600 volt AWG control cable #14 or larger.
    - 1) Wire shall be rated for direct burial.
2. Two Wire cable color:
  - a. red and black with jacket colors per plans.

**2.03 ACCESSORIES**

**A. Drainage Fill:**

1. 1/2" to 3/4" washed pea gravel.



## **SECTION 32 80 00 IRRIGATION SYSTEM**

- B. Earth Fill:
  - 1. Clean soil free of stones larger than 2" diameter foreign matter, organic material, and debris.
    - a. Provide imported fill materials when required.
    - b. Suitable excavated materials removed to accommodate the irrigation system work may be used as fill material subject to the Landscape Architect's review and acceptance.
- C. Low Voltage Wire Connectors:
  - 1. Socket seal-type wire connectors and waterproof sealer, (3M DBR/Y-6).
- D. Valve Access Boxes:
  - 1. Tapered enclosure of rigid plastic material comprised of fibrous components chemically inert and unaffected by moisture corrosion and temperature changes. Provide lid of same material, green in color. Apply valve numbers to each valve with Christy valve markers. Box shall be applied Engineering, Ametek, Rainbird or equal. Valve box lids shall be bolted shut prior to final acceptance.

### **PART 3      EXECUTION**

#### **3.01      INSPECTION**

- A. Examine final grades and installation conditions. Do not start irrigation system work until unsatisfactory conditions are corrected.

#### **3.02      PREPARATION**

- A. Layout and stake the location of each pipe run and all sprinkler heads and sprinkler valves. Obtain Landscape Architect's acceptance of layout prior to excavating.
- B. Place sleeves as indicated for installation of piping and control wire.

#### **3.03      INSTALLATION**

- A. Excavating and Backfilling:
  - 1. All excavation shall be considered unclassified excavation and include all materials encountered.
  - 2. Excavate trenches to depth and width indicated on drawings to permit proper handling and installation of pipe and fittings.
  - 3. Fill to match adjacent grade elevations with approved earth fill material. Place and compact fill in layers not greater than 6" depth.
  - 4. Provide compaction of 95% over main lines where they cross under areas with concrete or AC paving. Compact all other trench backfill to 90%.
  - 6. Replace paving of same materials, as necessary, using joints and patterns to match existing adjoining paving surfaces.

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- B. Plastic Pipe:
1. Install plastic pipe in accordance with manufacturer's installation instructions. Provide for thermal expansion and contraction.
  2. Saw cut plastic pipe. Use a square-in sawing vice to insure a square cut. Remove burrs and shavings at cut ends prior to installation.
  3. Make plastic-to-plastic joints with solvent weld joints for slip seal joints. Use only solvent recommended by the pipe manufacturer. Install plastic pipe fittings in accordance with pipe manufacturer's instructions. Contractor shall make arrangements with pipe manufacturer for all necessary field assistance.
  4. Make plastic-to-metal joints with plastic male adapters.
  5. Make solvent weld joints in accordance with manufacturer's recommendations.
  6. Allow joints to set at least 24 hours before pressure is applied to the system.
  7. Maintain pipe interiors free of dirt and debris. Close open ends of pipe by acceptable methods when pipe installation is not in progress.
- C. Sprinklers, Fittings, Valves, and Accessories:
1. Install fittings, valves, sprinkler heads, and accessories in accordance with manufacturer's instructions, except as otherwise indicated.
  2. Set sprinkler heads perpendicular to finished grade, except as otherwise indicated.
  3. Obtain Landscape Architect's review and acceptance of height for proposed sprinkler heads and valves prior to installation.
  4. Locate sprinkler heads to assure proper coverage of indicated areas. Do not exceed sprinkler head spacing distance indicated.
  5. Install subsurface drip lines around tree plantings below grade as indicated on the plans.
  6. Install pop-up sprinklers with an adjustable triple-swing joint riser of at least 3 standard 90 degree elbows. Size to match size of pop-up inlet. Refer to irrigation drawings. All other nipples of the swing joint riser shall be of length as required for proper installation of the sprinkler head.
    - a. All turf heads should be mounted on triple-swing joints.
  7. Install in-ground control valves in corresponding valve access boxes as indicated.
  8. Install valve access boxes on a suitable base of gravel to provide a level foundation at proper grade and to provide drainage of the access box.
  9. Seal threaded connection on pressure side of control valves with Teflon tape or approved plastic joint-type compound.
- D. Control Wiring:
1. Install control two wire cable in the piping trenches wherever possible.
    - a. Place wire within 1" grey Sch 40 PVC conduit in trench adjacent to pipe.
    - b. Install wire with slack to allow for thermal expansion and contraction.
    - c. Expansion joints in wire to be provided at 200-foot intervals by making

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5-6 turns of the wire around a piece of 1/2" pipe instead of slack.

- d. Where necessary to run wire in a separate trench, provide a minimum cover of 18" as detailed.
2. Provide sufficient slack at site connections at remote control valve in control boxes and at all wire splices to allow raising the valve bonnet or splice to the surface without disconnecting the wires when repair is required.
3. Connect each remote control valve to one station of a controller except as otherwise indicated.
4. Connect each remote control valve to a common ground wire system independent of all other controllers.
5. Make wire connection to remote control electric valves and splices of wire in the field, using wire connectors and sealing cement in accordance with manufacturer's recommendations.
6. Provide tight joints to prevent leakage of water and corrosion build-up on the joint.
7. Wire splices shall only be made in accessible valve boxes. E. Two-Wire Cable Specifications

1. The two-wire shall have the following operating voltage: 600 V RMS max
2. The two-wire shall have the following temperature rating: 140°F (60°C)
3. The two-wire shall meet one criterion within each of the following categories:

### **Outer Jacket**

High density polyethylene (HDPE) between 0.035" and 0.048" thick, conforming to ICEA S-61-402 and NEMA WC5

**Conductors** - two of the same gauge, conforming to ASTM B-33, B-3, or B-8

Bare copper

Tin coated solid copper

### **Conductor Arrangement**

Conductors that are twisted

Conductors that are laid in parallel

### **Conductor Insulation**

Low density, high molecular weight polyethylene (PE) with a thickness of .045"  
PVC conforming to UL-493 or UL-719 for thermoplastic-insulated style UF  
(Underground Feeder)

### **Conductor Color Coding**

Black & red (recommended)

Black & white

Blue & red

### **Wire Path**

1. The two-wire path may be looped, spliced, or branched permitting extensions of the path in multiple directions.

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2. The distance from the controller to the end of any one wire run shall not exceed the maximum distance specified for the gauge of wire.
3. The distance from the controllers to the farthest device shall not exceed a distance of 10,000 feet (1524 m) using 14-gauge wire or 15,000 feet (2438.4 m) using 12-gauge wire.
4. All splices shall be made in a valve box.

### **Wire Installation Details**

1. The two-wire shall be laid with the pressurized irrigation line between valve boxes and installed without damage including nicks, cuts, or abrasions to the outer jackets. There shall be a 24-inch (61 cm) slack loop at every valve box for making connections.
2. The two-wire cable shall be tested before decoders are installed.

### **F. Connectors**

1. Direct Bury
  - a. All two-wire connectors shall be a DBR/Y-6 or equivalent direct bury splice, made for full submersion proof and shall effectively seal moisture from two or more conductors and installed per manufacturer's specifications, and as specified herein.
  - b. All twist connectors shall be a steel spring, metal shell, flame retardant PVC insulator.
  - c. The outer tube shall be made of polypropylene.
  - d. The internal gel shall be silicone electrical insulating gel.
  - e. The voltage rating shall be a minimum of 600 volts.
  - f. The operating temperature shall be -40°F to 221°F (-40°C to 105°C).
2. Connector Installation Details
  - a. All connectors shall be installed per manufacturer's specifications.
  - b. The installer shall make all connections per manufacturer's specifications.
  - c. The installer shall verify that no loose, unshielded wiring shall touch the ground, water, or other copper conductor causing a leakage of current to the ground or a short circuit across wires.
  - d. The installer shall make all connections fully submersion proof.
  - e. All splices shall be made inside a valve box.
  - f. The installer shall score the outer jacket of the wire 6 to 10 inches (15.24 cm to 25.4 cm) from each end without scoring conductor ins.
  - g. The installer shall strip 1 inch (2.54 cm) of insulation from conductor without scoring the conductor.
  - h. Installer shall bundle like conductors, twist them together, and trim off ½ inch (1.27 cm) of conductors.
  - i. Installer shall twist a wire connector in a clockwise direction, and then place a fully submersion-proof DBR/Y tube over the top making sure connector is fully seated at the top of the tube. Snap the cover completely closed.

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- j. Installer shall ensure that all connections are mounted in a vertical orientation to eliminate standing water inside the connector.
- k. Installer shall provide a strain relief to eliminate pressure on connector (for example, a loop knot in wire or a tie wrap).
- l. All splices shall be made inside a valve box.

**G. Field Decoders**

**1. Valve Decoders**

- a. Decoders shall be as specified on the irrigation legend of the plans.
  - b. 18 AWG/1mm dia. wire or larger shall be used for all decoder-to-solenoid connections. In high lightning areas this wire shall be twisted to maximize surge suppression.
  - c. Decoders shall be provided one per station. Each decoder shall have a single pair of red/blue leads for connection to the two-wire path, and a pair of black leads for connection to the solenoid.
  - d. Each decoder output shall have sufficient capacity to activate two typical 24VAC irrigation solenoids simultaneously. A "typical" solenoid is assumed to require approximately 400 ma inrush current with approximately 200 ma holding current. The decoders shall have a current draw of 3.5 ma standby and 40 ma per active station.
  - e. Decoders shall be filled with a waterproof polymer compound to protect all circuitry, but shall be installed in valve boxes to facilitate proper connections and service.
  - f. Each decoder shall include an integrated surge suppression circuit with an exposed, unjacketed ground wire. No additional surge suppression devices shall be required in the two-wire path.
  - g. Each decoder output shall also have thermal, resettable circuit breakers to prevent overload from solenoid malfunctions.
  - h. Each decoder shall be programmable via wireless electro-magnetic induction while installed, without disconnection of any waterproof connections. A wireless handheld meter (Hunter Industries Model ICD-HP) shall be furnished to allow programming, operation, and diagnostics through the decoder case.
- 2. Valve Decoder Wiring and Installation**
- a. The valve decoder shall be connected to the two-wire path and shall be installed within the valve box.

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- b. The valve decoders shall be attached to the valve wire using the connector specification in this document. All valve common wires shall be attached to white common wire of the valve decoder using the connector specification in this document.
  - c. The valve decoders shall not share valve wires or common wires between valve decoders.
  - d. The maximum wire run between a valve decoder and the controller shall be the same as stated in the manufacturer's two-wire specifications.
  - e. The maximum wire run between the valve decoder and the solenoid shall be 150 feet (45.7 m) using standard 14-gauge irrigation wire.
  - g. Each decoder shall be polarized.
  - h. The decoder shall be connected to the two-wire using the connector specification.
  - i. The valve decoder shall have enough current to run a typical solenoid up to 150 feet (45.7 m) away from valve decoder using standard 14-gauge irrigation wire.
  - j. The valve decoder shall have enough power to run 2 typical solenoids per decoder concurrently on separate outputs.
  - k. The valve decoder shall be installed in accordance with the manufacturer's published instructions.
  - l. The valve decoder shall carry a conditional 5-year warranty.
- H. Grounding for Two-Wire
- In all cases, where it does not conflict with appropriate grounding grid design for the site in question, ground rods or plates as referred to in this specification, shall conform to the following standards:
- 1. The installer shall follow manufacturer's grounding specifications.
  - 2. The installer shall provide adequate earth ground (not to exceed 10 ohms from any electrical device or wire to earth ground, or in compliance with practices as defined in American Society of Irrigation Consultants Earth Grounding Guideline 100-2002, available at [www.asic.org](http://www.asic.org)).
  - 3. The installer shall install a ground rod or ground plate for every 12<sup>th</sup> decoder of 1,000 feet (182.88 m) on the two-wire, whichever is shorter, and on the end of every spur that exceeds 50 feet (15.24 m).
  - 4. Grounding rods or plates shall be located the length of the grounding device away from the two-wire path. There shall be a 6-gauge bare copper wire connecting the grounding rod or plate to the surge arrestor.
- I. Grounding Rods and Plates
- 1. All grounding rods shall be bare copper 5/8 inch (1.6 cm) diameter or greater and 8 feet (2.44 m) long or longer.

## **SECTION 32 80 00 IRRIGATION SYSTEM**

2. A 10-inch (25.4 cm) round valve box shall be installed over the top of the grounding rod to facilitate the use of a clamp-on ground resistance tester.
  3. All grounding plates shall be a minimum of 5 square feet (1.5 m<sup>2</sup>) as outlined in ASIC Earth Grounding Guideline 100-2002.
  4. A 10-inch (25.4 cm) round valve box shall be installed over the top of the ground plate connection to facilitate the use of a clamp-on ground resistance tester.
  5. Grounding rods and plates shall be located at a minimum distance from the two-wire to assure that the two-wire path is outside of the electrode sphere of influence. For an 8-foot (2.44 m) grounding rod, the grounding rod shall be connected at least 8 feet away from the two-wire path at a right angle to the two-wire path.
  6. Consult the ASIC Earth Grounding Guideline 100-2002 for correct minimum recommended distances for different ground rod or ground plate sizes and grounding grid designs.
- J. Connections to Grounding Rods and Plates
1. The minimum ground conductor running from the grounding device to the surge suppression device shall be a minimum of a 6-gauge/4.0mm diameter, bare copper wire.
  2. The ground rod must be buried a minimum of 6 inches (15.24 cm) under the soil.
  3. All connections to grounding rods or ground plates shall conform to ASIC Earth Grounding Guideline 100-2002, and shall consist of a Cadweld™ type connection.
  4. Any wire extensions required to connect from a grounding rod or plate to a surge arrester or enclosure ground lug shall be bare copper.
  5. The 6-gauge solid conductor shall not exceed a minimum of an 8-inch (20.3 cm) radius bend at any point along the wire.
  6. There shall only be one mechanical connection on the grounding system.
  7. All ground lugs shall be made of either copper with stainless steel bolts and copper washers or brass with stainless steel bolts and brass washers.
  8. All mechanical connections where wires connect shall be cleaned, scored, and covered with antioxidant.
  9. Wire extensions connected to grounding devices shall use a Cadweld type connection where the bare copper ground wire meets the green grounding wire from the surge suppression device. This connection shall then be inserted in a DBR/Y-6 waterproof direct burial connector, or equivalent, or

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with an approved wire clamp. Ground hardware shall extend at right angles from the two-wire path.

- M. Utilize sleeves for installation of the irrigation system where indicated on drawings.
  - 1. Provide new sleeves for all locations where existing sleeves are not indicated. Install new sleeve prior to paving installation wherever possible.
  - 2. Remove and replace existing concrete and asphalt surfaces where cutting is necessary. Obtain Owner's and Architect's permission before cutting existing concrete and asphalt.
- N. Flushing, Testing, and Adjustment:
  - 1. After sprinkler piping and risers are installed and before sprinkler heads are installed, open control valves and flush out the system with full head of water.
  - 2. Perform system testing upon completion of each section. When main line installation has been completed, pressurize to 125 pounds for a period of 4 hours. Inspector and Landscape Architect shall observe test. Make necessary repair, and re-test repaired sections as required.
  - 3. Adjust sprinklers after installation for proper and adequate distribution of the water over the coverage pattern. Adjust for the proper arc of coverage.
  - 4. Tighten nozzles on sprinklers after installation. Adjust sprinkler adjusting screw on lateral line or circuit as required for proper radius. Interchange nozzle patterns, as directed by the Landscape Architect, to give best arc of coverage.
  - 5. Adjust all electric remote control valve pressure regulators and flow control stems for system balance and optimum performance.
  - 6. Test and demonstrate the controller by operating appropriate day, hour, and station selection features as required of each season per Service Section below.

### **3.04 DISPOSAL OF WASTE MATERIAL**

- A. Stockpile, haul from site, and legally dispose of waste materials, including unsuitable excavated materials, rock, trash, and debris.
  - 1. Refer to Section 02050 Part 3.08 for additional Disposal requirements.
- B. Maintain disposal route clear, clean, and free of debris.

### **3.05 ACCEPTANCE**

- A. Test and demonstrate to the Landscape Architect and Owner satisfactory operation of the system free of leaks.
- B. Instruct the Owner's designated personnel in the operation of the system, including adjustment of sprinklers, controller(s), and valves.
- C. Upon acceptance, the District will assume operation of the system.



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**IRRIGATION SYSTEM**

- D. All record documents and controller charts must be approved and submitted prior to final payment.

**3.06 CLEANING**

- A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris, and equipment. Repair damage resulting from irrigation system installation.
- B. Extreme care shall be taken by the landscape contractor when backfilling of trenches. They shall be left flush with the existing surrounding soil level. Tamp soil and rake level to make level bed for turf to establish.

**END OF SECTION**

## **SECTION 32 92 19 SEEDING**

### **PART 1      GENERAL INFORMATION**

#### **1.01      SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Soil preparation;
  - 3. Hydroseeding turf;
  - 4. Fertilizing;
  - 5. Maintenance;
  - 6. Submittal preparation;
  - 7. Clean up.
- B. Related Sections:
  - 1. Section 32 80 00:      Irrigation System
  - 2. Section 32 93 00:      Planting

#### **1.02      SUBMITTALS**

- A. Submit seed vendor's certification for required grass seed mixture.
  - 1. Indicate percentage by weight, and percentages of purity, germination, and weed seed for each seeded lawn.

#### **1.03      QUALITY ASSURANCE**

- A. Warranty:
  - 1. Provide a uniform stand of grass by watering, mowing, and maintaining seeded areas until final acceptance.
    - a. Reseed areas with specified materials which fail to provide a uniform stand of grass until all affected areas are accepted by the Landscape Architect.

#### **1.04      PROJECT CONDITIONS**

- A. Notify Landscape Architect at least 7 working days prior to start of seeding operations.
- B. Protect existing utilities, paving, and other facilities from damage caused by seeding operations.
- C. Perform seeding work only after planting and other work affecting ground surface has been completed.
- D. Restrict traffic from lawn areas until grass is established.
  - 1. Erect signs and barriers as required.
- E. Provide lawn watering equipment as required.
- F. Install irrigation system prior to seeding.
  - 1. Locate, protect, and maintain the irrigation system during seeding operations.

## SECTION 32 92 19 SEEDING

2. Repair irrigation system components damaged during seeding operations at this Contractor's expense.

### **PART 2      PRODUCTS**

#### **2.01    MATERIALS**

- A. Hydroseed mix for turf areas shall be as follows by volume:
  1. District approved Valley Mix
- B. The above mix to be applied at 10 pounds per 1,000 sq. ft., equal in weight for each type grass seed.
- C. Seeds shall be dated for the current growth season.
- D. In addition, the following shall be included in the mix:
  1. Wood Cellulose Fiber Mulch: 45 pounds 1000 sq. ft.
- E. Incorporate soil amendments throughout entire depth of planting zone.
  1. Areas to be planted and irrigated shall receive soil amendments.
- F. Areas to be planted and irrigated shall receive soil amendments.
  1. Refer to plans for the soil amendments shall be incorporated throughout all areas to be seeded with turfgrass.
    - a. Provide a copy of delivery slips on all materials used on the project to the District and Landscape Architect
    - b. Delivery slips shall be provided at time of material delivery to site. Delivery will not be allowed without delivery slips on any items.

**Note:** If import soil is needed and in place, a soil suitability and fertility analysis of planted areas shall be made by a soils laboratory. If recommendations for soil amendment according to test results exceed the above quantities, the Contractor will be reimbursed for an extra based on unit costs submitted with original bid for soil amendments required in excess of the above quantities.

### **PART 3      EXECUTION**

#### **3.01    PREPARATION**

- A. Remove foreign materials, plants, roots, stones, and debris from areas to be seeded.
  1. At time of planting, areas to be planted or seeded shall be free of stones, stumps, roots, or other deleterious matter 1" in diameter or larger and shall be free from all wire, plaster, or similar objects that would be a hindrance to planting or maintenance.
- B. Protect existing underground improvements from damage.
- C. Remove contaminated subsoil.
- D. Cultivate large sport field area by ripping to depth of 12 inches with an

## **SECTION 32 92 19 SEEDING**

agricultural implement designed for that purpose. Rip area in two directions, perpendicular to each other.

1. Repeat cultivation areas where equipment has compacted subgrade

### **3.02 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver seed and fertilizer materials in original, unopened containers, showing weight, analysis, and name of manufacturer.
- B. Store in a manner to prevent wetting and deterioration.

### **3.03 INSTALLATION**

- A. After preparation of soil has been completed, the areas to be seeded shall be brought to a finish grade with the finish surface being smooth and even, and well-firmed.
  1. Contractor shall make the entire area smooth and even.
  2. Contractor shall insure that finish grades are generally one inch below the surface of walks, curbs, paved areas, and yard boxes without abrupt changes in gradient (yard boxes shall be level and 1/2" above grade).
- B. The ground surface shall be inspected by the Landscape Architect prior to seeding to determine suitability for planting.
  1. The Contractor shall obtain such approval before seeding.
- C. Seed types shall be as specified and shall be applied at the rate indicated.
- D. Equipment and Application:
  1. Hydraulic equipment used for the application of slurry shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix the above slurry.
  2. Distribution lines shall be large enough to prevent stoppage and to provide even distribution of the slurry over the ground.
  3. The pump shall be capable of exerting at least 150 psi at the nozzle or sufficient additional pressure for proper coverage.
  4. The slurry tank shall have a minimum capacity of 1,500 gallons and shall be mounted on a traveling unit which will place the slurry tank and spray nozzles within sufficient proximity of the areas to be seeded so as to provide uniform distribution without waste and shall be thoroughly clean and free of seed species that are not specified.
  5. With the engine at half throttle, water shall be added to the tank. When the water level has reached the height of the agitator shaft, good re-circulation shall be established and, at this time, the seed shall be added. Wood pulp mulch shall then be added to the mixture. The wood pulp mulch shall only be added to the mixture after the seed, and when the tank is at least one-third filled with water. The engine throttle shall be opened to full speed when the tank is half filled with water. The engine throttle shall be opened to full speed when the tank is half filled with water. All the wood pulp mulch

## SECTION 32 92 19 SEEDING

shall be added by the time the tank is two-thirds to three-fourths full.  
Spraying shall commence when the tank is full.

6. Spray with a uniform, visible coat.
7. The slurry shall be applied in a sweeping motion, in an arched stream so as to fall like rain allowing the wood fibers to build on each other until a good coat is achieved and the material is spread at the required rate per acre.
8. Slurry mixture which has not been applied to the slopes within four hours after mixing will be rejected and removed from the project at the Contractor's expense.

E. Watering Should be as Follows:

1. Prior to Hydroseed, the area shall be irrigated in order to provide a moist seed bed for the Hydroseed application.
2. Hydroseed areas shall receive several consecutive waterings the day of the Hydroseed to thoroughly saturate the soil.
3. After initial irrigation, water shall be applied as often and in sufficient amounts as conditions may require, to keep the soil wet above, around, and below the root systems of the plants (until germination is complete).

### 3.04 MAINTENANCE PERIOD

- A. Maintain seeded lawns for a period of at least 90 days after completion and acceptance of seeding operations for the entire project.
- B. Maintain seeded lawn areas, including watering, spot weeding, mowing, applications of herbicides, fungicides, insecticides, and re-seeding until a full, uniform stand of grass free of weeds, undesirable grass species, disease, and insects is achieved and accepted by the Landscape Architect.
  1. Water daily to maintain adequate surface soil moisture for proper seed germination.
  2. Maintenance Period work includes all mowing (at height approved by District), watering, weeding, reseeding, mulching, cultivating, spraying, and trimming necessary to bring the planted areas to healthy growing conditions, and any additional work needed to keep the areas neat, edged, and attractive.
  3. Any day the Contractor fails to adequately water, replace unsuitable plants, weed, and other work determined to be necessary by the Landscape Architect, he will NOT be credited as part of the Maintenance Period.
  4. Constant diligence shall be maintained for the advent of disease, insects, and/or rodent or vermint infestations, and proper preventative or control measures taken.
  5. Maintenance Fertilization Applications  
As indicated on the plans.
  6. At completion of Maintenance Period, all areas included in the Contract shall be substantially clean and free of debris and seeds, and plant

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### **SEEDING**

materials shall be alive, healthy, and free of infestations.

7. Any erosion or slippage of soil caused by watering shall be repaired by the Contractor at his expense.
8. All walks, curbs, and gutters shall be kept clear of debris, mud, dust, and standing water by sweeping, mopping, or hosing down as required to maintain cleanliness throughout.
9. The Contractor, within fourteen (14) days of written notification by the District, shall remove and reseed all guaranteed turf that for any reason fail to meet the requirements of the guarantee.
10. All plant material replaced shall be guaranteed for the original period, starting from the date of replacement.

#### **3.06 ACCEPTANCE**

- A. Inspection to determine acceptance of seeded lawns will be made by the Landscape Architect, upon Contractor's request.
  1. Provide notification at least 10 working days before requested inspection date.
  2. Seeded areas will be acceptable provided all requirements, including maintenance, have been complied with, and a healthy, uniform, close stand of the specified grass is established free of weeds, undesirable grass species, disease, and insects.
  3. No individual lawn areas shall have bare spots or unacceptable cover totaling more than 2% of the individual areas, in areas requested to be inspected.
- B. Upon acceptance, the Owner will assume lawn maintenance.

#### **3.07 CLEAN UP**

- A. Perform clean up during installation of the work and upon completion of the work.
  1. Remove from site all excess materials, debris, and equipment.
  2. Repair damage resulting from seeding operations.

### **END OF SECTION**

**SECTION 32 90 00  
PLANTING**

**PART 1 GENERAL INFORMATION**

**1.01 SUMMARY**

- A. Inclusions:
  - 1. Provisions set forth in Divisions 0 and 1;
  - 2. Soil preparation;
  - 3. Trees
  - 4. Planting mixes;
  - 5. Mulch and planting accessories;
  - 6. Maintenance;
  - 7. Submittal preparation;
  - 8. Clean up.
- B. Related Sections:
  - 1. Section 32 92 19: Seeding
  - 2. Section 32 84 00: Irrigation System

**1.02 QUALITY ASSURANCE**

- A. Plant names indicated shall comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature.
- B. Names of varieties not listed conform generally with names accepted by the nursery trade.
- C. Provide stock true to botanical name and legibly tagged.
- D. Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be measured as it stands in its natural position.
- E. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of 2 years.
- F. Stock furnished shall be at least the minimum size indicated.
  - 1. Larger stock is acceptable, at no additional cost, providing that the larger plants will not be cut back to size indicated.
  - 2. Provide plants indicated by two measurements so that a maximum of 25% are of the minimum size indicated.
- G. Provide "specimen" plants with a special height, shape, or character of growth.
  - 1. Tag specimen trees or shrubs at the source of supply.
  - 2. The Landscape Architect will inspect specimen selections at the source of supply for suitability and adaptability to selected location.
  - 3. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.

## **SECTION 32 90 00 PLANTING**

- H. Plants may be inspected and approved at the place of growth, for compliance with specification requirements for quality, size, and variety.
  - 1. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.
- I. Warranty:
  - 1. Warrant plant material to remain alive and be in healthy vigorous condition for a period of 1 year after completion and acceptance of entire project.
    - a. Inspection of plants will be made by the Landscape Architect at completion of planting.
  - 2. Replace plants that are dead as determined by the Landscape Architect, or are in an unhealthy or unsightly condition, or have lost their natural shape due to dead branches, or other causes, at the Contractor's expense.
    - a. Warrant all replacement plants for 1 year after installation.

### **1.03 PROJECT CONDITIONS**

- A. Notify Landscape Architect at least 7 working days prior to installation of plant material.
- B. Protect existing utilities, paving, and other facilities from damage caused by landscape operations.
- C. In the event that quantity discrepancies or material omissions occur in the plant materials list shown on the drawings, the planting plans shall govern.
- D. The irrigation system will be installed prior to planting.
  - 1. Locate, protect, and maintain the irrigation system during planting operations.
  - 2. Repair irrigation components damaged during planting operation at the Contractor's expense.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Provide plants typical of their species or variety; with normal, densely developed branches and vigorous root systems.
  - 1. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation.
  - 2. Plants shall have a fully developed form without voids and open spaces.
    - a. Plants held in storage will be rejected if they show signs of growth during storage.
- B. Container-growth stock: Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm, and whole.
  - 1. No plants shall be loose in the container.
    - a. Container stock shall not be pot bound.



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PLANTING**

- D. Provide tree species that mature at heights over 25'-0" with a single trunk. Trees that have the main trunk forming a "Y" shape are not acceptable.
- E. Plants planted in rows shall be matched in form.
- F. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.
- G. The height of the trees, measured from the crown of the roots to the top of the branch, shall not be less than the minimum size designated by industry standard.
- H. No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.
- I. Replace plant materials found dead or not in a healthy growing condition.
  - 1. Plants that die or lose more than 30% of their original leaves shall be replaced under this Section.
  - 2. Replace plant materials of same size and species, with a new warranty commencing on date of replacement.
- K. Trees shall be species and size-identified in plant schedule, grown in climatic conditions similar to close locality of the work.
- L. Plants shall be symmetrical, typical for variety and species, sound, healthy, vigorous, free from plant disease, insect pests or their eggs, excessive abrasions or other objectionable disfigurements, and shall have healthy, normal root systems, well filling their containers, but not to the point of being root bound. Tree trunks shall be sturdy and well hardened off. Main tree leader shall not be topped.
- M. Substitutions for the indicated plant materials will be permitted.
  - 1. Provided the substitute materials are approved in advance by the Landscape Architect and the substitutions are made at no additional cost to the District.
  - 2. Except for the variations so authorized, all substitute plant materials shall conform to the requirements of these specifications.
  - 3. If accepted, substitute materials are of less value than those indicated or specified, the Contract price will be adjusted in accordance with the provisions of the Contract.
- N. Plant Inspection and Rejection: Root condition of plants will be determined by the Architect through the removal of earth from the roots of at least two (2) plants but not more than 2% of the total number of species from each source.

**2.02 SOIL AMENDMENTS**

- A. Areas to be planted and irrigated shall receive soil amendments as indicated on the plans.

**SECTION 32 90 00  
PLANTING**

- B. A copy of delivery slips on all materials used on the project shall be delivered to the District representative and Landscape Architect.
  - a) Delivery slips shall be provided at time of material delivery to site. Delivery will not be allowed without delivery slips on any items.

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Remove foreign materials, plants, roots, stones, and debris from areas to be planted.
  - 1. At time of planting, areas to be planted shall be free of stones, stumps, roots, or other deleterious matter 1" in diameter or larger and shall be free from all wire, plaster, or similar objects that would be a hindrance to planting or maintenance.
- B. Protect existing underground improvements from damage.
- C. Remove contaminated subsoil.
- D. Small turf areas, use a rear tine tiller. Till amendment into the cultivated soil to a depth of 6 inches. Rake smooth as needed to conform to finish grading requirements.
- F. Excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds.
  - 1. Provide Tree pit width at least twice the diameter of the tree container size.
  - 2. Depth of pit shall accommodate the root system.
  - 3. Scarify the bottom of the pit to a depth of 4".
  - 4. Remove excavated materials from the site.

**3.02 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver fertilizer materials in original, unopened, and undamaged containers, showing weight, analysis, and the name of manufacturer.
- B. Store in manner to prevent wetting and deterioration.
- C. Take precautions in preparing plants for moving.
  - 1. Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration.
  - 2. Dig, pack, transport, and handle plants with care to ensure protection against injury.
  - 3. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrive, the certificate shall be filed with the Landscape Architect.
  - 4. Protect plants from drying out.
    - a. If plants cannot be planted immediately upon delivery, properly protect them with oil, wet peat moss, or in manner acceptable to the Landscape

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Architect.

- b. Water heel-in plantings daily.
- 5. No plant shall be bound with rope or wire in a manner that could damage or break the branches.
- D. Cover plants transported on open vehicles with protective covering to prevent wind burn.
- E. Reject plants when ball of earth surrounding roots has been cracked or broken preparatory to or during planting.
- F. Provide dry, loose topsoil for planting bed mixes. Frozen or muddy topsoil is not acceptable.

**3.03 INSTALLATION**

- A. Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.
- B. Locate plants as indicated or as approved in the field after staking by the Contractor.
  - 1. If obstructions are encountered that are not shown on the drawings, do not proceed with planting operations until alternate plant locations have been selected.
- C. Set plant material in the planting pit to proper grade alignment.
- D. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure.
- E. Set plant material root crown 1" above the finished grade.
- F. No filling will be permitted around trunks or stems.
- G. Backfill the pit with planting mixture.
  - 1. Do not use frozen or muddy mixtures for backfilling.
  - 2. Form a ring of soil around the edge of each planting pit to retain water.
  - 3. Tree planting pits backfill mix shall be as indicated on the plans. Blend with back fill.
- H. Mulching:
  - 1. Where indicated mulch tree planting pits with required mulching material 3" deep immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.
- I. Tree Staking:
  - 1. Inspect trees for injury to trunks, evidence of insect infestation, and improper pruning before wrapping.
  - 2. Staking:
    - a. Stake all trees immediately after lawn seeding operations, and prior to acceptance.

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PLANTING**

- 1) When high winds or other conditions that may affect tree survival or appearance occur, the Landscape Architect may require immediate staking.
3. All work shall be subject to acceptability of the Landscape Architect.

**J. Pruning:**

1. Pruning branches of deciduous stock after planting to balance the loss of roots and preserve the natural character appropriate to the particular plant requirements.
  - a. In general, remove 1/4 to 1/3 of the leaf bearing buds. Proportion shall, in all cases be acceptable to the Landscape Architect. Remove or cut back broken, damaged, and non-symmetrical growth of new wood.
2. Multiple Leader Plants: Preserve the leader that will best promote the symmetry of the plant.
  - a. Cut branches flush with the trunk or main branch, at a point beyond a lateral shoot or bud a distance of not less than 1/2 the diameter of the supporting branch.
    - 1) Make cut on an angle.
3. Prune evergreens only to remove broken or damaged branches.

**3.04 INSPECTION**

- A. Examine proposed planting areas and conditions of installation.
  1. Do not start planting work until unsatisfactory conditions are corrected.

**3.05 MAINTENANCE**

- A. Planted areas will be inspected at completion of installation and accepted to compliance with specified materials and installation requirements.
- B. After all work indicated on the drawings or herein specified has been completed, inspected, and approved by the Landscape Architect, the Contractor shall commence a ninety (90) day Maintenance Period.
  1. This ninety (90) day Maintenance Period shall occur within the specified project completion timeframe.
- C. Maintenance Fertilization Applications
  1. To be as indicated on plans

**3.06 WORK IN PROGRESS**

- A. Contractor shall continuously maintain areas included in the Contract during the progress of the work and until final acceptance of the work.
- B. During Maintenance Period the contractor shall maintain the site and this includes watering, mulching, cultivating, spraying, and trimming necessary to bring the planted areas to a healthy growing condition, and any additional work needed to keep the areas neat, edged, and attractive.
- C. During the maintenance period, the Contractor, at his own expense, shall

**SECTION 32 90 00  
PLANTING**

replace any plant indicating weakness or probability of dying.

- D. All basins around trees shall be maintained at a four (4) inch depth throughout progress of the work, unless otherwise instructed by the District authorized representative.
- E. Tree stakes that for any reason are damaged or rendered inadequate for support shall be repaired and restored to their original condition.
- F. Constant diligence shall be maintained for the advent of disease, insects, and/or rodent infestation, and proper preventative or control measures taken.
- G. All trees shall be maintained in their natural shapes.
  - 1. Tall or scraggly branches shall be thinned out where necessary.
  - 2. In no case shall trees be trimmed by heading or shearing.
  - 3. Any plants severely pruned in this manner shall be removed and replaced at Contractor's expense.
- H. At completion of maintenance period, all areas included in the Contract shall be substantially clean and free of debris and seeds.
  - 1. All plant materials shall be alive, healthy, and free of infestations.
- I. The Contractor, at his expense, shall repair any erosions or slippage of soil caused by watering.

**3.07 CLEAN UP**

- A. All walks, curbs, and gutter shall be kept clear of debris, mud, dust, and standing water by sweeping, mopping, or hosing down, as required to maintain cleanliness throughout.

**3.08 NOTICE**

- A. The Contractor, within fourteen (14) days of written notification by the District, shall remove and replace all guaranteed plant materials that for any reason fail to meet the requirements of the guarantee.
  - 1. All plant material replaced shall be guaranteed for the original period, starting from the date of replacement.
- B. Written Notice:
  - 1. At the end of the specified Maintenance Period, the Contractor shall present written notice to the District that he has completed the required maintenance, and upon acceptance by Landscape Architect and District's authorized representative, any further maintenance will be the responsibility of the District.

**END OF SECTION**