



Jonathan Gish, AIA
Principal Architect

Jeff Morris, AIA
Mike Clark, AIA
Associate Architects

Andrew Huff, PE, AIA
Structural Engineering

PROJECT MANUAL

FOR

EV CHARGER UPGRADES AT VARIOUS SITES

For Newman-Crows Landing Unified School District

OWNER:

**Newman-Crows Landing Unified School District
1223 Main Street
Newman, CA 95360
(209) 862-2933**

ARCHITECT:

**TPH Architects
519 McHenry Avenue
Modesto, CA 95354
(209) 571-2232**

BID SET

EV CHARGER UPGRADES AT VARIOUS SITES
FOR
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT

TABLE OF CONTENTS

DIVISION 0 - CONDITIONS OF THE CONTRACT

Forms Required	1 page
Notice to Bidders	2 pages
Instructions to Bidders	6 pages
Bid Bond	2 pages
Payment Bond	2 pages
Performance Bond	2 pages
Form of Proposal	5 pages
General Conditions	40 pages
Supplemental General Conditions	1 page
Contract Form	4 pages

SPECIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS

01300 Submittals	3 pages
01353 Site Standards	3 pages
01500 Temporary Facilities and Controls	7 pages
01700 Cutting and Patching	3 pages
01705 Project Closeout	2 pages
01710 Cleaning	1 page
01713 Field Engineering	2 pages
01786 Warranties	2 pages
01789 Record Documents	3 pages

DIVISION 2 - SITEWORK

02070 Demolition	3 pages
02110 Site Clearing	3 pages
02200 Earthwork	10 pages
02511 Hot-Mix Asphalt Paving	9 pages
02515 Concrete	2 pages
02760 Paving Marking Paint	2 pages
02775 Detectable Tactile Warning Surfaces	5 pages
02841 Parking Appurtenances	2 pages

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07920 Sealants and Caulking 3 pages

DIVISION 16 - ELECTRICAL

16000 Electrical General Requirements 10 pages

16110 Raceways and Fittings 6 pages

16300 Electrical Distribution System 1 page

END OF SECTION

EV CHARGER UPGRADES AT VARIOUS SITES
FOR
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT

The following forms are to be included in the submission of the Bid:

1. Bid Bond
2. Form of Proposal Including Noncollusion Affidavit and Designation of Subcontractors

END OF SECTION

NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT
1223 Main St., Newman, CA 95360

NOTICE TO BIDDERS

Sealed bids for EV CHARGER UPGRADES AT VARIOUS SITES, for NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT will be received in the Purchasing Office of NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT, 1223 Main St., Newman, CA 95360 **until September 23, 2026, at 1:00 p.m., at which time they will be opened and publicly read.**

Plans and Specifications are on file and may be viewed or downloaded from the website of TPH Architects, at <http://tpharchitects.com/bidding/>

A mandatory pre-bid job walk is scheduled for **September 16, 2026, at 1:00 p.m.. We will start at Von Renner Elementary School, 1388 Patchett Drive, Newman, CA 95360. We will meet at the flagpole.** The pre-bid job walk must be attended by a Principal of the company proposing to submit a bid or an employee of the company who is a Construction Superintendent or a Project Manager. The bid of any Contractor not in attendance at the pre-bid job walk will not be accepted.

If further information is needed, call Jonathan Gish, AIA, at (209) 571-2232.

Bids shall be submitted on forms included in the Bid Package.

The District has determined the general prevailing rate to be the per diem wages for each craft or type of workman or mechanic needed to execute this contract as set forth in the collective bargaining agreements for Stanislaus, San Joaquin, and Merced Counties, California. COMPLIANCE MONITORING: This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, Office of the Labor Commissioner. Copies of all collective bargaining agreements relating to the work are on file and available for inspection in the office of the California Department of Industrial Relations, Division of Labor Statistics and Research, 455 Golden Gate Avenue, San Francisco, CA, 94102, (415-703-4780), <http://www.dir.ca.gov/dlsr/> .

In compliance with SB 854, no contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

In addition, no contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

A valid B contractor's license will be required.

NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT reserves the right to waive any irregularity or informality in the bidding.

Published: September 2, 2026
 September 9, 2026

INSTRUCTIONS TO BIDDERS

Securing Documents:

Drawings and Specifications are available at: <http://tpharchitects.com/bidding/>.

Proposals:

Proposals to receive consideration shall be made in accordance with the following instructions:

1. Proposals shall be made on a form obtained from the Architect or Owner. All items on the form must be filled out. Numbers must be stated in figures, and the signatures of all individuals must be in longhand. The completed form must be without interlineation, alterations, or erasures.
2. No proposal will be considered which makes exceptions, changes, or in any manner makes reservations to the terms of the Contract Documents.
3. Questions regarding documents, discrepancies, omissions, or doubt as to meanings shall be referred immediately to the Architect who will send written instructions clarifying such questions to each bidder.
4. Each bid must give the full business address of the bidder and be signed by him and his usual signature. Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership, or by an authorized representative, followed by the signature and designation of the person signing.

Bids by corporations must be signed with the legal name of the corporation, followed by the name of the state of incorporation and by the signature and designation of the president, secretary, or other person authorized to bind it in the matter. The name of each person signing shall also be typed or printed below the signature. When requested by the Owner, satisfactory evidence of the authority of the officer signing in behalf of the corporation shall be furnished.

5. **Contractor Registration:** In compliance with SB 854, no contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

In addition, no contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

6. Labor Compliance Requirements: This contract/project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, Office of the Labor Commissioner.

Vendor/Contractor must comply with all labor compliance requirements including but not limited to prevailing wage, SB 854, Labor Code section 1771, 1771.1., 1774-1776, 1777.5, 1813 and 1815, as applicable.

1771.1. (a) 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 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.

7. Pursuant to the provisions of Sections 4100 to 4114, inclusive, of the Public Contract Code of the State of California, every Bidder shall, in his bid, set forth:
- A. The name, location of the place of business, Contractor's License Number, and DIR Registration Number of each subcontractor who will perform work or labor or render service to the bidder in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the bidder, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in plans and specifications, in an amount in excess of one-half (1/2) of one percent (1%) of the bidder's total bid.
 - B. The portion of the work which will be done by each such subcontractor. Only one subcontractor shall be listed for each such portion of the work as defined in the bid. If the bidder fails to specify a subcontractor for each portion of the work to be performed under the contract in excess of one-half (1/2) of one percent (1%) of the bidder's total bid, he agrees to perform that portion himself. The successful bidder shall not, without the consent of the Owner either:
 - 1) Substitute any person as subcontractor in place of the subcontractor designated in the original bid.
 - 2) Permit any subcontractor to be assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the bid.
 - 3) Sublet or subcontract any portion of the work in excess of one-half (1/2) of one percent (1%) of the total bid as to which his original bid did not designate a subcontractor.

8. California Nonresident Vendors

- A. California nonresident vendors may be subject to a 7% withholding on payments over \$1500 annually who are paid for:
 - 1) Performing services in California,
 - 2) A rental/lease of property located in California,
 - 3) Rental/lease of machinery and equipment,
 - 4) Royalties.
- B. California nonresident vendors will be required to fully complete and provide the appropriate tax forms as required by the State of California Franchise Tax Board.
- C. California nonresident vendors will also be required to fully complete and provide a Form 587 or 590.
- D. All vendors will be required to fully complete and provide a Form W-9.

9. Proposals must be accompanied with a certified cashier's check, bank issued official check, or bidder's bond, for an amount not less than ten percent (10%) of the amount of the base bid. The certified cashier's check, bank issued official check, or bidder's bond shall be made payable to the order of NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT. If a bidder's bond accompanied the proposal, said bond shall be secured by a California based surety company satisfactory to NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT.

Said check or bond shall be given as a guarantee that the bidder will enter into the contract and furnish the necessary bonds and insurance if awarded the work, and in case of refusal or failure to enter into said contract, the check or bond, as the case may be, shall be payable to NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT and retained as liquidated damages.

10. Proposals shall be sealed and filed in the Purchasing Office, NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT, 1223 Main St., Newman, CA 95360 no later than September 23, 2026, at 1:00 p.m..

Withdrawal of Proposals:

Proposals may be withdrawn by the bidder prior to the time fixed for the opening of bids.

Opening of Proposals:

Opening of proposals shall be as soon after the hour set as will be possible. Any and all bidders will be permitted to attend. The Board of Trustees is allowed sixty (60) days from that date in which to determine low bidder.

Examination of Contract Documents and Site:

Before submitting a proposal, bidders shall examine the contract documents. They shall visit the site of the proposed work, examine the building, or buildings, if any, and any work that may have been done thereon. They shall fully inform themselves of all conditions, in, at, and about the site, the building or buildings, if any, and any work that may have been done thereon.

Form of Contract:

The form of contract which the successful bidder will be required to execute, if awarded the work, is attached hereto and is made a part hereof. Such contract contains, among other things, matters required by State Law to be inserted in contracts for public work, including wage scale, hours of work per day, etc.

Addenda:

Any addenda or bulletins, issued during the time of bidding, shall form a part of the contract documents loaned to the bidder for the preparation of his proposal, shall be covered in the proposal, and shall be made a part of the contract.

Award of Contract:

Rejection of any or all proposals, to abandon work entirely or waiver of any informality in receiving of bids is reserved as the right of the Owner. Before the contract is awarded, the Board of Trustees may at his sole discretion, require from the proposed Contractor further evidence of the reasonable qualifications of such contractor to faithfully, capable, and reasonable perform such proposed contract and may consider such evidence before making its decision on the award of such proposed contract.

The contract shall be awarded to the lowest responsible bidder as interpreted by the Owner and specified herein and shall be entered into by the successful bidder within the (10) days after being notified by the Owner. Identity of lowest bidder will be determined by adding to or subtracting from the base bid the cost of such alternatives as Owner decided to include in the work and contract. The award, if made, will be made within sixty (60) days after the opening of the proposal.

Public Works Project Award Notification:

The PWC 100 form should be completed on-line by the Awarding Body. The completion and the submission of this form fulfills the required public works project award notification to both the Division of Apprenticeship Standards [Labor Code sec. 1773.3 (replacing former DAS-13 notification) and the Division of Labor Standards Enforcement Public Works Compliance Monitoring Unit [8 Cal. Code Reg. sec. 16451(a)].

Execution of Contract:

The Contract shall be signed by the successful bidder in duplicate counterpart and returned, together with the contract bonds and required insurance certificates, policies and endorsements within ten (10) days after the bidder has received notice that the contract has been awarded. Contractor and Owner shall sign a set of the contract documents for filing with the contract.

Contract Bonds:

Two bonds, as itemized below and in the forms presented in these contract documents, shall be furnished by the successful bidder at the time of entering into contract and filed with the Board of Trustees. They shall be in the form of surety bonds issued by corporations duly and legally licensed to transact business in the State of California, satisfactory to the Owner.

Performance Bond in the amount of one hundred percent (100%) of the contract sum to insure Owner during construction and for one year after completion against faulty or improper materials or workmanship and to assure Owner of full and prompt performance of contract and shall be secured from a California based surety or sureties satisfactory to the Owner.

Contractor's Bond (Labor and Material) in the amount of one hundred percent (100%) of the contract sum in accordance with the laws of the State of California to secure payment of any and all claims for labor and materials used or consumed in performance of this contract and shall be secured from a California based surety or sureties satisfactory to the Owner.

Payments:

Payments to the Contractor on account of the contract shall be made in accordance with the terms of the contract.

Certified Payroll:

All contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement).

These new requirements will apply to all public works that are subject to the prevailing wage requirements of the Labor Code, without regard to funding source.

Time of Completion and Liquidated Damages:

Time is of the essence in this contract, and all work called for herein and all requirements shall be completed within (90) ninety calendar days.

Should said work not be completed within the time limit as may be extended as herein provided, damages will be sustained by the Owner. It is understood and agreed that it is and will be impracticable or extremely difficult to determine the actual amount of damages which the Owner will sustain in the event of and by reason of such delay, and it is therefore agreed that the contractor will pay the Owner liquidated damages as specified in Article 8 of the General Conditions.

Partial Payments:

Once each month during the progress of the work, Contractor shall submit to Architect a progress payment request. The progress payment request shall be based on the approved bid breakdown for the cost of the work completed plus the acceptable materials delivered to the site or stored subject to the control of Contractor and not yet installed. The progress payment request shall be submitted on the monthly anniversary of the day selected by the Owner at job start meeting. Architect shall review and may certify as to the validity of the request. No progress payment shall be made without the certification of Architect. Progress payment requests shall be processed with a minimum of a five percent (5%) retention. This retention is part security for the fulfillment of the contract by Contractor. Progress payments shall not be construed as acceptance of any work which is not in accordance with the requirements of the contract.

END OF SECTION

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____
_____ as principal, and _____
_____ as Surety, are hereby held and firmly bound unto
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT, hereinafter called the
"Owner", in the sum of:

_____ Dollars
(\$ _____)
for payment of which sum, well and truly to be made, we hereby jointly and severally find ourselves,
our heirs, executors, administrators, successors, and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to the Owner
a certain bid, attached hereto and hereby made a part hereof, to enter into a contract in writing for
the:

EV CHARGER UPGRADES AT VARIOUS SITES
for
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT

in strict accordance with Contract Documents.

NOW, THEREFORE,

- a. If said bid shall be rejected, or, in the alternate;
- b. If said bid shall be accepted and the Principal shall execute and deliver a contract in the form
of agreement attached hereto and shall execute and deliver Performance and Contractor's
Bonds in the forms attached hereto (all property completed in accordance with said bid), and
shall in all other respects perform the agreement created by the acceptance of said bid;

Then this obligation shall be void, otherwise the same shall remain in force and effect, it being
expressly understood and agreed that the liability of the Surety for any and all default of the
Principal hereunder shall be the amount of this obligation as herein stated. Surety, for value
received, thereby stipulates and agrees that no change, extension of time, alteration or addition to
the terms of the contract on the call for bids, or to the work to be performed thereunder, or the
specifications accompanying the same, shall in anyway 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 above-bounden parties have executed this Instrument under their

several seals this _____ day of _____, 2026 the name and corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In presence of:

_____(Seal)

(Address)

(Business Address)

_____(Seal)

(Individual Principal)

(Address)

(Business Address)

Attest:

(Corporate Principal)

(Business Address)

By: _____
(Affix Corporate Seal)

The rate or premium on this bond is _____
per thousand. Total amount of premium charged, \$_____.

(This bond must be signed and acknowledged
by both Principal and Surety before a
Notary Public, and acknowledgments
with Notarial Seals attached hereto.)

Surety

By: _____
Attorney-in-fact

(The above must be filled in by Corporate Surety. Surety company must be California admitted insured.)

END OF SECTION

PAYMENT BOND
(Labor & Material)

KNOW ALL MEN BY THESE PRESENTS:

That WHEREAS,

and _____

Hereinafter designated as the "Principal," have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to:

EV CHARGER UPGRADES AT VARIOUS SITES
for
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT
1388 Patchett Drive, Newman, CA 95360

Which said agreement dated _____, 2026, and all of the contract documents attached to or forming a part of said agreement, are hereby referred to and made a part hereof; and

WHEREAS, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by whom the contract is awarded to secure the claims arising under said agreement.

NOW, THEREFORE, THESE PRESENTS WITNESSETH:

That the said Principal and the undersigned _____
_____ as Corporate Surety, are held and firmly bound unto all laborers,
material men, and other persons referred to in said statutes in the sum of

_____ Dollars
which sum well and truly be made, we bind ourselves, our heirs, executors, administrators,
successors, or assigns, jointly and severally, by these presents.

The conditions of this obligation is that if the said Principal or any of his or its subcontractors, or the heirs, executors, administrators successors, or assigns of any, all, or either of them, shall fail to pay for any materials, provisions, provender or other supplies, or teams, 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 Act with respect to such work or labor, that said Surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the Court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporation entitled to file claims so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

And the said Surety, for value received, hereby stipulates and agrees that no charge, extension of time, alteration, or addition to the terms of said contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety this _____ day of _____, 2026.

(To be signed by _____)
(Principal and Surety, _____)
(and acknowledged and _____)
(Notarial Seal Attached. _____)
Principal

Surety

By _____
(Attorney-in-fact)

The above bond is accepted and approved this _____ day of _____, 2026.

END OF SECTION

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____,
_____, as Principal, and _____,
_____, as Surety, are held and firmly bound unto NEWMAN-
CROWS LANDING UNIFIED SCHOOL DISTRICT, in the County of _____,
State of California, hereinafter called the "Owner", in the sum of

_____ Dollars
(\$ _____)

for the payment of which sum well and truly made, we bind ourselves, our heirs, executors,
administrators, and successors, jointly and severally, firmly by these presents.

The condition of this obligation is such, that whereas the Principal entered into a certain contract
with the Owner, date _____, 2026 for:

EV CHARGER UPGRADES AT VARIOUS SITES
for
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT
1388 Patchett Drive, Newman, CA 95360

NOW THEREFORE, if the Principal shall well and truly perform and fulfill all the undertakings,
covenants, terms, conditions, and agreements of said contract during the original term of said
contract and any extension thereof that may be granted by the Owner, with or without notice to the
Surety, and during the life of any guaranty required under the contract, and shall also well and truly
perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all
duly authorized modifications of said contract that may hereafter be made, then, this obligation to
be void, otherwise to remain in full force and virtue.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of
time, alternation or addition to the terms of the contract or to the work to be performed thereunder,
or the specifications accompanying the same, shall in anyway affect its obligation on this bond, and
it does hereby waive notice of any such change, extension of time, alteration or addition to the terms
of the contract, or to the work, or to the specifications.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their
several seals this _____ day of _____, 2026 , the name and corporate seal of
each corporate party being hereto affixed and these presents duly signed by its undersigned
representative, pursuant to authority of its governing body.

In presence of:

(Individual Principal) (Seal)

(Address) (Business Address)

Attest:

(Corporate Principal)

(Business Address)

_____ By: _____
(Affix Corporate Seal)

Attest:

(Corporate Surety)

(Business Address)

_____ By: _____
(Affix Corporate Seal)

The rate or premium on this bond is _____ per thousand.

Total amount of premium charged, \$ _____ .

(The above must be filled in by Corporate Surety.)

END OF SECTION

FORM OF PROPOSAL

_____, California

_____, 2026

Board of Trustees
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT
1223 Main St., Newman, CA 95360

Members of the Board:

The undersigned doing business under the firm name of _____

understands that the District may select from any line item(s) or combination of line items listed on the Base Bid. Furthermore, the undersigned, having carefully examined the Contract Documents, titled,

EV CHARGER UPGRADES AT VARIOUS SITES
for
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT

proposes to furnish all materials and labor called for by them for the entire work, including all taxes for the following amounts:

Base Bid: The undersigned proposes to perform **all** work as defined in the Plans and Specifications to construct the project and all appurtenant work thereto for the sum of:

_____ Dollars
(\$_____).

If written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned within sixty (60) days after the date of opening of the bids, or any time thereafter before the bid is withdrawn, the undersigned will, within ten (10) days after the date of such mailing, telegraphing, or delivering of such notice, execute and deliver a contract in the form of agreement present in these contract documents and give Performance and Contractor's Bonds and insurance certificates, endorsements, and/or policies in accordance with the Contract Documents.

The Undersigned hereby designates as his office to which such notice of acceptance may be mailed, telegraphed, or delivered:

Our Public Liability and Property Damage Insurance is placed with:

Our Worker's Compensation Insurance is placed with:

Circular letters, addenda, etc., bound with specifications or issued during the time of bidding are included in the proposal, and, in completing the contract, they are to become part thereof.

The receipt of the following addenda to the specifications is acknowledged:

Addendum No.	_____	Date	_____
Addendum No.	_____	Date	_____
Addendum No.	_____	Date	_____

This bid may be withdrawn by the bidder at any time prior to the scheduled time for the opening of bids. The representations made herein are made under penalty of perjury.

Dated _____ ,

License No. _____

Expiration Date of License _____

By (please print) _____

Signed _____

Business Address _____

Telephone _____

Fax _____

Federal I.D# or Social Security #: _____

Department of Industrial Relations #: _____

Note: If Bidder is a corporation, write state of incorporation under signature, attach notarized proof of authority to bind corporation and list corporation officers; and, if a partnership, give full names of all partners. Use space below to record this information.

Do not include in the envelope any bids for other work.

DESIGNATION OF SUBCONTRACTORS

Contractor's Name: _____

In accordance with the provisions of Division 1, Chapter 4 of the Public Contract Code, known as the "Subletting and Subcontracting Fair Practices Act," the contractor signatory to this agreement shall be known as the prime contractor of the work herein specified, and he shall set forth in his bid the complete name, location of the place of business and license number of each subcontractor who will perform work or labor, or render service to the prime contractor in or about the construction of the work in an amount in excess of one-half (1/2) of one (1) percent of the prime contractor's total bid, and the portion of the work which will be done by each subcontractor if the contract for said work is awarded to said bidder. The prime contractor shall list only one subcontractor for each such portion of the work as is defined by the prime contractor in his bid.

If the prime contractor fails to specify a subcontractor or if he specified more than one subcontractor for any portion of work to be performed under the contract, in excess of one-half (1/2) of one (1) percent of the prime contractor's total bid, he agrees that he is fully qualified to perform that portion himself, and that he shall perform that portion himself. If, after the award of the contract, the prime contractor shall, except as provided for in said Chapter herein above referred to, subcontract any such portion of the work, the prime contractor shall be subject to the penalties provided.

Subcontractor Name: _____ **Location:** _____
Portion of Work: _____ **License#:** _____ **DIR#:** _____

Subcontractor Name: _____ **Location:** _____
Portion of Work: _____ **License#:** _____ **DIR#:** _____

Subcontractor Name: _____ **Location:** _____
Portion of Work: _____ **License#:** _____ **DIR#:** _____

Subcontractor Name: _____ **Location:** _____
Portion of Work: _____ **License#:** _____ **DIR#:** _____

Subcontractor Name: _____ **Location:** _____
Portion of Work: _____ **License#:** _____ **DIR#:** _____

Subcontractor Name: _____ **Location:** _____
Portion of Work: _____ **License#:** _____ **DIR#:** _____

Subcontractor Name: _____ **Location:** _____
Portion of Work: _____ **License#:** _____ **DIR#:** _____

Subcontractor Name: _____ **Location:** _____
Portion of Work: _____ **License#:** _____ **DIR#:** _____

"NONCOLLUSION AFFIDAVIT"

(TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID)

_____, being first duly sworn, deposes and says that he or she is

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

Added Stats 1988 ch 1548 sec 1.

Signature

Date

Notary

END OF SECTION

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

ARTICLE 1 - CONTRACT DOCUMENTS

1.1 DEFINITIONS

- 1.1.1 The Contract Documents - The Contract Documents consist of the Contract, the Instructions to Bidders, the Bid Bond, Performance and Payment Bond, the Conditions of the Contract (General, Supplemental, and other Conditions), the Drawings, the Specifications, all Addenda, issued prior to execution of the Contract, and all Modifications thereto. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a written interpretation issued by the Architect pursuant to Subparagraph 1.2.5., or (4) a written order for a minor change in the work issued by the Architect pursuant to Paragraph 12.4. A Modification may be made only after execution of the Contract.
- 1.1.2 The Contract - The Contract Documents form the Contract. The Contract represents the entire and integrated agreement between the parties hereto, and supersedes all prior negotiation, representations, or agreements, either written or oral, including the bidding documents. The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.1.
- 1.1.3 The Work - The term work comprises the completed construction required by the Contract Documents and includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.
- 1.1.4 The Project - The Project is the total construction designed by the Architect of which the work performed under the Contract Documents may be the whole or a part.
- 1.1.5 Owner - The Owner is NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT, of Stanislaus County, California, and named as such in the Agreement.
- 1.1.6 District - The District shall mean NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT, Stanislaus County, California.
- 1.1.7 Estimated Completion Date - The Estimated Completion Date shall be the date set forth as such in the Supplemental General Conditions.
- 1.1.8 Fixed Completion Date - The fixed Completion Date shall be the date set forth as such in the Supplemental General Conditions.

1.2 EXECUTION, CORRELATION, INTENT AND INTERPRETATIONS

- 1.2.1 The Contract Documents, including the Contract in the forms furnished the bidder prior to his bid, shall be signed in not less than triplicate by the Owner and Contractor.
- 1.2.2 By executing the Contract, the Contractor represents that he has visited the site, familiarized himself with the local conditions under which the work is to be performed, and correlated his observations with the requirements of the Contract Documents.
- 1.2.3 The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. The intention of the Documents is to include all labor, materials, equipment, and other items as provided in Subparagraph 4.4.1 necessary for the proper execution and completion of the work. It is not intended that work not covered under any heading, section, branch, class, or trade of the Specifications shall be supplied unless it is required elsewhere in the Contract Documents or is reasonable inferable therefrom as being necessary to produce the intended results. Words which have well-known technical or trade meanings are used herein in accordance with such recognized meanings.
- 1.2.4 The organization of the Specifications into divisions, sections, and articles, and the arrangement of Drawings shall not control the Contractor in dividing the work among Subcontractors or in establishing the extent of work to be performed by any trade.
- 1.2.5 Written interpretations necessary for the proper execution of progress of the work, in the form of drawings or otherwise, will be issued with reasonable promptness by the Architect and in accordance with any schedule agreed upon. Such interpretations shall be consistent with and reasonable inferable from the Contract Documents, and may be effected by Field Order.

1.3 COPIES FURNISHED AND OWNERSHIP

- 1.3.1 Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, six (6) copies of Drawings and Specifications.

ARTICLE 2 - ARCHITECT

2.1 DEFINITION

- 2.1.1 The Architect is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Architect means the Architect or his authorized representative.

- 2.1.2 Nothing contained in the Contract Documents shall create any contractual relationship between the Architect and the Contractor.

2.2 ADMINISTRATION OF THE CONTRACT

- 2.2.1 The Architect will provide general Administration of the Construction Contract, including performance of the functions hereinafter described.
- 2.2.2 The Architect will be the Owner's representative during construction and until final payment. The Architect will have authority to act on behalf of the Owner to the extent provided in the Contract Documents, unless otherwise modified by written instrument which will be shown to the Contractor. The Architect will advise and consult with the Owner, and all of the Owner's instructions to the Contractor shall be issued through the Architect.
- 2.2.3 The Owner will provide one or more full time inspectors to assist the Architect in providing competent and adequate inspection during all normal working periods. The Inspector is to be approved by the Architect and The Division of the State Architect.
- 2.2.4 The Architect, his representatives, including the inspectors and owner, shall at all times have access to the work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so the architect may perform his functions under the Contract Documents.
- 2.2.5 The Architect will make periodic visits to the site to familiarize himself generally with the progress and quality of the work and to determine, in general, if the work is proceeding in accordance with the Contract Document. On the basis of his on-site observations as an Architect, he will keep the Owner informed of the progress of the work, and will endeavor to guard the Owner against defects and deficiencies in the work of the Contractor. The Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the work. The Architect will not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connections with the work, and he will not be responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents.
- 2.2.6 Based on such observations and the Contractor's Applications for Payment, the Architect will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in Paragraph 9.4.

- 2.2.7 The Architect will be, in the first instance, the interpreter of the requirements of the Contract Documents and the judge of the performance thereunder by both the Owner and Contractor. The Architect will, within a reasonable time, render such interpretations as he may deem necessary for the proper execution of progress of the work.
- 2.2.8. Claims, disputes and other matters in question between the Contractor and the Owner relating to the execution or progress of the work or the interpretation of the Contract Documents shall be referred initially to the Architect for decision which he will render in writing within a reasonable time.
- 2.2.9 All interpretations and decisions of the Architect shall be consistent with the intent of the Contract Documents.
- 2.2.10 The Architect's decision in matters relating to artistic effect will be final if consistent with the intent of the Contract Documents.
- 2.2.11 The Architect will have authority to reject work which does not conform to the Contract Documents. Whenever he considers it necessary or advisable to insure the proper implementation of the Contract Documents, he will have authority to require the contractor to stop the work or any portion thereof, or to require special inspection or testing of the work as provided in Subparagraph 7.8.2 whether or not such work be then fabricated, installed or completed. However, neither the Architect's authority to act under this Subparagraph 2.2.11, nor any decision made by him in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Architect to the Contractor, any subcontractor, any of their agents or employees, or any other person performing any of the work.
- 2.2.12 The Architect will review Shop Drawings and Samples as provided in Subparagraph 4.12.1 through 4.12.8 inclusive.
- 2.2.13 The Architect will prepare Change Orders in accordance with Article 12, and will have authority to order minor changes in the work as provided in Subparagraph 12.5.1.
- 2.2.14 The Architect will conduct inspections to determine the dates of the Substantial Completion and final completion, will review written guarantees and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment.
- 2.2.15 The Architect will not be responsible for the acts or omissions of the Contractor, or any Subcontractors, or any of his or their agents or employees, or any other persons performing any of the work.

- 2.2.16 In case of the termination of the employment of the Architect, the Owner shall appoint an architect whose status under the Contract Documents shall be that of the former architect.

ARTICLE 3 - OWNER

3.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER

- 3.1.1 The Owner shall furnish all surveys describing the physical characteristics, legal limits and utility locations for the site of the project.
- 3.1.2 The Owner shall secure and pay for easements for permanent structures or permanent changes in existing facilities.
- 3.1.3 Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the work.
- 3.1.4 The Owner shall issue all instructions to the Contractor through the Architect.
- 3.1.5 The foregoing are in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to Payment and Insurance in Article 9 and 11 respectively.

3.2 OWNER'S RIGHT TO STOP THE WORK

- 3.2.1 If the Contractor fails to correct defective work as required by Paragraph 13.2 or persistently fails to carry out the work in accordance with the Contract Documents, the Owner, by a written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

ARTICLE 4 - CONTRACTOR

4.1 DEFINITION

- 4.1.1 The Contractor is the person or organization identified as such in the Contract and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.

4.2 REVIEW OF CONTRACT DOCUMENTS

4.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Architect any error, inconsistency or omission he may discover; but the Contractor shall not be liable to the Owner or the Architect for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents. The Contractor shall perform no portion of the work at any time without Contract Documents or where required, approved Shop Drawings, Product Data or Samples for such portion of the work.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

4.3.1 The Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the Contract.

4.3.2 The Contractor shall be responsible to the owner for the acts and omissions of his employees, Subcontractors, and their agents and employees, and other persons performing any of the work under a contract with the Contractor.

4.3.3 The Contractor shall not be relieved from his obligations to perform the work in accordance with the Contract Documents either by the activities or duties of the Architect in his administration of the Contract, or by inspections, tests or approvals required or performed under Paragraph 7.8 by persons other than the Contractor.

4.4 LABOR AND MATERIALS

4.4.1 Unless otherwise specifically provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the work, whether temporary or permanent and whether or not incorporated or to be incorporated in the work.

4.4.2 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the work any unfit person or anyone not skilled in the task assigned to him.

4.5 WARRANTY

- 4.5.1 The Contractor warrants to the Owner and the Architect that all materials and equipment furnished under this contract will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects, and in conformance with the Contract Documents. All work not so conforming to these standards may be considered defective.
- 4.5.2 The warranty provided in this Paragraph 4.5 shall be in addition to and not in limitation of any other warranty or remedy required by law or by the Contract Documents.

4.6 TAXES

- 4.6.1 The Contractor shall pay all sales, consumer, use, and other similar taxes required by law.

4.7 PERMITS, FEES, AND NOTICES

- 4.7.1 The Contractor shall secure and pay for all permits and licenses necessary for the prosecution of the work, including utility fees. District will reimburse Contractor the actual documented cost of such permits, licenses and fees, with no overhead or profit added.
- 4.7.2 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, he shall promptly notify the Architect in writing, and any necessary changes shall be adjusted by appropriate modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Architect, he shall assume full responsibility therefore, and shall bear all costs attributable thereto.
- 4.7.3 All materials and workmanship shall conform to the California Code of Regulations and Title 24, Parts 1 to 5, Part 9, and Part 12, Division of the State Architect, and the Contractor shall keep a copy of Title 24 on the job at all times. All work and materials shall be in full accordance with the latest Rules and Regulations of the State Fire Marshal, National Board of Fire Underwriters, California Electric Code, Safety Orders of Division of Industrial Safety, California Plumbing Code, and other applicable federal and state laws and regulations. Such laws and regulations shall be considered a part of these specifications, as if set forth herein in full and all work hereunder shall be executed in accordance therewith. Nothing in these plans or specifications is to be construed to permit work not conforming to the Codes.

4.7.4 All materials furnished and all work done under these specifications shall be subject to rigid inspection by the Architect and Owner who shall furnish competent and adequate inspection during normal working periods. When specific inspection is required as called for in plans and specifications, the Contractor shall inform the Architect and Inspector of the schedule of such work. Failure to do so may require such work to be torn out and replaced under proper inspection, and the entire cost of tearing out and replacement including cost of any materials furnished by the Owner and used in the work torn out, shall be borne by the Contractor. Work covered up without the approval of the Architect or the Owner shall be uncovered to the extent required and the Contractor shall similarly bear the cost of performing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement.

4.7.5 Whenever the Contractor arranges to work at night, or at any time when work is not usually in progress, or to vary the period during which work is carried out each day, he shall give the Owner due notice so that inspection may be provided. Such work shall be done without extra compensation to the Contractor and such additional inspection costs shall be chargeable to the Contractor providing such work is not performed at the request of the Owner to meet earlier completion time than that established in the Contract, or for a cause not under control of the Contractor.

4.8 ALLOWANCES (not used)

4.9 SUPERINTENDENT

4.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the project site during the progress of the work. The superintendent shall be satisfactory to the Architect, and shall not be changed except with the consent of the Architect, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employ. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the contractor. Important communications will be confirmed in writing. Other communications will be so confirmed on written request in each case.

4.10 PROGRESS SCHEDULE

4.10.1 The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Architect's approval an estimated progress schedule for the work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents. This schedule shall indicate the dates for the starting and completion of the various stages of construction and shall be revised as required by the conditions of the work, subject to the Architect's approval.

4.11 DRAWINGS AND SPECIFICATIONS AT THE SITE

4.11.1 The Contractor shall maintain at the site for the Owner one copy of all Drawings, Specifications, Addenda, approved Shop Drawings, Change Orders, and other modifications, in good order and marked to record all changes made during construction. these shall be available to the Architect. The Drawings, marked to record all changes made during construction, shall be delivered to the Architect for the Owner upon completion of the work.

4.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

4.12.1 Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are prepared by the Contractor or any Subcontractor, manufacturer, supplier or distributor, and which illustrate some portion of the work.

4.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the work.

4.12.3 Samples are physical examples furnished by the Contractor to illustrate materials, equipment, or workmanship, and to establish standards by which the work will be judged.

4.12.4 The Contractor shall review, stamp with his approval and submit, with reasonable promptness and in orderly sequence so as to cause no delay in the work or in the work of any other contractor, all Shop Drawings and Samples required by the Contract Documents or subsequently by the Architect as covered by modifications. Shop Drawings and Samples shall be properly identified as specified, or as the Architect may require. At the time of submission the Contractor shall inform the Architect in Writing of any deviation in the Shop Drawings or Samples from the requirements of the Contract Documents.

4.12.5 By approving and submitting Shop Drawings, Product Data and Samples, the Contractor thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalog numbers and similar data, or will do so, and that he has checked and coordinated the information contained within such submittal with the requirements of the work and of the Contract Documents.

4.12.6 The Architect will review and approve Shop Drawings, Product Data and Samples with reasonable promptness so as to cause no delay, but only for conformance with the design concept of the project and with the information given in the Contract Documents. The Architect's approval of a separate item shall not indicate approval of an assembly in which the item functions.

- 4.12.7 The Contractor shall make any corrections required by the Architect and shall resubmit the required number of corrected copies of Shop Drawings, Product Data or new Samples until approved. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections requested by the Architect on previous submissions.
- 4.12.8 The Architect's approval of Shop Drawings, Product Data or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the Architect in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation, nor shall the Architect's approval relieve the Contractor from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples.
- 4.12.9 No portion of the work requiring a Shop Drawing, Product Data, or Sample submission shall be commenced until the submission has been approved by the Architect. All such work shall be in accordance with approval submittal.
- 4.12.10 The Contractor shall submit to the Architect and Owner for approval, within thirty-five(35) days after the signing of the Contract, a complete list setting forth the brand name and manufacturer of all materials and/or equipment proposed for use under this Contract. The list shall include all items required under the Contract, although the brand name or manufacturer may not be specifically included in the specifications. Where specific brands are specified, substitutions therefore shall be clearly indicated on the material equipment list.
- 4.12.11 Wherever samples are called for in the specifications, or where it is desired to substitute another material or article for the specified, the Contractor shall submit samples in triplicate to the Architect with all freight charges prepaid. One sample will be returned to him at his expense, with letter stating that it is approved or rejected, and one sample will be returned to the Owner for his records. All materials delivered on the site or placed in the building shall be equal to the sample in every respect.
- 4.12.12 Where special makes or brands are called for, they are mentioned as a "Standard." Others of equal quality may be used, provided approval is first obtained in writing from the Architect. Unless substitutions are requested, no deviation from the plans and specifications will be allowed. Substitutions shall be requested or offered for investigation in ample time, as no delay or extra time will be allowed on account thereof.
- Requests for substitution will only be considered when offered by the General Contractor and such requests must be made within thirty-five (35) days after the award of the Contract.

- 4.12.13 All materials shall be delivered as to insure a speedy and uninterrupted progress of the work. All materials shall be stored so as to cause no obstruction and so as to prevent overloading of any portion of the structure, and the Contractor shall be entirely responsible for damage or loss by weather or other cause.

4.13 USE OF SITE

- 4.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with any materials or equipment.

4.14 CRIMINAL HISTORY CLEARANCE/SITE PROTECTION CERTIFICATION

- 4.14.1 The Criminal History Clearance/Site Protection Certification form, see Article 21 of the General Conditions, is required from all successful bidders pursuant to the requirements mandated by California Education Code Sections 33192 and 45124.1 et seq., the Michelle Montoya School Safety Act of 1997. This provides that a school district may require a construction contractor that has a contract with the district to obtain a criminal history clearance from the Department of Justice of all employees working on a school site under that contract.

4.15 CUTTING AND PATCHING OF WORK

- 4.15.1 The Contractor shall be responsible for all cutting, fitting, or patching that may be required to complete the work or to make its several parts fit together properly.
- 4.15.2 The Contractor shall not damage or endanger any portion of the work or the work of the Owner or any separate contractors by cutting, patching, or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any separate contractor except with the written consent of the Owner and of such separate contractor. The Owner shall not unreasonably withhold from the Contractor or any separate contractor his consent to cutting or otherwise altering the work.

4.16 CLEANING UP

- 4.16.1 The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations.
- At the completion and during the work he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery and surplus materials, and shall clean all glass surfaces and leave the work "broom clean" or its equivalent, except as otherwise specified. The Contractor cannot use the Owner's trash bins.

4.16.2 If the Contractor fails to clean up, the Owner may do so and the cost thereof shall be charged to the Contractor as provided in Paragraph 7.6.

4.17 COMMUNICATIONS

4.17.1 The Contractor shall forward all communications to the Owner through the Architect.

4.18 INDEMNIFICATION

4.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner and the Architect and their agents and employees from and against all claims, damages, losses, and expenses including attorney's fees arising out of or resulting from the performance of the work, or the failure, neglect or refusal of the Contractor to perform the work provided that any such claim, damage, loss or expenses (a) is attributable to bodily injury, sickness, disease or death, or in injury to or destruction of tangible property (other than the work itself) including the loss of use resulting there from, and (b) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party described in this Paragraph 4.18.

4.18.2 In any and all claims against the Owner or the Architect or any of their agents or employees by an employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.18 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the contractor or any Subcontractor under worker's compensation acts disability benefits acts or other employee benefit acts.

ARTICLE 5 - SUBCONTRACTORS

5.1 DEFINITION

5.1. A Subcontractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender, and means a Subcontractor or his authorized representatives. The term Subcontractor does not include any separate contractor or his subcontractors.

- 5.1.2 A Sub-subcontractor is a person or organization who has a direct or indirect contract with the Subcontractor to perform any of the work at the site. The term Sub-subcontractor is referred to throughout the contract Documents as if singular in number and masculine in gender and means a Sub-subcontractor or an authorized representative thereof.
- 5.1.3 Nothing contained in the Contract Documents shall create any contractual relation between the Owner or the Architect and any Subcontractor or Sub-subcontractor.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

- 5.2.1 The Contractor shall include with his Bid Proposal the names of each Subcontractor who will perform work or labor or render service to the Contractor in or about the work in an amount in excess of 1/2 of 1% of the bidder's total bid. The Contractor shall not, without written consent of the Owners, make any substitution thereto, or permit any subcontract to be assigned or transferred or performed by anyone other than the original Subcontractor listed in the Bid Proposal. The Contractor agrees that he is as fully responsible to the Owners for the acts and omissions of his Subcontractors and for the persons directly employed by him. The Owner will deal only through the General Contractor, who shall be responsible for the proper execution of the entire work.

Subletting the whole or any part of the Contract, if approved, shall be done only in accordance with the provisions of Sections 4100 to 4114 inclusive of the public Contract Code of the State of California, which are hereby incorporated by reference and made a part hereof.

- 5.2.2 If, prior to the award of the Contract, the Owner or Architect has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the successful bidder may, prior to the award, withdraw his bid without forfeiture of bid security. If the successful bidder submits an acceptable substitute, the Owner shall accept such substitute without any increase in bid price. If no satisfactory substitute is submitted, the Owner may disqualify the bid. If, after the award, the Owner or Architect refuses to accept any person or organization on such list, the Contractor shall submit an acceptable substitute and the Contract Sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued; however, no increase in the Contract Sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting a name with respect thereto prior to the award.

- 5.2.3 The Contractor shall not contract with any Subcontractor or any person or organization proposed for portions of the work designated in the bidding requirements or, if none is so designated, with any Subcontractor proposed for the principal portions of the work who has not been accepted by the Owner and the Architect. The Contractor will not be required to contract with any subcontractor or person or organization against whom he has a reasonable objection.
- 5.2.4 If the Owner and the Architect requires a change of any proposed Subcontractor or person or organization previously accepted by them, the Contract Sum shall be increased or decreased by the difference in cost occasioned by such change and an appropriate Change Order shall be issued.
- 5.2.5 The Contractor shall not make any substitution for any Subcontractor or person or organization who has been accepted by the Owner and Architect, unless the substitution is acceptable to the Owner and the Architect.

5.3 SUBCONTRACTUAL RELATIONS

- 5.3.1 All work performed for the Contractor by a Subcontractor shall be pursuant to an appropriate agreement between the Contractor and the Subcontractor (and where appropriate between Subcontractors and Sub-subcontractors) which shall contain provisions that:
1. Preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the work to be performed under the subcontract so that the subcontracting thereof will not prejudice such rights;
 2. Require that such work be performed in accordance with the requirements of the Contract Documents;
 3. Require submission to the Contractor of applications for payment under such subcontract to which the contractor is a party, in reasonable time to enable the Contractor to apply for payment in accordance with Article 9;
 4. Require that all claims for additional costs, extensions of time, damages for delays or otherwise with respect to subcontracted portions of the work shall be submitted to the Contractor (via any Subcontractor or Sub-subcontractor where appropriate) in the manner provided in the Contract Documents for like claims by the Contractor upon the Owner;
 5. Waive all right the contracting parties may have against one another for damages caused by fire or other perils covered by the property insurance described in Paragraph 11.2, except such rights as they may have to the proceeds of such insurance help; and

6. Obligate such Subcontractor specifically to consent to the provisions of this Paragraph 5.3, and identify to each Subcontractor any terms and conditions of each proposed Subcontract which may be a variance with the Contract Documents.

5.4 CLAIMS FOR EXTRA WORK / FOR EXTENSIONS OF TIME

- 5.4.1 The Contractor shall not be entitled to the payment of any additional compensation or any extension of time for any cause, including any act, or failure to act by the Architect, or happening of any event, thing or occurrence, unless the Contractor shall have given the Architect due written notice of potential claims as hereinafter specified. It is the intention of this Section 5.4 that the differences between the parties, arising under and by virtue of the Contract be brought to the attention of the Architect at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. It is also the intention of this Section 5.4 to implement the provisions of Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3 of the Public Contract Code of California. The Contractor hereby agrees that he or she shall have no right to additional compensation or an extension of item for any claim that may be based on any act, failure to act, event, thing or occurrence for which no written notice of potential claim as hereby required was filed.

All claims shall be filed in writing on or before the times prescribed herein, but in no event later than the date of final payment. Claims shall be filed with the Architect prior to the time that the Contractor commences performance of the work giving rise to the potential claim for additional compensation, if based on any act or failure to act by the Architect, or in all other cases within ten (10) days after the happening of event, thing or occurrence giving rise to the potential claim. All claims shall set forth clearly and in detail, for each item of additional compensation or extension of time claimed, the reasons for the specifications, the nature and the amount of the cost involved, the computations used in determining such costs, and all pertinent factual data necessary to substantiate the claim.

ARTICLE 6 - WORK BY OWNER OR BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

- 6.1.1 The Owner reserves the right to perform work related to the Project with his own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, he shall make such claim as provided elsewhere in the Contract Documents.

- 6.1.2 When separate contracts are awarded for different portions of the Project, "the Contractor" in the Contract Documents in each case shall be the contractor who signs each separate contract.

6.2 MUTUAL RESPONSIBILITY OF CONTRACTORS

- 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate his work with theirs.
- 6.2.2 If any part of the Contractor's work depends for proper executioner results upon the work of the Owner or any separate contractor, the Contractor shall inspect and promptly report to the Architect and Inspector any discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report shall constitute an acceptance of the Owner's or the separate Contractor's work as fit and proper to receive his work, except as to defects which may develop in the other separate contractor's work after the execution of the Contractor's work.
- 6.2.3 Should the Contractor cause damage to the work or property of any separate contractor on the Project, the Contractor shall, upon due notice, settle with such other contractor by agreement or arbitration, if he will so settle. If such separate contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor and the Contractor shall defend such proceedings at the Contractor's expense and, if any judgment against the Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorneys fees and court cost which the Owner has incurred.
- 6.2.4 Any cost caused by defective or ill-timed work shall be borne by the party responsible therefore.

6.3 OWNER'S RIGHT TO CLEAN UP

- 6.3.1 If a dispute arises between the separate contractors as to their responsibility for cleaning up as required by paragraph 4.15, the Owner may clean up and charge the cost thereof to the several contractors as the Architect shall determine to be just.

ARTICLE 7 - MISCELLANEOUS PROVISIONS

7.1 LAW OF THE PLACE

- 7.1.1 The Contract shall be governed by the law of the place where the project is located.

7.2 SUCCESSORS AND ASSIGNS

7.2.1 The Owner and the Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any monies due or to become due or to become due to him hereunder, without the previous written consent of the Owner.

7.3 WRITTEN NOTICE

7.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him who gives the notice.

7.4 CLAIMS FOR DAMAGES

7.4.1 Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the other party or if any of his employees, agents or others for whose acts he is legally liable, claim shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.

7.5 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

7.5.1 The Owner shall require the Contractor to furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder in such form and amount as the Owner may prescribe and with such sureties as may be agreeable to the parties. If such bonds are stipulated in the bidding requirements, the premiums shall be paid by the Contractor; if required subsequent to the submission of quotations or bids, the cost shall be reimbursed by the Owner. The Contractor shall deliver the required bonds to the Owner not later than the date of execution of the Contract, or if the work is commenced prior thereto in response to a notice to proceed, the Contractor shall, prior to commencement of the work, submit evidence satisfactory to the Owner that such bonds will be issued.

7.6 OWNER'S RIGHT TO CARRY OUT THE WORK

7.6.1 If the Contractor defaults or neglects to carry out the work in accordance with the Contract Documents or fails to perform any provision of the Contract, the Owner may, after seven days written notice to the Contractor and without prejudice to any other remedy he may have, make good such deficiencies. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor, the cost of correcting such deficiencies, including the cost of the Architect's and the Owner's inspectors, additional services made necessary by such default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

7.7 ROYALTIES AND PATENTS

7.7.1 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Architect.

7.8 TESTS

7.8.1 If the Contract Documents, Laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to be inspected, tested, or approved, the Contractor shall give the Architect timely notice of its readiness and of the date arranged so the Architect may observe such inspection, testing or approval. The Owner shall bear all costs of such inspection, tests, and approvals unless otherwise provided.

7.8.2 If, after the commencement of the work, the Architect determines that any work requires special inspection, testing, or approval which Subparagraph 7.8.1 does not include, he will, upon written authorization from the Owner, instruct the Contractor to order such special inspection, testing, or approval, and the Contractor shall give notice as in Subparagraph 7.8.1. If such special inspection or testing reveals a failure of the work to comply (1) with the requirements of the Contract Documents or, (2) with respect to the performance of the work, with laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, the Contractor shall bear all cost thereof, including the Architect's and the Owner's inspectors, additional service made necessary by such failure; otherwise the Owner shall bear such costs, and an appropriate Change Order will be issued.

- 7.8.3 All sampling and tests shall be made by a properly qualified person or testing laboratory, approved by the Division of the State Architect, who shall furnish copies of the test results to the Contractor, Architect, Owner, and the Division of the State Architect. All tests as well as sampling and preparation of samples where applicable shall be in accordance with Standards as latest adopted by A.S.T.M.
- 7.8.4 If the Architect wishes to observe the inspections, tests or approvals required by this Paragraph 7.8, he will do so promptly and, where practicable, at the source of supply.
- 7.8.5 Neither the observations of the Architect in his administration of the Contract, nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the work in accordance with the Contract Documents.
- 7.8.6 Payment for Tests and Inspection will be made as follows:
- A. District will pay cost of testing and inspection except the following for which the Contractor shall reimburse the District:
 - 1. Any retesting and sampling required due to failure of original test.
 - 2. Concrete design mix.
 - 3. Bacteriological Water Analysis testing for new relocatable buildings.
- 7.8.7 The Inspector of Record is to be employed by the Owner and approved by the Architect and DSA.

ARTICLE 8 - TIME - LIQUIDATED DAMAGES

8.1 DEFINITIONS

- 8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for substantial completion of the work as defined in Subparagraph 8.1.3, including authorized adjustments thereto.
- 8.1.2 The date of commencement of the work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Contract or such other date as may be established therein.
- 8.1.3 The Date of Substantial Completion of the work or designated portion thereof is the Date certified by the Architect when construction is sufficiently completed, in accordance with the Contract Documents, so the Owner may occupy the work or designated portion thereof for the use for which it is intended.
- 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless specifically designated.

8.2 PROGRESS AND COMPLETION

8.2.1 All time limits stated in the Contract Documents are of the essence of the Contract.

8.2.2 The Contractor shall begin the work on the date of commencement as defined in Subparagraph 8.1.2. He shall carry the work forward expeditiously with adequate forces and shall complete it within the contract time.

8.3 DELAYS AND EXTENSIONS OF TIME - TIME LIMIT

8.3.1 The project shall be completed in the manner provided for in the Contract on or before the completion date as set forth in the Supplementary General Conditions (hereinafter called the "Fixed Completion Date"), unless extensions of time are granted in accordance with the Contract for delays caused by the perils covered by the insurance required by Article 1 hereof or by any are declared by an enactment of the Congress of the United States of America as set forth herein. Failure to complete the work within such time and in the manner provided for by the Contract shall subject the Contractor to liquidated damages in accordance with Paragraph 8.4 "Liquidated Damages." Time is and shall be of the essence.

8.3.2 The Contractor shall commence work on the Project on or before five (5) calendar days from and after receipt of written "Notice to Proceed" from the Owner to the Contractor, and will diligently prosecute the work to completion. Said Notice to Proceed shall be issued following execution of Contract and the filing by the Contractor of the required bonds and insurance. The Contractor agrees to complete all of the work on or before the Estimated Completion Date. The continuous prosecution of the work within such time shall be subject only to delays caused by any changes in the work or by any default, act or omission of the Owner, or by any other contractor employed by the Owner on the work or by riots, strikes, lock-outs, fire, earthquake, flood and conditions resulting therefrom or by the inability to obtain material, equipment or labor due to Federal Government restrictions or requirements arising out of any defense or war program. Such delays, if any, shall operate only to extend the Estimated Completion Date above specified (not in excess of the period of such delay).

8.3.3 In the event it is deemed necessary by the Owner and the Contractor to extend the time of completion of the work to be done under these specifications beyond the dates of required completion herein specified, such extensions as shall be granted by the Owner shall in no way release any guarantee given by the Contractor pursuant to the provisions of the Contract, or to relieve or release the sureties on the bonds executed pursuant to said provision. The sureties in executing the bonds on the Contract shall be deemed to have expressly agreed to any such extension of time. The Owner shall not be required to pay extended overhead cost to the Contractor for allowing an extension of time to the Contract.

- 8.3.4 All claims for extension of time shall be made in writing to the Architect no more than fifteen days after the occurrence of the delay; otherwise they shall be waived. In the case of a continuing cause of delay, only one claim is necessary.
- 8.3.5 If no schedule or agreement is made stating the dates upon which written interpretations as set forth in Subparagraph 1.2.5 shall be furnished, then no claim for delay shall be allowed on account or failure to furnish such interpretations until fifteen days after demand is made for them, and not then unless such claim is reasonable.
- 8.3.6 This Paragraph 8.3 does not exclude the recovery of damages for delay by either party under other provisions of the Contract Documents.

8.4 LIQUIDATED DAMAGES

- 8.4.1 The actual fact of the occurrence of damages and the actual amount of the damages which the Owner would suffer if the work were not completed within the specified times set forth are dependent upon many circumstances and conditions and could prevail in various combinations, and, from the nature of the case, it is impracticable and extremely difficult to fix the actual damages. Damages which the Owner would suffer in the event of delay include loss of the use of the project, and, in addition, include, but are not limited to, expenses of prolonging employment of an engineering staff, costs of administration, inspection, supervision and the loss suffered by the public within the District by reason of the delay in the construction of the project to serve the public at the earliest possible time. Accordingly, the parties hereto agree that the amounts herein set forth shall be presumed to be the amount of damages sustained by the failure of the Contractor to complete the project within the respective times specified.
- 8.4.2 The amount of liquidated damages to be paid by the Contractor to the Owner for failure to complete the work specified will be **\$500.00 for each calendar day** by which completion of the project is delayed beyond the Fixed Completion Date and continuing thereafter to the time at which the Project is completed such amount being in each case the actual cash value agreed upon as the loss to the Owner resulting from the Contractor's default.
- 8.4.3 In the event the Contractor shall become liable for liquidated damages under this section, the Owner, in addition to all other remedies provided by law, shall have the right to withhold any and all retained payments which would otherwise be or become due the Contractor until the liability of the Contractor under this section has been finally determined.

The Owner shall have the right to use and apply such retained amounts, in whole or in part, to reimburse the Owner for all damages due to or to become due to the Owner. Any remaining balance of such retained amounts shall be paid to the Contractor only after discharge in full of all liability incurred by the Contractor under this article. If the retained amount is not sufficient to discharge all liabilities of the Contractor incurred under this article the Contractor and its sureties shall continue to remain liable to the Owner until all such liabilities are satisfied in full.

- 8.4.4 In addition to any other rights it may have, the Owner may terminate the Contract at any time after the Fixed Completion Date unless the Contractor shall have been granted an extension of time for delay pursuant to this Article 8. Upon such termination the Contractor shall not be entitled to any compensation for services rendered by before or after such termination, and he shall be liable to the Owner for liquidated damages for all periods of time beyond such date until the project is fully completed.

ARTICLE 9 - PAYMENTS AND COMPLETION

9.1 CONTRACT SUM - DEFINITION

- 9.1.1 The Contract Sum is stated in the Contract, or is as may be modified by duly executed change orders, and is the total amount payable by the Owner to the Contractor for their performance of the work under the Contract Documents.

9.2 SCHEDULE OF VALUES

- 9.2.1 Before the first Application for Payment, the Contractor shall submit to the Architect a schedule of values allocated to the various portions of the work, including quantities if required by the Architect, aggregating the total Contract Sum, divided by section as enumerated in the Project Manual's "Table of Contents", so as to facilitate payments to Subcontractors. Prepare schedule of values on AIA Documents G702 and G703, and supported by such data to substantiate its correctness as the Architect may require. Each item in the schedule of values shall include its proper share of overhead, and profit. This schedule, when approved by the Architect, shall be used as a basis for the Contractor's Applications for Payment.

9.3 PROGRESS PAYMENTS

- 9.3.1 At least ten days before each progress payment falls due, the Contractor shall submit to the Architect an itemized Application for Payment, supported by such data substantiating the Contractor's right to payment as the Owner or the Architect may require.

- 9.3.2 If payments are to be made on account of materials or equipment not incorporated in the work but delivered and suitable stored at the site, or at some other location agreed upon in writing, such payments shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest including applicable insurance and transportation to the site.
- 9.3.3 The Contractor warrants and guarantees that title to all work, materials, and equipment covered by an application for payment, whether incorporated in the project or not, will pass to the Owner upon the receipt of such payment of the Contractor, free and clear of all liens, claims, security interests or encumbrances, hereinafter referred to in this Article 9 as "liens" and that no work, materials, or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing the work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the contractor or such other person.
- 9.3.4 SUBMISSION OF CERTIFIED PAYROLL RECORDS: For all on-site work only, NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT requires weekly submission of certified payroll certificates. In addition to the weekly payroll records for your company, you are required to submit the weekly payroll records for all subcontractors.

9.4 CERTIFICATES FOR PAYMENTS

- 9.4.1 If the Contractor has made Application for Payment as above, the Architect will, with reasonable promptness but not more than seven (7) days after the receipt of the Application, issue a Certificate for Payment to the Owner with a copy to the contractor for such amount as he determines to be properly due or state in writing his reasons for withholding a Certificate as provided in Subparagraph 9.5.1.
- 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on his observations at the site as provided in Subparagraph 2.2.4 and the data comprising the Application for Payment, that the work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the work is in accordance with the Contract Documents (subject to an evaluation of the work as a functioning whole upon substantial Completion, to the results of any subsequent tests required by the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in his Certificate and that the Contractor is entitled to payment in the amount certified). In addition, the Architect's final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Subparagraph 9.7.2 have been fulfilled. However, by issuing a Certificate for

Payment, the Architect shall not thereby be deemed to represent that he has made exhaustive or continuous on-site inspections to check the quality or quantity of the work or that he has reviewed construction means, methods, techniques, sequences, or procedures, or that he has made any examination to ascertain how or for what purpose the Contractor has used the monies previously paid on account of the Contract sum.

9.4.3 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner provided in the Contract.

9.4.4 No Certificate for a progress payment, nor any progress payment, nor any partial or entire use or occupancy of the project by the Owner, shall constitute an acceptance of any work not in accordance with the Contract Documents.

9.5 PAYMENTS WITHHELD

9.5.1 The Architect may decline to approve an Application for Payment and may withhold his Certificate in whole or in part if in his opinion he is unable to make representations to the Owner as provided in Subparagraph 9.4.2. The Architect may also decline to approve any Applications for Payment or, because of subsequently discovered evidence or subsequent inspections, he may nullify the whole or any part of any Certificate for payment previously issued to such extent as may be necessary in his opinion to protect the Owner from loss because of:

1. Defective work not remedied;
2. Claims filed or reasonable evidence indicating probably filing of claims;
3. Failure of the Contractor to make payments properly to Subcontractors or for labor, materials, or equipment;
4. Reasonable doubt that the work can be completed for the unpaid balance of the Contract Sum;
5. Damage to another contractor;
6. Reasonable indication that the work will not be completed within the Contract Time; or,
7. Unsatisfactory prosecution of the work by the Contractor.

9.5.2 When the above grounds in Subparagraph 9.5.1 are removed, payment shall be made for amounts withheld because of them.

9.5.3 The Contractor may, in accordance with the provisions of Public Contract Code, Section 22300, substitute securities for any monies which the Owner may withhold to insure performance under the Contract.

9.6 FAILURE OF PAYMENT

9.6.1 If the Architect should fail to issue any Certificate for Payment, through no fault of the Contractor, within ten days after receipt of the Contractor's Application for Payment, or if the Owner would fail to pay the Contractor within twenty days after the date of payment established in the Contract any amount certified by the Architect, then the Contractor may, upon seven (7) additional days written notice to the Owner and the Architect, stop the work until payment of the amount owing has been received.

9.7 SUBSTANTIAL COMPLETION AND FINAL PAYMENT

9.7.1 When the Contractor determines that the work or a designated portion thereof acceptable to the owner is substantially complete, the Contractor shall prepare for submission to the Architect a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents.

When the Architect on the basis of an inspection determines that the work is substantially complete he will then prepare a Certificate of Substantial Completion, which shall establish the Date of Substantial Completion, which shall state the responsibilities of the Owner and the Contractor for maintenance, heat, utilities, and insurance, and shall fix the time listed therein, said time to be within the Contract Time unless extended pursuant to Paragraph 8.3.

The Certificate of Substantial Completion shall be submitted to the Owner and the Owner and the Contractor for their written acceptance of the responsibilities assigned to them in such Certificate.

9.7.2 Upon receipt of written notice that the work is ready for final inspection and acceptance, and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when he finds that work acceptable under the Contract Documents and the Contract fully performed, he will promptly issue a final Certificate for Payment stating that to the best of his knowledge, information, and belief, and on the basis of his observations and inspections, the work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor, and noted in said final Certificate, is due and payable.

- 9.7.3 Neither the final payment nor the remaining retained percentage shall become due until the Contractor submits to the Architect (1) and Affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied, (2) consent of surety, if any, to final payment and (3) if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens, claims or stop notices, arising out of the Contract, to the extent and in such form as may be designated by the Owner. If any Subcontractor refuses to furnish a release or waiver required by the Owner, the contractor may furnish a bond satisfactory to the Owner to indemnify him against any such lien, claim, or stop notice. If any such lien, claim, or stop notice remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the alter may be compelled to pay in discharging such lien, claim, or stop notice, including all costs and reasonable attorneys fees.
- 9.7.4 If after Substantial Completion of the work final completion thereof is materially delayed through no fault of the Contractor, and the Architect so confirms, the Owner shall, upon certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the work fully completed and accepted. If the remaining balance for work not fully completed or corrected is less than the retainage stipulated in the Contract, and if bonds have been furnished as required in Subparagraph 7.5.1, the written consent of the surety to the payment of the balance due for that portion of the work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.
- 9.7.5 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:
1. Unsettled liens;
 2. Faulty or defective work appearing after Substantial Completion;
 3. Failure of the work to comply with the requirements of the Contract Documents; or,
 4. Terms of any special guarantees required by the Contract Documents.
- 9.7.6 The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and still unsettled.

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:

1. Employees on the work and all other persons who may be affected thereby;
2. All the work and all materials and equipment to be incorporated therein whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors; and,
3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadway, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

10.2.3 When the use or storage of explosives or other hazardous material or equipment is necessary for the execution of the work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

10.2.4 Shoring and Trench Safety Plan - Attention is directed to Section 832 of the Civil Code of the State of California relating to lateral and subjacent support, and the Contractor shall comply with this law.

10.2.5 In accordance with Section 6705 of the State Labor Code, the Contractor shall submit to the District specific plans to show details of provisions for worker protection from caving ground. Not less than thirty (30) days before beginning excavation for any trench or trenches five feet or more in depth required under this Contract, the Contractor shall furnish to the Architect working drawings of his trench safety plan. The trench safety plan working drawings shall be detailed plans showing

the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground.

If such plan varies from the shoring system standards established by the Construction Safety Orders of the California Division of Industrial Safety or the Federal safety standards of the Department of Health, Education and Welfare, the plan shall be prepared by a registered civil or structural engineer. In no event shall the Contractor use a shoring, sloping, or protective system less effective than that required by said Construction Safety Orders, or less effective than that required by said Federal Safety Standards. Submission of this plan in no way relieves the Contractor from the requirement to maintain safety in all operations performed by him or his Subcontractors.

- 10.2.6 All damage or loss to any property referred to in Clauses 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, shall be remedied by the Contractor, except damage or loss attributable to faulty Drawings or Specifications or to the acts or omissions of the Owner or Architect or anyone employed by either of them or for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor.
- 10.2.7 The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner and the Architect.
- 10.2.8 The Contractor shall not load or permit any part of the work to be loaded so as to endanger its safety.
- 10.2.9 Should the Contractor encounter material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) on the site which has not been rendered harmless, the Contractor shall immediately stop work in the affected area and notify the District and the Architect of the condition in writing. Work in the affected area shall not be resumed except by written agreement of the District and Contractor if the material is asbestos or PCB, or when it has been rendered harmless.
- 10.2.10 The Contractor shall not be required to perform without consent any work relating to asbestos or PCB.

10.3 EMERGENCIES

- 10.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 12 for Changes in the work.

ARTICLE 11 - INSURANCE

11.1 PROJECT INSURANCE

- 11.1.1 Scope - Contractor shall procure prior to commencing any activities and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor's bid.

- 11.1.2 Minimum Limits of Insurance - Contractor shall maintain coverage and limits no less than:

Liability - Comprehensive General Liability Insurance or Commercial General Liability Insurance including coverage for premises and operation, contractual liability, personal injury liability, products/completed operations liability, broad form property damage and owners/contractors protective liability in an amount not less than one million dollars (\$1,000,000) per occurrence, combined aggregate single limit for bodily injury, personal injury and property damage written on as occurrence form. For protection of the aggregate a separate liability policy must be used for this Contract or an endorsement issued to reserve the required aggregate for this specific contract.

Automobile - Comprehensive Automobile Liability Insurance, including as applicable owned, non-owned, and hired automobile in an amount not less than one million dollars (\$1,000,000) per occurrence combined single limit for bodily injury and property damage written on an occurrence form.

Workers' Compensation - The Contractor shall submit proof that Workers' Compensation Insurance as required by the Labor Code of the State of California is secured. The insurance shall include Employers Liability limits of one million dollars (\$1,000,000) per accident.

11.1.3 Builder's Risk Insurance: The contractor shall take out and maintain until final acceptance of the project, Builder's Risk Insurance against all perils on a special form basis with the customary exclusions. The District shall be named as an additional insured and the policy shall be in sufficient amount to cover fully the replacement cost of structures constituting any part of the project excluding excavation, grading and land filling.

11.2 GENERAL CONDITIONS

11.2.1 Deductibles and Self-Insured Retention - Any deductible or self-insured Retention must be declared to and approved by the District. At the option of the District either the insurer shall reduce or eliminate such deductibles or self-insured Retention as respects the District, its officials and employees; or the Contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expenses.

11.2.2 Other Provisions - The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverage:

- a. The District, its officials, employees and volunteers are to be covered as additional insured as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, leased or used by the Contractor.
- b. The Contractor's insurance coverage shall be primary insurance as respects the District, its officials, employees and volunteers. Any insurance or self-insurance maintained by the district, its officials, employees and volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
- c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the District, its officials, employees or volunteers.
- d. Coverage shall state that the contractor's insurance shall apply separately to each insured against who claim is made or suit is brought, except with respect to the limits of the insurer's liability.

ARTICLE 12 - CHANGES IN THE WORK

12.1 ADDENDA

12.1.1 Addenda are to be signed by the Architect and approved by DSA.

12.2 CONSTRUCTION CHANGE DOCUMENTS (CCD)

12.2.1 Construction Change Documents (CCD) shall be the process for documenting changes to the approved Plans or Specifications after the contract has been awarded. CCD's shall comply with DSA Interpretation of Regulations IR A-6. All CCD's shall be signed by the Architect and approved by DSA.

12.3 CHANGE ORDERS

12.3.1 A Change Order is a written order to the Contractor signed by the Owner and the Architect, and approved by the Division of the State Architect, issued after the execution of the Contract, authorizing a Change in the work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time.

12.3.2 The Owner, without invalidating the Contract, may order changes in the work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the work shall be authorized by Change Order, and shall execute under the applicable conditions of the Contract Document. Change Orders shall be approved by the Division of the State Architect and signed by the Contractor, in addition to the Owner and Architect.

12.3.3 The cost or credit to the Owner resulting from a change in the work shall be determined in one or more of the following ways:

1. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
2. By unit prices stated in the Contract Documents, Form of Proposal or subsequently agreed upon;
3. By costs to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or,
4. By the method provided in Subparagraph 12.2.4.

5. For all changes in the work, the allowance for overhead, profit and bond combined, included in the total cost to the Owner, shall be based upon the following schedule:

For the Contractor, for any work performed by his own force, twelve percent (12%) of the cost;

For each subcontractor involved, work performed by his own forces, twelve percent (12%) of the cost;

For the Contractor, for work performed by his subcontractor, six percent (6%) of the amount due the subcontractor.

Cost shall be limited to the following: cost of materials, including sales tax and cost of delivery, cost of labor, including Social Security, Old Age and Unemployment Insurance (labor cost may include a prorated share of foreman charge); worker's Compensation Insurance; Rental cost of power tools and equipment.

- 12.3.4 If none of the methods set forth in Clauses 12.2.3.1, 12.2.3.2 or 12.2.3.3 is agreed upon, the Contractor, provided he receives a written order signed by the Owner, shall promptly proceed with the work involved. The cost of such work shall then be determined by the Architect on the basis of the reasonable expenditures and savings of those performing the work attributable to the change, including, in the case of an increase in the Contract Sum, an allowance for overhead and profit in accordance with the schedule set forth above in paragraph 12.2.3.5.

In such case, and also under Clauses 12.2.3.3 and 12.2.3.4 above, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data for inclusion in a Change Order. Unless otherwise provided in the Contract Documents, cost shall be limited to the following:

1. Cost of materials, including sales tax and cost of delivery.
2. Cost of labor, including social security, old age and unemployment insurance and fringe benefits required by collective bargaining agreement or custom.
3. Worker's compensation insurance.
4. Bond premiums.
5. Rental cost of equipment and machinery

6. Additional cost of supervision and field office personnel directly attributable to the change.
7. As-Builts.

Pending final determination of cost to the Owner, payments on account shall be made on the Architect's Certificates for Payment. The amount of credit to be allowed by the Contractor to the Owner for any deletion or change which results in a net decrease in the Contract Sum will be the amount of the actual net cost as confirmed by the Architect. When both additions and credits covering related work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any with respect to that change.

12.4 CONCEALED CONDITIONS

12.4.1 Should concealed conditions encountered in the performance of the work below the surface of the ground be at variance with the conditions indicated by the Contract Documents or, should unknown physical conditions below the surface of the ground of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work of the character provided for in this Contract, be encountered, the Contract Sum shall be equitably adjusted by Change Order upon claim by either party made within a reasonable time after the first observance of the conditions.

12.5 CLAIMS FOR ADDITIONAL COST OR TIME

12.5.1 If the Contractor wishes to make a claim for an increase in the Contract Sum or an extension in the Contract Time, he shall give the Architect and the Construction Manager written notice thereof within ten (10) days time after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the work except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Subparagraph 12.5.1. No such claim shall be valid unless so made.

If the Owner and the Contractor cannot agree on the amount of the adjustment in the Contract Sum or the Contract Time, it shall be determined by the Architect. Any change in the Contract Sum or Contract Time resulting from such claim shall be authorized by Change Order.

12.5.2 If the Contractor claims that additional cost or time is involved because of (1) any written interpretation issued pursuant to Subparagraph 1.2.5, (2) any order by the Architect to stop the work pursuant to Subparagraph 2.2.11 where the Contractor was not at fault, or (3) any written order for a minor change in the work issued pursuant to Paragraph 12.5, the Contractor shall make such claim as provided in this Paragraph 12.4.1.

12.6 MINOR CHANGES IN THE WORK

12.6.1 The Architect shall have authority to order minor changes in the work not involving an adjustment in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes may be effected by Field Order or by other written order. Such changes shall be binding on the Owner and the Contractor. The Owner shall be notified in writing by the Architect of such changes. The Contractor shall carry out such written orders promptly.

12.7 FIELD ORDERS

12.7.1 The Architect may issue written Field Orders which interpret the Contract Documents in accordance with Subparagraph 1.2.5 or which order minor changes in the work in accordance with Paragraph 12.5 without change in Contract Sum or Contract Time. The Contractor shall carry out such Field Orders promptly.

ARTICLE 13 - UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

13.1.1 If any work should be covered contrary to the request of the Architect, or to requirement specifically expressed in the Contract Document, it must if required in writing by the Architect, be uncovered for his observation and replaced, at the Contractor's expense.

13.1.2 If any other portion of the work has been covered which the Architect has not specifically requested to observe prior to being covered, the Architect may request to see such work and it shall be uncovered by the Contractor.

If such work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall be by appropriate Change Order, be charged to the Owner. If such work be found not in accordance with the Contract Document, the Contractor shall pay such costs unless it be found that this condition was caused by the Owner or a separate contractor employed as provided in Article 6, and in that event the Owner shall be responsible for the payment of such costs.

13.2 CORRECTION OF WORK

13.2.1 The Contractor shall promptly correct all work rejected by the Architect as defective or as failing to conform to the Contract Documents whether observed before or after substantial completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Architect's additional services thereby made necessary.

13.2.2 If, within one year after the Date of Substantial Completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any of the work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition.

13.2.3 The Contractor shall remove from the site all portions of the work which are defective or non-conforming and which have not been corrected under Subparagraphs 4.5.1, 13.2.1 and 13.2.2, unless removal is waived by the Owner.

13.2.4 If the Contractor fails to correct defective or non-conforming work as provided in Subparagraphs 4.5.1, 13.2.1 and 13.2.2, the Owner may correct it in accordance with Paragraph 7.6.

13.2.5 If the Contractor does not proceed with the correction of such defective or non-conforming work within a reasonable time fixed by written notice from the Architect, the Owner may remove it and may store the materials or equipment at the expense of the Contractor.

If the Contractor does not pay the cost of such removal and storage within ten days thereafter, the Owner may upon ten additional days written notice sell such work at auction or at private sale and shall account for the net proceeds thereof, after deducting all the cost that should have been borne by the Contractor, including compensation for additional architectural services. If such proceeds of sale do not cover all cost which the Contractor should have borne, the difference shall be charged the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

13.2.6 The Contractor shall bear the cost of making good all work of the Owner or separate contractors destroyed or damaged by such correction or removal.

13.2.7 Nothing contained in this Paragraph 13.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Paragraph 4.5 hereof. The establishment of the time period of one year after the Date of Substantial Completion or such long period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the work, and has no relationship to the time within which his obligation to comply with the Contract Documents may be sought to be enforced, not to the time within which proceedings may be commenced to establish the Contractor's liability with respect to his obligations other than specifically to correct the work.

13.3 ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK

13.3.1 If the Owner prefers to accept defective or non-conforming work, he may do so instead of requiring its removal and correction, in which case the Change Order will be issued to reflect an appropriate reduction in the Contract Sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.

ARTICLE 14 - TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 If the work is stopped for a period of thirty (30) days under an order of any court or other public authority having jurisdiction, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the work under a contract with the Contractor, or if the work should be stopped for a period of thirty days by the Contractor because the Architect has not issued a Certificate for Payment as provided in Paragraph 9.6 or because the Owner has not made payment thereon as provided in Paragraph 9.6, then the Contractor may, upon fifteen days written notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for all work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

14.2 TERMINATION BY THE OWNER

14.2.1 If the Contractor is adjudged bankrupt, or if he makes general assignment for the benefit of his creditors, or if a receiver is appointed on account of his insolvency, or if he persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough property skilled workmen or proper materials, or if he fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations or order of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a provision of the Contract Documents, the Owner, upon certification by the Architect

that sufficient cause exists to justify such action, may, without prejudice to any right or remedy and after giving the Contractor and his surety, if any, seven days written notice, terminate the employment of the Contractor and take possession of the site, and of all materials, equipment, tools, construction, equipment and machinery thereon owned by the Contractor and may finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished.

- 14.2.2 If the unpaid balance of the Contract Sum exceeds the costs of finishing the work, including compensation for the Architect's and the Owner's inspectors, additional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor shall pay the difference to the Owner.

The costs incurred by the Owner as herein provided shall be certified by the Architect.

ARTICLE 15 - GUARANTEE OF WORK

- 15.1.1 In addition to guarantees called for elsewhere in these specifications, the Contractor shall guarantee all of his work for a period of one (1) year after the date of filing of the Notice of Completion against defective material or faulty workmanship that may arise within that period. All guarantees must be submitted to the Owner in the form attached hereto.

ARTICLE 16 - USE OF ASBESTOS

- 16.1.1 The use of asbestos or asbestos containing materials in this project is absolutely forbidden.

ARTICLE 17 - CHECK-IN AT SCHOOL OFFICE

- 17.1.1 California State Law requires that anyone, other than District personnel, must check-in at a school office before beginning work on a school site. Field crews, foremen and sub-contractors must check-in at the school office daily, must give location of work area, must describe work to be performed and must give an estimate of time required to complete the work. Compliance with these requirements will facilitate timely response from District staff including assistance to the Contractor to gain site access.

ARTICLE 18 - DIVISION OF THE STATE ARCHITECT REQUIREMENTS

- 18.1 All addenda shall be signed by the Architect, in compliance with Title 24, Part 1, Section 4-338 and approved by D.S.A.
- 18.2 All work shall be in compliance with Title 24, parts 1 through 5 and Title 19 and copies kept on job site at all times by the Contractor. Copies shall be most recent editions.
- 18.3 The Project Inspector shall be employed by the Owner and approved by the Architect, Structural Engineer and D.S.A. The Inspector must be present during all work proceedings.
- 18.4 The Testing Laboratory shall be employed by the Owner and approved by the Architect and D.S.A.
- 18.5 Changes, deletions or additions shall be documented by the Architect by means of Construction Change Documents, per DSA IR A-6 and approved by the Division of the State Architect.

ARTICLE 19 - ASBESTOS NOTIFICATION

- 19.1 Asbestos Hazard Emergency Response Act (AHERA) B regulations require that every firm doing contract work on a school site be informed of the presence of asbestos in the areas where they would be working. The attached "Short Term Worker Notification" provides that information. Contractors are hereby advised that their work must not disturb the asbestos and that certain health hazards are associated with exposure to asbestos fibers. Short Term Worker Notification form will be completed and signed by LEA Designee and Contractor at the Pre-Construction Conference.

ARTICLE 20
CONTRACTOR'S GUARANTEE

GUARANTEE FOR _____

We hereby guarantee the _____

Which we have installed in the _____

at _____ for _____ years from date of final payment.

We Agree to repair or replace to the satisfaction of the Owner any and all such work that may prove defective in workmanship or materials within that period, ordinary wear and tear and unusual abuse or neglect excepted, together with any other work which may be damaged or displaced in so doing. In the event of our failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, we collectively and separately do hereby authorize the Owner to proceed to have the defects repaired and made good at our expense, and we will pay the costs and charges therefore immediately upon demand.

(Signature of Subcontractor)

(Signature of Subcontractor)

Date _____

ARTICLE 21
**CRIMINAL HISTORY CLEARANCE/
SITE PROTECTION CERTIFICATION**

In accordance with statutory, regulatory and constitutional restrictions governing the use and dissemination of criminal offender record information, the above mentioned Education Code sections allow for exceptions from obtaining a criminal history clearance of all employees under the following conditions:

1. The installation of a physical barrier at the worksite to limit contact with pupils.
2. Continual supervision and monitoring of all employees of the contractor by an employee of the contractor whom the Department of Justice has ascertained has not been convicted of a violent or serious felony.

Construction contractors are not required to comply with the backgrounding requirements set forth in the Michelle Montoya School Safety Act if one or more of the above mentioned conditions exist.

I, the undersigned, agree to fulfill the terms and requirements of Education Code Sections 33192 and 45125.1 listed above and required that the employee agree to abide by the terms of that statement.

I also, understand that if the District determines that I have either;

- (a) made a false certification herein, or
- (b) violated this certification by failing to carry out the requirements of Sections 33192 and 45125.1,

that the contract awarded herein is subject to termination, suspension of payments or both. I further understand that, should I violate the terms of the Michelle Montoya Safety Act of 1997, I may be subject to punishment in accordance with the requirements of Sections 33192 and 45125.1 et seq.

I acknowledge that I am aware of the provision of Education Code Sections 33192 and 4512.1 et seq., and hereby certify that I will adhere to the requirements of the Michelle Montoya School Safety Act of 1997.

Signature

Date

END OF SECTION

SUPPLEMENTAL GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

- 1.1 MATERIALS - Materials incorporated in the project, or used, or consumed, in the performance of the work.
- 1.2 BUILDING - Includes the entire structure, drives, walks, steps, approaches, and site.
- 1.3 SIMILAR - Shall be taken in its general sense and not meaning identical, and all details of such work shall be in proper relation to the location and connection of other parts of the work.
- 1.4 PROVIDE - Shall mean, "Furnish and install in place".
- 1.5 (As Directed) Or others of similar meaning which authorize any exercise of judgment shall (Acceptable) be distinctly understood to mean that such power to direct, accept, reject, and (Rejected) approve shall be vested Only in the Owner and/or Architect.
- 1.6 N.I.C. - Where the indication, "N.I.C." is noted on the drawings or listed in the specifications, such item is shown or listed for the purpose of general information is, "Not in Contract." Installation and connection to services for such work are not in the contract.
- 1.7 O.F.C.I. - Where the indication, "O.F.C.I." is noted on the drawings or listed in the specifications, such item is shown or listed for information and will be, "Owner **furnished**, Contractor **installed**." The Contractor shall verify all dimensions and details necessary for the proper installation of this item.
- 1.8 TIME LIMITS - All time limits stated in the contract documents are of the essence of the contract.
- 1.9 CALLED FOR - As called for, shown, noted, and/or indicated in the specifications and/or drawings.

ARTICLE 2 - COMPLETION DATES

- 2.1 FIXED COMPLETION AND ESTIMATED COMPLETION DATE: The Work shall be commenced on the date stated in the Owner's, "Notice to Proceed" (which date will not be less than five (5) consecutive calendar days from and after the date of execution of the Contract) **and shall be completed within (90) ninety calendar days**. Reference Paragraph 8.3 of the General Conditions. This fixed completion date is defined as the Estimate Completion Date.

END OF SECTION

CONTRACT FORM

This agreement made on the _____, at
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT, in Stanislaus County,
California, by and between:

_____ and
**NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT, 1223 Main St.,
Newman, CA 95360**, hereinafter called the Owner.

WITNESSETH: That the Contractor and the Owner for the consideration hereinafter named agree as follows:

ARTICLE I. The Contractor agrees to furnish all labor and materials, including tools, implements, and appliances required, and to perform all the Work in a good and worker-like manner, free from any and all liens and claims of mechanics, material suppliers, subcontractors, artisans, machinists, teamsters, drayers, and laborers required for:

EV CHARGER UPGRADES AT VARIOUS SITES
for
NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT

all in strict compliance with the plans, drawings and specifications therefore prepared by Timothy P. Huff, Architect, and other Contract Documents relating thereto.

ARTICLE II. The contractor and the Owner agree that the Advertisement (Notice to Contractors), the Wage Scale, the General Conditions of the Contract, the Supplemental General Conditions of the Contract, Instructions to Bidders, the Specifications, the Drawings and the Addenda and Bulletins thereto, together with this Agreement, form the Contract, and they are as fully a part of the Contract as if thereto attached or therein repeated. The specifications and drawings are intended to cooperate, so that any work exhibited in the drawings and not mentioned in the specifications, or vice versa, is to be executed the same as if both mentioned in the specifications and set forth in the drawings, to the true intent and meaning of the said drawings and specifications when taken together. But no part of said specifications that is in conflict with any portion of this Contract, or that is not actually descriptive of the work to be done thereunder, or of the manner in which the said work is to be executed, shall be considered as any part of this Contract, but shall be utterly null and void, and anything that is expressly stated, delineated or shown in or upon the specifications or drawings shall govern and be followed, notwithstanding anything to the contrary in any other source of information or authority to which reference may be made.

ARTICLE III. The Owner agrees to pay to the Contractor in current funds for the performance of the Contract:

(\$ _____) Dollars

and to make payments or account thereof as provided for in the Contract Documents.

ARTICLE IV. In the event of a dispute between the Owner or Architect and the Contractor as to an interpretation of any of the specifications or as to the quality or sufficiency of material or workmanship, the decision of the Architect shall for the time being prevail and the Contractor without delaying the job, shall proceed as directed by the Architect without prejudice to a final determination by negotiation, arbitration by mutual consent or litigation, and should the Contractor be finally determined to be either wholly or partially correct, the Owner shall reimburse him for any added costs he may have incurred by reason of work done or material supplied beyond the terms of the Contract as a result of complying with the Architect's directions as aforesaid.

ARTICLE V. Pursuant to the provisions of Sections 1773 et seq. of the Labor Code of the State of California, which are hereby incorporated by reference and made a part thereof, the Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality of which the Work is to be performed, for each craft, classification or type of workman needed to execute this contract. Per diem wages shall be deemed to include employer payments for health and welfare, pension, vacation, apprenticeship or other training programs, and similar purposes. The director of the Department of Industrial Relations has further determined that the rate of prevailing wage for any craft, classification or type of worker to be employed on the Project is the rate established by the applicable collective bargaining agreement on file at the Director of the Department of Industrial Relations principal office at San Francisco, phone, (415) 972-8846, which rate so provided is hereby adopted by reference and shall be effective for the life of this agreement or until the Director of Department of Industrial Relations determines that another rate be adopted. It shall be mandatory upon the Contractor and on any subcontractor to pay not less than the said specified rates to all workmen employed in the execution of this agreement.

There shall be paid to each worker needed to execute the work to be performed hereunto such travel and subsistence payments as are defined in the applicable collective bargaining agreements filed in accordance with the provision of Labor Code Section 1773.8.

The Contractor as a penalty to the Owner shall forfeit Twenty-five Dollars (\$25.00) for each calendar day or portion thereof for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed.

The difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor.

The Contractor and each subcontractor shall keep or cause to be kept an accurate record showing the names and occupations of all laborers, workers, and mechanics employed by him in connection with the extension of this Contract or any subcontract thereunder, and showing also the actual per diem wage paid to each of such workers, which records shall be open at all reasonable hours to inspection by the Owner, its officers and agents and to the representatives of the Division of Labor Law Enforcement of the State Department of Industrial Relations.

ARTICLE VI. It is further understood and agreed that in accordance with the provision of Sections 1810 to 1815, inclusive, of the Labor Code of the State of California, which are hereby incorporated and made a part hereof, the time of service of any worker employed by the Contractor or subcontractor doing or contracting to do any part of the work contemplated by this agreement is limited and restricted to eight hours during any one calendar day and forty hours during any one calendar week, provided, however, work may be performed by such employee in excess of said eight hour per day and forty hours per week provided that compensation for all hours worked in excess of eight hours per day and forty hours per week, is paid at a rate not less than one and one-half times the basic rate of pay. Every Contractor and subcontractor shall keep an accurate record showing the name of and the actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the work. The records shall be kept open at all reasonable hours to inspection by representatives of the Owner and the Division of Labor Law Enforcement. The Contractor shall as a penalty to the Owner forfeit Twenty-five Dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than eight hours in any one calendar day and forty hours in any one calendar week, except as herein provided.

ARTICLE VII. Contractor agrees to comply with Chapter 1, Part 7, Division 2, Section 1777.5 and 1777.6 of the California Labor Code, which are hereby incorporated and made a part hereof. These sections require that contractors and subcontractors employ apprentices in apprenticeable occupations in a ratio of not less than one apprentice for each five journeymen (unless an exemption is granted in accordance with Section 1777.5) and that contractors and subcontractors shall not discriminate among otherwise qualified employees as indentured apprentices on any public works solely on the ground of sex, race, religious creed, national origin, ancestry or color.

Only apprentices as defined in Section 3077, who are in training under apprenticeship standards and who have signed written apprentice agreements will be employed on public works in apprenticeable occupations. The responsibility for compliance with these provisions is fixed with the prime contractor for all apprenticeable occupations.

ARTICLE VIII. The Contractor will indemnify the Owner against and hold it harmless of all and any liability for damages on account of injury to persons or damage to property resulting from or arising out of or in any way connected with the performance by the Contractor of his Contract and reimburse the Owner for all cost, expenses and loss incurred by it in consequence of any claims, demands, and causes of action which may be brought against it arising out of the performance by the Contractor of this Contract.

This indemnity shall be in addition to the other indemnification provisions contained in the Contract Documents.

By this statement the Contractor represents that he has secured the payment of Workers Compensation in compliance with the provisions of the Labor Code of the State of California and during the performance of the work contemplated herein will continue so to comply with said provision of said Code. The Contractor shall supply the Owner with certificates of insurance evidencing that Workers Compensation Insurance is in effect and providing that the Owner will receive 30 days notice of cancellation.

_____ Contractor	<u>Newman-Crows Landing USD</u> _____ Owner
By _____ Signature	By _____ Signature
_____ Print Name	_____ Print Name
_____ Title	_____ Title
_____ Federal I.D.#	
_____ Department of Industrial Relations #	

Note: If a corporation is the contractor, state the capacity (i.e., President) of the corporate office signing and affix the corporation seal; if a partnership, all partners should sign under the partnership name.

END OF SECTION

SUBMITTALS

SECTION 01300

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.
- B. Related Work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:
 - 1. Contractor's construction schedule.
 - 2. Shop Drawings.

1.3 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
- B. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
 - 1. Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Architect will promptly advise the Contractor when a submittal being processed must be delayed for coordination.
 - 2. If an intermediate submittal is necessary, process the same as the initial submittal.

3. Allow one week for reprocessing each submittal.
 4. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
- C. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block. The Contractor shall stamp the submittals acknowledging that they have been reviewed.
- D. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals not stamped as listed and received from sources other than the contractor will be returned without action.

1.4 CONTRACTORS CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule.
1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values."
 2. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.

1.5 SHOP DRAWINGS

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings.
- C. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction. Architect's action stamp is defined in paragraph 18 of this Section.

1.6 ARCHITECT'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal and shop drawing, mark to indicate action taken, and return promptly.
- B. Compliance with specified characteristics is the Contractor's responsibility.
- C. Action Stamp: The Architect will stamp each submittal and shop drawing with a uniform, self-explanatory action stamp. The stamp will be appropriately marked.

END OF SECTION

**SITE STANDARDS
SECTION 01353**

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including without limitation, Site Access, Conditions, and Regulations;
- B. Special Conditions;
- C. Drug-Free Workplace;
- D. Tobacco-Free Environment;
- E. Criminal Background Investigation/Fingerprinting Certification;
- F. Temporary Facilities and Controls.

1.02 REQUIREMENTS OF THE DISTRICT:

- A. Drug-Free Schools and Safety Requirements:
 - (1) All school sites and other District Facilities have been declared “Drug-Free Zones.” No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, or contractors are to use drugs on these sites.
 - (2) Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school owned vehicles and vehicles owned by others while on District property. Contractor shall post: "Non-Smoking Area" in a highly visible location on Site. Contractor may designate a smoking area outside of District property within the public right-of-way, provided that this area remains quiet and unobtrusive to adjacent neighbors. This smoking area is to be kept clean at all times.

- (3) Contractor shall ensure that no alcohol, firearms, weapons, or controlled substances enter or are used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee(s) found in violation of this provision.
- B. Language: Unacceptable and/or loud language will not be tolerated, "Cat calls" or other derogatory language toward students or public will not be allowed.
- C. Disturbing the Peace (Noise and Lighting):
 - (1) Contractor shall observe the noise ordinance of the Site at all times including, without limitation, all applicable local, city, and/or state laws, ordinances, and/or regulations regarding noise and allowable noise levels.
 - (2) The use of radios, etc., shall be controlled to keep all sound at a level that cannot be heard beyond the immediate area of use. District reserves the right to prohibit the use of radios at the Site, except for handheld communication radios (e.g., Nextel phones or radios).
 - (3) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.
- D. Traffic:
 - (1) Driving on the Premises shall be limited to periods when students and public are not present. If driving or deliveries must be made during the school hours, two (2) or more ground guides shall lead the vehicle across the area of travel. In no case shall driving take place across playgrounds or other pedestrian paths during recess, lunch, and/or class period changes. The speed limit on-the Premises shall be five (5) miles per hour (maximum) or less if conditions require.
 - (2) All paths of travel for deliveries, including without limitation, material, equipment, and supply deliveries, shall be reviewed and approved by District in advance. Any damage will be repaired to the pre-damaged condition by the Contractor.
 - (3) District shall designate a construction entry to the Site. If Contractor requests, District determines it is required, and to the extent possible, District shall designate a staging area so as not to interfere with the normal functioning of school facilities. Location of gates and fencing shall be approved in advance with District and at Contractor's expense.

- (4) Parking areas shall be reviewed and approved by District in advance. No parking is to occur under the drip line of trees or in areas that could otherwise be damaged.
- E. All of the above shall be observed and complied with by the Contractor and all workers on the Site. Failure to follow these directives could result in individual(s) being suspended or removed from the work force at the discretion of the District. The same rules and regulations shall apply equally to delivery personnel, inspectors, consultants, and other visitors to the Site.

END OF SECTION

TEMPORARY FACILITIES AND CONTROLS
SECTION 01500

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Site Standards.

1.02 TEMPORARY UTILITIES:

- A. Electric Power and Lighting
 - (1) Contractor will pay for power during the course of the Work. To the extent power is available in the building(s) or on the Site, Contractor may use the District's existing utilities by making prearranged payments to the District for the utilities used by Contractor and all Subcontractors. Contractor shall be responsible for providing temporary facilities required to deliver that power service from its existing location in the building(s) or on the Site to point of intended use.
 - (2) Contractor shall verify characteristics of power available in building(s) or on the Site. Contractor shall take all actions required to make modifications where power of higher voltage or different phases of current are required. Contractor shall be fully responsible for providing that service and shall pay all costs required therefor.
 - (3) Contractor shall furnish, wire, install, and maintain temporary electrical lights wherever it is necessary to provide safe illumination for the proper performance and/or observation of the Work: a minimum of 20 foot-candles for rough work and 50 foot-candles for finish work.
 - (4) Contractor shall be responsible for maintaining existing lighting levels in the project vicinity should temporary outages or service interruptions occur.

B. Heat and Ventilation

- (1) Contractor shall provide temporary heat to maintain environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for the installation and curing of materials, and to protect materials and finishes from damage due to improper temperature and humidity conditions. Portable heaters shall be standard units complete with controls.
- (2) Contractor shall provide forced ventilation and dehumidification, as required, of enclosed areas for proper installation and curing of materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, and gases.
- (3) Contractor shall pay the costs of installation, maintenance, operation, and removal of temporary heat and ventilation, including costs for fuel consumed, required for the performance of the Work.

C. Water

- (1) Contractor will pay for water during the course of the Work. To the extent water is then available in the building(s) or on the Site, Contractor may use the District's existing utilities by making prearranged payments to the District for the utilities used by Contractor and all Subcontractors. Contractor shall be responsible for providing temporary facilities required to deliver such utility service from its existing location in the building(s) or on the Site to point of intended use.
- (2) Contractor shall use backflow preventers on water lines at point of connection to District's water supply. Backflow preventers shall comply with requirements of Uniform Plumbing Code.
- (3) Contractor shall make potable water available for human consumption as required by OSHA.

D. Sanitary Facilities

- (1) Contractor shall provide sanitary temporary facilities in no fewer numbers than required by law and such additional facilities as may be directed by the Inspector for the use of all workers. The facilities shall be maintained in a sanitary condition at all times and shall be left at the Site until removal is directed by the Inspector or Contractor completes all other work at the Site.
- (2) Use of toilet facilities in the Work under construction shall not be permitted except by consent of the Inspector and the District.

E. Fire Protection:

- (1) Contractor shall provide and maintain fire extinguishers and other equipment for fire protection. Such equipment shall be designated for use for fire protection only and shall comply with all requirements of the California Fire, State Fire Marshall and/or its designee.
- (2) Where on-site welding and burning of steel is unavoidable, Contractor shall provide protection for adjacent surfaces as per OSHA.

F. Trash Removal:

- (1) Contractor shall provide trash removal on a timely basis or as directed by Inspector or District, no less than once per week.

G. Temporary Facilities:

- (1) None required by District, contractor to furnish as needed.

1.03 CONSTRUCTION AIDS:

A. Plant and Equipment:

- (1) Contractor shall furnish, operate, and maintain a complete plant for fabricating, handling, conveying, installing, and erecting materials and equipment; and for conveyances for transporting workmen. Include elevators, hoists, debris chutes, and other equipment, tools, and appliances necessary for performance of the Work.
- (2) Contractor shall maintain plant and equipment in safe and efficient operating condition. Damages due to defective plant and equipment, and uses made thereof, shall be repaired by Contractor at no expense to the District.

- B. None of the District's tools and equipment shall be used by Contractor for the performance of the Work.

1.04 BARRIERS AND ENCLOSURES:

- A. Contractor shall obtain the District's written permission for locations and types of temporary barriers and enclosures, including fire-rated materials proposed for use, prior to their installation.
- B. Contractor shall provide and maintain temporary enclosures to prevent public entry and to protect persons using other buildings and portions of the Site and/or Premises, the public, and workers. Contractor shall also protect the Work and existing facilities from the elements, and adjacent construction and improvements, persons, and trees and plants from damage and injury from demolition and construction operations.
- C. Contractor shall provide site access to existing facilities for persons using other buildings and portions of the Site, the public, and for deliveries and other services and activities.
- D. Tree and Plant Protection:
 - (1) Contractor shall preserve and protect existing trees and plants on the Premises that are not designated or required to be removed, and those adjacent to the Premises.
 - (2) Contractor shall provide barriers to a minimum height of 4'-0" around drip line of each tree and plant, around each group of trees and plants, as applicable, in the proximity of demolition and construction operations.
 - (3) Contractor shall not park trucks, store materials, perform Work or cross over landscaped areas. Contractor shall not dispose of paint thinners, water from cleaning, plastering or concrete operations, or other deleterious materials in landscaped areas, storm drain systems, or sewers. Plant materials damaged as a result of the performance of the Work shall, at the option of the District and at Contractor's expense, either be replaced with new plant materials equal in size to those damaged or by payment of an amount representing the value of the damaged materials as determined by the District.
 - (4) Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, and other materials which could be harmful to trees and plants, and replace with good soil, at Contractor's expense.

(5) Excavation Around Trees:

- (a) Excavation within drip lines of trees shall be done only where absolutely necessary and with written permission from the District.
- (b) Where trenching for utilities is required within drip lines, tunneling under and around roots shall be by hand digging and shall be approved by the District. Main lateral roots and taproots shall not be cut. All roots 2 inches in diameter and larger shall be tunneled under and heavily wrapped with wet burlap so as to prevent scarring or excessive drying. Smaller roots that interfere with installation of new work may be cut with prior approval by the District. Roots must first be cut with a Vermeer, or equivalent, root cutter prior to any trenching.
- (c) Where excavation for new construction is required within drip line of trees, hand excavation shall be employed to minimize damage to root system. Roots shall be relocated in backfill areas wherever possible. If encountered immediately adjacent to location of new construction, roots shall be cut approximately 6 inches back from new construction.
- (d) Approved excavations shall be carefully backfilled with the excavated materials approved for backfilling. Backfill shall conform to adjacent grades without dips, sunken areas, humps, or other surface irregularities. Do not use mechanical equipment to compact backfill. Tamp carefully using hand tools, refilling and tamping until Final Acceptance as necessary to offset settlement.
- (e) Exposed roots shall not be allowed to dry out before permanent backfill is placed. Temporary earth cover shall be provided, or roots shall be wrapped with four layers of wet, untreated burlap and temporarily supported and protected from damage until permanently relocated and covered with backfill.
- (f) Accidentally broken roots should be sawed cleanly 3 inches behind ragged end.

1.05 SECURITY:

- A. The Contractor shall be responsible for project security for materials, tools, equipment, supplies, and completed and partially completed Work.

1.06 TEMPORARY CONTROLS:

A. Noise Control

- (1) Contractor acknowledges that adjacent facilities may remain in operation during all or a portion of the Work period, and it shall take all reasonable precautions to minimize noise as required by applicable laws and the Contract Documents.
- (2) Notice of proposed noisy operations, including without limitation, operation of pneumatic demolition tools, concrete saws, and other equipment, shall be submitted to the District a minimum of forty-eight (48) hours in advance of their performance.

B. Noise and Vibration

- (1) Equipment and impact tools shall have intake and exhaust mufflers.
- (2) Contractor shall cooperate with District to minimize or cease the use of noisy and/or vibratory equipment if that equipment becomes objectionable by its longevity.

C. Dust and Dirt

- (1) Contractor shall conduct demolition and construction operations to minimize the generation of dust and dirt, and prevent dust and dirt from interfering with the progress of the Work and from accumulating in the Work and adjacent areas including, without limitation, occupied facilities.
- (2) Contractor shall periodically water exterior demolition and construction areas to minimize the generation of dust and dirt.
- (3) Contractor shall ensure that all hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins, and as otherwise required by local and state ordinance.

- (4) Contractor shall prevent dust and dirt from accumulating on walks, roadways, parking areas, and planting, and from washing into sewer and storm drain lines.

D. Water

- (1) Contractor shall not permit surface and subsurface water, and other liquids, to accumulate in or about the vicinity of the Premises. Should accumulation develop that hinders the Work, Contractor shall control the water or other liquid, and suitably dispose of it by means of temporary pumps, piping, drainage lines, troughs, ditches, dams, or other methods.

E. Pollution

- (1) No burning of refuse, debris, or other materials shall be permitted on or in the vicinity of the Premises.
- (2) Contractor shall comply with applicable regulatory requirements and anti-pollution ordinances during the conduct of the Work including, without limitation, demolition, construction, and disposal operations.

F. Lighting

- (1) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.

1.07 PUBLICITY RELEASES:

- A. Contractor shall not release any information, story, photograph, plan, or drawing relating information about the Project to anyone, including press and other public communications medium, including, without limitation, on website(s); without prior written approval from District.

PART 2 – PRODUCTS Not used.

PART 3 – EXECUTION Not used.

END OF SECTION

CUTTING AND PATCHING SECTION 01700

PART 1 - GENERAL

1.1 SUMMARY

- A. Work included: Cutting and patching for this work includes, but is not necessarily limited to:
 - 1. Sawcutting;
 - 2. Removal of existing asphalt and concrete;
 - 3. Trenching and trench backfilling;
 - 4. Final patching;
- B. Related work described elsewhere:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications
 - 2. Division 16 Electrical

1.2 JOB CONDITIONS

- A. Dust Control: use all means necessary to control dust on and near the Work and on and near all areas if such dust is caused by the Contractor's operations during performance of the Work or if resulting from the condition in which the Contractor leaves the site.
 - 1. Thoroughly moisten all surfaces as required to prevent being a nuisance to the public, neighbors, and concurrent performance of other work on the site.
- B. Protection: Use all means necessary to protect all materials of this section before, during, and after installation and to protect all objects designed to remain.
 - 1. In the event of damage, immediately make all repairs and replace necessary to the approval of the Architect and at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 **MATERIALS, GENERAL**

- A. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.1 **INSPECTION**

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.
 - 1. Before proceeding, meet at the project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

3.2 **PREPARATION**

- A. Temporary Support: Provide temporary support of work to cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Avoid cutting existing pipe, conduit or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 **PERFORMANCE**

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

- B. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
 - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. All concrete or asphalt to be removed and patched shall be sawcut in a straight and true line. Replace existing asphaltic concrete with minimum 2" A.C. over minimum 4" aggregate base, over 90% compacted grade. Replace existing concrete with 4" minimum concrete over 90% compacted grade. Finish shall match that of existing.
 - 4. Compaction of trenches shall be done by mechanical means and all lines shall be inspected for proper inspection by the Inspector prior to backfilling of trenches.
 - 5. All round holes through concrete slabs or walls shall be core drilled with a diamond drill bit. In no case shall any concrete beam or column be cut.
 - 6. Asphalt trenches which are to be patched shall be prepped by cleaning the existing surfaces so to be free of debris and dust. Area shall be primed prior to asphalt being applied.
 - 7. Patching which shows evidence of settling shall be removed and replaced at the Contractors expense. The Contractor shall provide appropriate means to protect asphalt and concrete from acts of vandalism until material is cured.

3.4 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty and similar items. Thoroughly clean piping, conduit and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION

**PROJECT CLOSEOUT
SECTION 01705**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:

- A. Definitions: Project closeout is the term used to describe certain collective project requirements, indicating completion of the Work that are to be fulfilled near the end of the Contract time in preparation for final acceptance and occupancy of the Work by the Owner, as well as final payment to the Contractor and the normal termination of the Contract.
 - 1. Specific requirements for individual units of work are included in the appropriate sections in Divisions 2 through 16.
 - 2. Time of closeout is directly related to "Substantial Completion"; therefore, the time of closeout may be either a single time period for the entire Work or a series of time periods for individual elements of the Work that have been certified as substantially complete at different dates. This time variations, if any, shall be applicable to the other provisions of this section.

1.3 PREREQUISITES TO SUBSTANTIAL COMPLETION:

- A. General: Complete the following before requesting the Architect's inspection for certification of substantial completion, either for the entire Work or for portions of the Work. List known exceptions in the request.
 - 1. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.
 - 2. Submit record drawings and maintenance manuals.
- B. Give particular attention to concealed work that would be difficult to measure and record at a later date.
 - 1. Complete final cleaning up requirements, including touch-up painting of marred surfaces.

2. Touch-up and otherwise repair and restore marred exposed finishes.
- C. Inspection Procedures: Upon receipt of Contractor's request for inspection, the Architect will either proceed with inspection or advise Contractor of unfulfilled prerequisites.
1. Results of the completed inspection will form the initial "punch-list" for final acceptance.

1.4 PREREQUISITES TO FINAL ACCEPTANCE:

- A. General: Complete the following before requesting the Architect's final inspection for certification of final acceptance, and final payment as required by the General Conditions. List known exceptions, if any, in request.
1. Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit a copy of the Architect/Engineer's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and has been endorsed and dated by the Architect/Engineer.
 3. Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

END OF SECTION

**CLEANING
SECTION 01710**

PART 1 - GENERAL

1.1 SUMMARY

- A. Throughout the construction period, maintain the site in a standard of cleanliness as described in this Section.

1.2 PROGRESS CLEANING

- A. Site:
 - 1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
 - 2. Maintain the site in a neat and orderly condition at all times.

1.3 FINAL CLEANING

- A. Site:
 - 1. Unless otherwise specifically directed by the Architect, broom clean paved areas on the site and public paved areas adjacent to the site.
 - 2. Completely remove resultant debris.

END OF SECTION

**FIELD ENGINEERING
DOCUMENT 01713**

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Investigation, and Soils Investigation Report;
- B. Special Conditions;
- C. Site-Visit Certification.

1.02 REQUIREMENTS INCLUDED:

- A. Contractor shall provide and pay for field engineering services by a California-registered engineer, required for the project, including, without limitations:
 - (1) Survey work required in execution of the Project.
 - (2) Civil or other professional engineering services specified, or required to execute Contractor's construction methods.

1.03 QUALIFICATIONS OF SURVEYOR OR ENGINEERS:

Contractor shall only use a qualified licensed engineer or registered land surveyor, to whom District makes no objection.

1.04 SURVEY REFERENCE POINTS:

- A. Existing basic horizontal and vertical control points for the Project are those designated on the Drawings.
- B. Contractor shall locate and protect control points prior to starting Site Work and preserve all permanent reference points during construction. In addition Contractor shall:
 - (1) Make no changes or relocation without prior written notice to District and Architect.

- (2) Report to District and Architect/Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- (3) Require surveyor to replace Project control points based on original survey control that may be lost or destroyed.

1.05 RECORDS:

Contractor shall maintain a complete, accurate log of all control and survey work as it progresses.

1.06 SUBMITTALS:

- A. Contractor shall submit name and address of Surveyor and Professional Engineer to District and Architect/Engineer prior to its/their work on the Project.
- B. On request of District and Architect/Engineer, Contractor shall submit documentation to verify accuracy of field engineering work, at no additional cost to the District.
- C. Contractor shall submit a certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance or nonconformance with Contract Documents.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION

3.01 COMPLIANCE WITH LAWS:

Contractor is responsible for meeting all applicable codes, OSHA, safety and shoring requirements.

3.02 NONCONFORMING WORK:

Contractor is responsible for any re-surveying required by correction of nonconforming work.

END OF SECTION

WARRANTIES
SECTION 01786

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Warranty/Guarantee Information;
- B. Special Conditions.

1.02 FORMAT

- A. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size.
- B. Cover: Contractor shall identify each binder with typed or printed title "WARRANTIES" and shall list title of Project.
- C. Table of Contents: Contractor shall provide title of Project; name, address, and telephone number of Contractor and equipment supplier, and name of responsible principal. Contractor shall identify each item with the number and title of the specific Specification, document, provision, or section in which the name of the product or work item is specified.
- D. Contractor shall separate each warranty with index tab sheets keyed to the Table of Contents listing, providing full information and using separate typed sheets as necessary. Contractor shall list each applicable and/or responsible Subcontractor(s), supplier(s), and/or manufacturer(s), with name, address, and telephone number of each responsible principal(s).

1.03 PREPARATION:

- A. Contractor shall obtain warranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within ten (10) days after completion of the applicable item or work. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of warranty until the date of completion is determined.
- B. Contractor shall verify that documents are in proper form, contain full information, and are notarized, when required.

- C. Contractor shall co-execute submittals when required.
- D. Contractor shall retain warranties until time specified for submittal.

1.04 TIME OF SUBMITTALS:

- A. For equipment or component parts of equipment put into service during construction with District's permission, Contractor shall submit a draft warranty for that equipment or component within ten (10) days after acceptance of that equipment or component.
- B. Contractor shall submit for District approval all warranties and related documents within ten (10) days after date of completion. Contractor must revise the warranties as required by the District prior to District's approval of Contractor's final Application for Payment.
- C. For items of work delayed beyond date of completion, provide updated submittal within ten days after acceptance, listing the date of acceptance as start of warranty period.

PART 2 - PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF SECTION

**RECORD DOCUMENTS
SECTION 01789**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Documents on Work;
- B. Special Conditions.

PART 2 - RECORD DRAWINGS

2.01 GENERAL:

- A. As indicated in the Contract Documents, the District will provide Contractor with one set (1) of the original Contract Drawings (plans).
- B. Contractor shall maintain at each Project Site one set of marked-up plans and shall transfer all changes and information to those marked-up plans, as often as required in the Contract Documents, but in no case less than once each month. Contractor shall submit to the Project Inspector one set of reproducible plans of the Project Record Drawings ("As-Built") showing all changes incorporated into the Work since the preceding monthly submittal. The As-Built shall be available at the Project Site. The Contractor shall submit reproducible plans at the conclusion of the Project following review of the blue line prints.
- C. Label and date each Record Drawing "RECORD DOCUMENT" in legibly printed letters.
- D. All deviations in construction, including but not limited to pipe and conduit locations and deviations caused by without limitation Change Orders, Construction Claim Directives, RFI's, and Addenda, shall be accurately and legibly recorded by Contractor.
- E. Locations and changes shall be done by Contractor in a neat and legible manner and, where applicable, indicated by drawing a "cloud" around the changed or additional information.

2.02 RECORD DRAWING INFORMATION:

A. Contractor shall record the following information:

- (1) Locations of Work buried under or outside each building, including, without limitation, all utilities, plumbing and electrical lines, and conduits.
- (2) Actual numbering of each electrical circuit.
- (3) Locations of significant Work concealed inside each building whose general locations are changed from those shown on the Contract Drawings.
- (4) Locations of all items, not necessarily concealed, which vary from the Contract Documents.
- (5) Installed location of all cathodic protection anodes.
- (6) Deviations from the sizes, locations, and other features of installations shown in the Contract Documents.
- (7) Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stubouts, invert elevations, etc.
- (8) Sufficient information to locate Work concealed in each building with reasonable ease and accuracy.

In some instances, this information may be recorded by dimension. In other instances, it may be recorded in relation to the spaces in the building near which it was installed.

B. Contractor shall provide additional drawings as necessary for clarification.

C. Contractor shall provide reproducible record drawings, made from final Shop Drawings marked "No Exceptions Taken" or "Approved as Noted."

PART 3 - RECORD SPECIFICATIONS

3.01 GENERAL:

Contractor shall mark each section legibly to record manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.

PART 4 - MAINTENANCE OF RECORD DOCUMENTS

4.01 GENERAL:

- A. Contractor shall store Record Documents apart from documents used for construction as follows:
 - (1) Provide files and racks for storage of Record Documents.
 - (2) Maintain Record Documents in a clean, dry, legible condition and in good order.
- B. Do not use Record Documents for construction purposes.

END OF SECTION

DEMOLITION SECTION 02070

PART 1 - GENERAL

1.1 SUMMARY

- A. In accordance with pertinent provisions of this Section, carefully demolish and remove from the site those items scheduled to be so demolished and removed. The Conditions of the Contract apply to this section as fully as if repeated herein.
- B. Related Work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 DUST CONTROL

- A. Take appropriate action to check the spread of dust and to avoid the creation of a nuisance in the surrounding area. Do not use water if it results in hazardous or objectionable conditions, such as ice, flooding or pollution. Comply with all dust regulations imposed by local air pollution agencies.
- B. Crystalline Silica: Comply with CCR Title 8, Section 1532.3 "Occupational Exposures to Respirable Crystalline Silica".

PART 2 - PRODUCTS

(No products are required in this Section)

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- 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. Do not proceed until unsatisfactory conditions are corrected.

3.2 DEMOLITION

- A. Contractor is responsible to review the Contract Documents, and visit site to determine the location and extent of demolition to be performed.
- B. In company with the Architect, visit the site and verify the extent and location of demolition required.
 - 1. Carefully identify limits of demolition.
 - 2. Mark interface surfaces as required to enable workmen also to identify items to be removed and items to be left in place intact.
- C. Prepare and follow an organized plan for demolition and removal of items.
 - 1. Protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.
 - 2. Completely remove items scheduled to be so demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.
 - 3. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.
- D. Demolished material shall be considered to be property of the Contractor and shall be completely removed from the job site, unless noted otherwise on the drawings.
- E. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- F. Contractor shall shutoff and disconnect all existing utilities to site (i.e.: power, communications, fire alarm, water, sewer, natural gas and other related utilities) prior to commencement of demolition. Coordinate scheduling with the Owner.
- G. Install temporary fencing, caution signs and barricades around project area for duration of project to keep area clear of vehicles and spectators.
- H. The Contractor shall be responsible for strict compliance with all requirements of the California Occupational Safety and Health Act (OSHA) which are applicable to the work to be accomplished pursuant to this contract. OSHA shall be construed to include, but not be limited to all applicable safety orders issued by the Division of Industrial Safety, State of California. In the event the Contractor or any of the Contractor's employees shall observe any violation of OSHA in or on the premises on which the Contractor is to perform work pursuant to this contract, the Contractor shall immediately give written notice to the County of such violation.

- I. Contractor shall obtain any and all permits required for such work in accordance with applicable local, state and federal laws and regulations, including San Joaquin Valley Air Pollution Control District.

3.3 REPLACEMENTS

- A. In the event of demolition of items not so scheduled to be demolished, promptly replace such items to the approval of the Architect and at no additional cost to the Owner.

END OF SECTION

SITE CLEARING SECTION 02110

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B. Related Sections:
 - 1. Demolition - Selection 02070.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Protection of existing trees indicated to remain.
 - 2. Removal of existing vegetation.
 - 3. Topsoil stripping.
 - 4. Clearing and grubbing.
 - 5. Removal of asphalt and concrete paving.
 - 6. Removing below-grade improvements.
 - 7. Removal of existing concrete curbs and miscellaneous concrete.

1.3 PROJECT CONDITIONS

- A. Traffic: Conduct site clearing operations to ensure minimum interference with roads, streets, walks and other adjacent occupied or used facilities. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction.
- B. Protection of Existing Improvement: Provide protections necessary to prevent damage to existing improvements indicated to remain in place.
 - 1. Protect improvements on Owner's property.
 - 2. Restore damaged improvements to their original conditions, as acceptable to Owner.

- C. Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation indicated to remain in place against unnecessary cutting, breaking or skinning of roots, skinning or bruising of bark, or smother of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees and vegetation to be left standing.
1. Water trees and other vegetation to remain within limits of contract work as required to maintain their health during course of construction operations.
 2. Provide protection for roots over 1 ½" (38 mm) in diameter that are cut during construction operations. Coat cut faces with an emulsified asphalt or other acceptable coating formulated to use on damaged plant tissues. Temporarily cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible.
 3. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations in a manner acceptable to Architect. Employ a licensed arborist to repair damage to trees and shrubs.
 4. Replace trees that cannot be repaired and restored to full-growth status, as determined by arborist.
- D. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated or directed.

1.4 EXISTING SERVICES

- A. General: Indicated locations are approximate; determine exact locations before commencing work.
- B. Arrange and pay for disconnecting, removing, capping and plugging utility services. Notify affected utility companies in advance and obtain before starting this work.
- C. Place markers to indicate location of disconnected services. Identify service lines and capping locations on Project Record Documents.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SITE CLEARING

- A. General: Remove trees, shrubs, grass and other vegetation, improvements or obstructions as required to permit installation of new construction. Remove similar items elsewhere on site or premises as specifically indicated. Removal includes digging out and off site disposal

of stumps and roots.

1. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction.
- B. Topsoil: Topsoil is defined as friable clay loam surface soil found in a depth of not less than 4" (100 mm). Satisfactory topsoil is reasonably free of subsoil, clay lumps, stones and other objects over 2" (50 mm) in diameter and without weeds, roots and other objectionable material. Remove heavy growths of grass from areas before stripping.
1. Strip topsoil to whatever depth encountered in a manner to prevent intermingling with underlying subsoil or other objectionable material. Remove growths of grass from areas before stripping:
 - a. Where existing trees are indicated to remain, leave existing topsoil in place within drip lines to prevent damage to root system.
 2. Stockpile topsoil in storage piles in areas indicated or directed. Construct storage piles to provide free drainage of surface water. Cover storage piles, if required, to prevent wind erosion.
 3. Dispose of unsuitable or excess topsoil as specified for disposal of waste material.
- C. Clearing shall include the removal and off-site, disposal of existing, asphalt surfacing, base material, excess dirt, walls, fences, bollards, shrubs, trees, brush, utility serviced to existing buildings and all other objectionable materials within the area of construction and other regions delineated on the plans.

3.2 GRUBBING

- A. Grubbing shall consist of the removal and disposal of roots larger than 1-1/2" in diameter, matted roots and stumps from the grubbing areas. This material, together with logs, organic and metallic debris, brush and refuse, shall be excavated and removed to a depth of not less than 6" below the original soil surface. Depressions made by grubbing shall be filled with suitable material and compacted in accordance with the requirements specified in Section 02200 - Earthwork (except for utilities).

3.3 DISPOSAL OF WASTE MATERIALS

- A. Burning on Owner's Property: Burning is not permitted on Owner's property.
- B. Removal from Owner's Property: Remove waste materials and unsuitable or excess topsoil from Owner's property.

END OF SECTION

EARTHWORK SECTION 02200

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specifications to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM) Publications.
 - 1. C 33 - Concrete Aggregates.
 - 2. D1557 - Moisture Density Relations of Soils and Soil-Aggregates Mixtures using 10 lb (4.5 kg) Rammer and 18" (457 mm) Drop.
 - 3. D2487 - Classification of Soils for Engineering Purposes.
 - 4. D2922 - Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 - 5. D3017 - Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods {Shallow Depth}.

1.3 SUMMARY

- A. This Section includes the following:
 - 1. Field Surveying by State Licensed Surveyor, provided by and paid by Contractor.
 - 2. Preparing and grading subgrades for slabs-on-grade, walks, pavements and landscaping.
 - 3. Drainage and moisture-control fill course for slabs-on-grade.
 - 4. Subbase course for walks and pavements.
 - 5. Excavating and backfilling for underground mechanical and electrical utilities and appurtenances.

- B. Related Sections: The following Sections contain requirements that relate to this Section.
1. Division 2, Section 02110 -Site Clearing.
 2. Division 2, Section 02511 -Hot-Mix Asphalt Paving.
 3. Division 3, Section 02515- Concrete.

1.4 DEFINITIONS

- A. Excavation consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed.
- B. Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill or topsoil materials.
- C. Borrow: Soil material obtained off site when sufficient approved soil material is not available from excavations.
- D. Subbase Course: The layer placed between the subgrade and base course in a paving system or the layer placed between the subgrade and surface of a pavement or walk.
- E. Base Course: The layer placed between the subbase and surface pavement in a paving system.
- F. Drainage Fill: Course of washed granular material supporting slab-on-grade placed to cut off upward capillary flow of pore water.
- G. Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the Architect. Unauthorized excavation, as well as remedial work directed by the Architect, shall be at the Contractor's expense.
- H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances or other man-made stationary features constructed above or below ground surface.
- I. Utilities include on-site underground pipes, conduits, ducts and cables as well as underground services within building lines.

1.5 SUBMITTALS

- A. General: Submit the following according to the Conditions of the Contract and Division 1 Specification Sections.

- B. Product data for the following:
 - 1. Each type of plastic warning tape.
 - 2. Filter fabric, as applicable.
- C. Permit and Shoring Plan: Before starting work submit copy of valid trenching permit and shoring plan. Submittal of shoring plan does not relieve the Contractor of his sole responsibility for job-site safety.
- D. Off-site borrow soils material testing report.

1.6 QUALITY ASSURANCE

- A. Codes and Standards: Perform earthwork complying with requirements of authorities having jurisdiction.
- B. Testing and Inspection Service: District will employ a qualified independent geotechnical engineering testing agency to classify proposed on-site and borrows soils to verify that soils comply with specified requirements and to perform required field and laboratory testing.
- C. Pre-installation Conference: Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings".
 - 1. Before commencing earthwork, meet with representative of the governing authorities, District, Architect, Consultants, Geotechnical Engineering, independent testing agency and other concerned entities. Review earthwork procedures and responsibilities including testing and inspection procedures and requirements. Notify participants at least three (3) working days prior to convening conference. Record discussions and agreements and furnish a copy to each participant.

1.7 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt existing utilities serving facilities occupied by the District or others except when permitted in writing by the Architect and then only after acceptable temporary utility services have been provided.
 - 1. Provide a minimum 48 hours notice to the Architect and receive written notice to proceed before interrupting any utility.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shutoff services if lines are active.
- C. Dust Control: Use all means necessary to control dust on and near the Work and on and near all off-site borrow areas if such dust is caused by the Contractor's operations during performance of the Work or if resulting from the condition in which the Contractor leaves the site.

1. Thoroughly moisten all surfaces as required to prevent being a nuisance to the public, neighbors and concurrent performance of other work on the site.
- D. Protection: Use all means necessary to protect all materials of this section before, during and after installation and to protect all objects designed to remain.
 1. In the event of damage, immediately make all repairs and replace necessary to the approval of the Architect and at no additional costs to the District.
- E. Directional boring will be allowed as an alternate to trenching. Should directional boring be used it will be the responsibility of the Contractor to determine compatibility of pulling fiber optic cable through the appropriate material and must meet or exceed that of PVC pipe as specified.
- F. The Contractor shall be responsible for hiring an Underground Utility Locating Service and will be responsible for repairs to any and all underground utilities damaged in the trenching and/or horizontal boring at the site.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide approved borrow soil materials from off-site when sufficient approved soil materials are not available from excavations.
- B. Backfill and Fill Materials: Satisfactory soil materials in accordance with the project soils investigation.
- C. Engineered Fill: Subbase or base materials to comply with the requirements of the project soils investigation.

2.2 ACCESSORIES

- A. Warning Tape: Acid and alkali resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6" (150 mm) wide and 4 mils (0.1 mm) thick continuously inscribed with a description of the utility
- B. Detectable Warning Tape: Acid and alkali resistant polyethylene film warning tape manufactured for marking and identifying underground utilities 6" (150 mm) wide and 4 mils (0.1 mm) thick minimum, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30" (750 mm) deep.
 1. Tape colors: Provide tape colors to utilities as follows:
 - a. Red: Electric.

- b. Yellow: Gas, oil, steam and dangerous materials.
- c. Orange: Telephone and other communications.
- d. Blue: Water systems.
- e. Green: Sewer systems.

PART 3 - EXECUTION

3.1 **PREPARATION**

- A. Protect structures, utilities, sidewalks, pavements and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.
- B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil bearing water runoff or airborne dust to adjacent properties and walkways.
- D. Tree protection is specified in the Division 2 Section "Site Clearing".

3.2 **EXCAVATION**

- A. Explosives: Do not use explosives.
- B. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1.2" (30 mm). Extend excavations a sufficient distance from structures for placing and removing concrete form work, installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
- C. Excavate surfaces under walks and pavements to indicated cross sections, elevations and grades.

3.3 **EXCAVATION FOR UTILITY TRENCHES**

- A. Excavate trenches to indicated slopes, lines, depths and invert elevations.
 - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12" (300 mm) higher than top of pipe or conduit, unless otherwise indicated.

1. Clearance: 12" (300 mm) each side of pipe or conduit.
 2. Clearance: As indicated.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints and barrels of pipes and for joints, fittings and bodies of conduits. Remove stones and sharp objects to avoid point loading.
1. For pipes or conduit less than 6" (150 mm) in nominal diameter and fiat-bottomed, multiple duct conduit units, hand excavate trench bottoms and support and conduit on an undisturbed subgrade.
 2. For pipes and conduit 6" (150 mm) or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped and backfill.
 3. When encountering rock or another unyielding bearing surface, carry trench excavation 6" (150 mm) below invert elevation to receive bedding course.

3.4 APPROVAL OF SUBGRADE

- A. Notify Architect when excavations have reached required subgrade.
- B. When Architect determines that unforeseen unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
 1. Unforeseen additional excavation and replacement material will be paid according to the Contract provisions for changes in Work.
- C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities as directed by the Architect.

3.5 STORAGE OF SOILS MATERIALS

- A. Stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. Stockpile soils materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent wind-blown dust.
 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.6 BACKFILL

- A. Backfill excavations promptly, but not before completing the following:
 - 1. Acceptance of construction below finish grade including, where applicable, dampproofing, waterproofing and perimeter insulation.
 - 2. Surveying locations of underground utilities for record documents.
 - 3. Testing, inspecting and approval of underground utilities.
 - 4. Concrete formwork removal.
 - 5. Removal of trash and debris from excavation.
 - 6. Removal of temporary shoring and bracing and sheeting.
 - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.7 UTILITY TRENCH BACKFILL

- A. Place and compact bedding course on rock and other unyielding bearing surfaces and to fill unauthorized excavations. Shape bedding course to provide continuous support for bells, joints and barrels of pipes and for joints, fittings and bodies of conduits.
- B. Concrete backfill trenches that carry below or pass under footings and that are excavated within 18" (450 mm) of footings. Place concrete to level of bottom of footings.
- C. Provide 4" (100 mm) thick concrete base slab support for piping or conduit less than 30" (750 mm) below surface of roadways. After installation and testing, completely encase piping or conduit in a minimum of 4" (100 mm) of concrete before backfilling or placing roadway subbase.
- D. Place and compact initial backfill of satisfactory soil materials or subbase material, free of particles larger than 1" (25 mm), to a height of 12" (300 mm) over the utility pipe or conduit.
 - 1. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.
- E. Coordinate backfilling with utilities testing.
- F. Install warning tape directly utilities, 12" (300 mm) below finished grade, except 6: (150 mm) below subgrade under pavements and slabs.

3.8 MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill material on surfaces that are muddy, frozen or contain frost or ice.
 - 2. Remove and replace or scarify and air dry satisfactory soil material that is too wet to compact to specified density.
 - a. Stockpile or spread and dry removed wet satisfactory soil material.

3.9 COMPACTION

- A. Place backfill and fill materials in layers not more than 6" (150 mm) in loose depth for material compacted by heavy compaction equipment and not more than 4" (100 mm) in loose depth for material compacted by hand-operated tampers. Vibratory compaction will not be allowed.
- B. Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structures.
- C. Percentage of Maximum Dry Density Requirements: Compact soil to not less than the following percentages of maximum dry density according to ASTM D 1557:
 - 1. Under asphalt pavements, compact the top 12" (300 mm) below subgrade and each layer of backfill or fill material at a minimum 95 percent of maximum dry density.
 - 2. Under walkways, compact the top 6" (150 mm) below subgrade and each layer of backfill or fill material at a minimum 90 percent of maximum dry density.
 - 3. Under lawn or unpaved areas, compact the top 6" (150 mm) below subgrade and each layer of backfill or fill material at 90 percent maximum dry density.

3.10 GRADING

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines and elevations indicated.
 - 1. Provide a smooth transition between existing adjacent grades and new grades.
 - 2. Cut out soft spots, fill low spots and trim high spots to conform to required surface tolerances.

- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Lawn or Unpaved Areas: Plus or minus 1.2" (30 mm).
 - 2. Walks: Plus or minus ½" (13 mm).
 - 3. Pavements: Plus or minus ½" (13 mm).
- C. Grading Inside Building Lines: Finish subgrade to a tolerance of 1/2" (13 mm) when tested with a 10' straightedge.

3.11 FIELD QUALITY CONTROL

- A. Testing Agency Services: Allow testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements.
 - 1. Perform field in-place density tests according to ASTM D 1556 (sand cone method), ASTM D 2167 (rubber balloon method) or ASTM D 2937 (drive cylinder method) as applicable.
 - a. Field in-place density tests may also be performed by the nuclear method according to ASTM D 2922, provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1556. With each density calibration check, check the calibration curves furnished with the moisture gauges according to ASTM D 3017.
 - b. When field in-place density tests are performed using nuclear methods, make calibration check of both density and moisture gauges at beginning of work, on each different type of material encountered and at intervals as directed by the Architect.
 - 2. Paved Areas: At subgrade and at each compacted fill and backfill layer, perform at least one field in-place density test for every 4000 sq. ft. or less of paved area, but in no case fewer than three tests.
 - 3. Trench Backfill: In each compacted initial and final backfill layer, perform at least one field in-place density test for each 150' (45 m) or less of trench, but not fewer than two (2) tests.
- B. When testing agency reports that subgrades, fill or backfills are below specified density, scarify and moisten or aerate or remove and replace soil to the depth required, recompact and retest until required density is obtained.

3.12 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing and erosion. Keep free from trash and debris.
- B. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled or lose compaction due to subsequent construction operations or weather conditions.
 - 1. Scarify or remove and replace materials to depth directed by the Architect; reshape and recompact at optimum moisture contents to the required density.
- C. Settling: Where settling occurs during the Project correction period, remove finished surfacing, backfill with additional approved material, compact and reconstruct surfacing.
 - 1. Restore appearance, quality and condition of finished surfacing to match adjacent work and eliminate evidence of restoration to the greatest extent possible.

3.13 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash and debris and legally dispose of it off the District's property.

END OF SECTION

HOT-MIX ASPHALT PAVING SECTION 02511

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 1 Specification Sections, apply to this Section.
- B. Division 2 - Paving Marking Paint

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Hot-mix asphalt paving.
 - 2. Hot-mix asphalt patching.
 - 3. Hot-mix overlays.

1.3 SYSTEM DESCRIPTION

- A. Provide hot-mix asphalt pavement according to the materials, workmanship and other applicable requirements of the standard specifications of the state of authorities having jurisdiction.
 - 1. Standard Specifications: as indicated.
 - 2. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.4 SUBMITTALS

- A. Product Data: For each product specified, include technical data and tested physical and performance properties.
- B. Job-Mix Designs: Certification, by authorities having jurisdiction of approval of each job mix proposed for the work.
- C. Job-Mix Designs: For each job mix proposed for the work.
- D. Shop Drawings: Indicate pavement markings, lane separations and defined parking spaces. Indicate dedicated handicapped spaces with international graphics symbol.

- E. Qualifications Data: For firms and persons specified in the “Quality Assurance” Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Architects and Owners and other information specified.
- F. Material Test Reports: Indicate and interpret test results for compliance of materials with requirements indicated.
- G. Material Certificates: Certificates signed by manufacturers certifying that each material complies with requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design and extent to that indicated for this project and with a record of successful in service performance.
- B. Manufacturer’s Qualifications: Engage a firm experienced in manufacturing hot-mix similar to that indicated for this project and with a record of successful in-service performance.
 - 1. Firm shall be a registered and approved paving mix manufacturer with authorities having jurisdiction or with the DOT of the state in which project is located.
- C. Testing Agency Qualifications: Demonstrate to Architect’s satisfaction, based on Architect’s evaluation of criteria conforming to ASTM D 3666, that the independent testing agency has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.
- D. Regulatory Requirements: Conform to applicable standards of authorities having jurisdiction for asphalt paving work on public property.
- E. Asphalt-Paving Publication: Comply with AI’s “The Asphalt Handbook”, except where more stringent requirements are indicated.
- F. Preinstallation Conference: Conduct conference at project sit to comply with requirements of Division 1, Section “Project Meetings” review methods and procedures related to asphalt paving including, but not limited to the following:
 - 1. Review proposed sources of paving materials, including capabilities and location of plant will manufacture hot-mix asphalt.
 - 2. Review condition of substrate and preparatory work performed by other trades.
 - 3. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.

4. Review and finalize construction schedule for paving and related work. Verify availability of materials, paving installer's personnel, and equipment required to execute the work without delays.
5. Review inspection and testing requirements, governing regulations and proposed installation procedures.
6. Review forecasted weather conditions and procedures for coping with unfavorable conditions.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver pavement-marking materials to project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture and directions for storage.
- B. Store pavement-marking materials in a clean, dry, protected locations and within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if substrate is wet or excessively damp or if the following conditions are not met:
 1. Prime and Tack Coats: Minimum surface temperature of 60 degrees Fahrenheit (15.5 degrees Celsius).
 2. Slurry Coat: Comply with weather limitations of ASTM D 3910.
 3. Asphalt Base Course: Minimum surface temperature of 40 degrees Fahrenheit (4 degree Celsius) and rising at time of placement.
 4. Asphalt Surface Course: Minimum surface temperature of 60 degrees Fahrenheit (15.5 degree Celsius) at time of placement.
- B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 degrees Fahrenheit (4 degrees Celsius) for oil-based materials, 50 degrees Fahrenheit (10 degrees Celsius) for water based materials and not exceeding 95 degrees Fahrenheit (35 degrees Celsius).

PART 2 - PRODUCTS

2.1 AGGREGATES

- A. General: Use materials and gradations that have performed satisfactorily in previous installations.
- B. Coarse Aggregate: Sound; angular crushed stone; crushed gravel; or properly cured, crushed blast-furnace slag; complying with ASTM D 692.

- C. Fine Aggregate: Sharp-edged natural sand or sand prepared from stone; gravel, properly cured blast furnace slag or combinations thereof; complying with ASTM D 1073.
 - 1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.
- D. Mineral Filler: Rock or slag dust, hydraulic cement or other inert material complying with ASTM D 242.

2.2 ASPHALTIC MATERIALS

- A. Asphalt cement: ASTM D 3381 for viscosity-graded material; ASTM D 946 for penetration-graded material.
- B. Asphalt Cement: ASTM D 3381 for viscosity-graded material.
- C. Undersealing Asphalt: ASTM D 3141, pumping consistency.
- D. Prime Coat: ASTM D 2027; medium-curing cutback asphalt; MC-30, MC-70 or MC-250.
- E. Prime Coat: Asphalt emulsion prime conforming to state DOT requirements.
- F. Prime Coat: ASTM D 977, emulsified asphalt of ASTM D 2397, cationic emulsified asphalt, slow setting, factory diluted in water, of suitable grade and consistency for application.
- G. Tack Coat: ASTM D 977, emulsified asphalt or ASTM D 2397, cationic emulsified asphalt, slow setting, factory diluted in water of suitable grade and consistency for application.
- H. Fog Seal: ASTM 977, emulsified asphalt or ASTM D 2397, cationic emulsified asphalt, slow setting, factory diluted in water, of suitable grade and consistency for applications.
- I. Water: Potable.

2.3 AUXILIARY MATERIALS

- A. Herbicide: Commercial chemical for weed control, registered by Environmental Protection Agency (EPA). Provide granular, liquid or wettable powder form.
- B. Sand: ASTM D 1073, Grade nos. 2 or 3.
- C. Paving Geotextile: Nonwoven polypropylene, specifically designed for paving applications, resistant to chemical attack, rot and mildew.

- D. Wheel Stops: Precast, air-entrained concrete, 2500 psi (17.2 MPa) minimum compressive strength, approximately 6" (150 mm) high, 9" (225 mm) wide, and 48" (2130 mm) long. Provide chamfered corners and drainage slots on underside, and provide holes for anchoring to substrate.
 - 1. Dowels: Galvanized steel, diameter 3/4" (19 mm), minimum length 24" (254 mm).

2.4 MIXES

- A. Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and designed according to procedures in AI's "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types".
 - 1. Provide mixes with a history of satisfactory performances in geographical area where project located.
 - 2. Provide mixes complying with the composition, grading and tolerance requirements of ASTM D 3515 for the following nominal, maximum aggregate sizes:
 - a. Base Course: 1" (25 mm).
 - b. Surface Course: 1/2" (13 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.
- C. Notify Architect in writing of any unsatisfactory conditions. Do not begin paving installation until these conditions have been satisfactorily corrected.

3.2 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
 - 1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.
- B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
 - 1. Mix herbicide with prime coat when formulated by manufacturer for that purpose.

3.3 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt mix on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section and thickness, when compacted.
 - 1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
 - 2. Place hot-mix asphalt surface course in single lift.
 - 3. Spread mix at minimum temperature of 250 degrees Fahrenheit (121 degrees Celsius).
 - 4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
 - 5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10' (3 m) wide, except where infill edge strips of a lesser width are required.
 - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete asphalt base course for a section before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.4 JOINTS

- A. Construct joints to ensure continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.
 - 1. Clean contact surfaces and apply tack coat.
 - 2. Offset longitudinal joints in successive courses a minimum of 6" (150 mm).
 - 3. Offset transverse joints in successive courses a minimum of 24" (600 mm)
 - 4. Construct transverse joints by bulkhead method or sawed vertical face method as described in AI's the "The Asphalt Handbook".
 - 5. Compact joints at soon as hot-mix asphalt will bear roller weight without excessive displacement.
 - 6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.5 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
 - 1. Complete compaction before mix temperature cools to 185 degrees Fahrenheit (85 degrees Celsius).
- B. Breakdown Rolling: Accomplish breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade and smoothness. Repair surfaces by loosening displaced material, filling with hot-mix asphalt, and rerolling to required elevations.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling, while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 - 1. Average Density: 96 percent of reference laboratory density according to ASTM D 1559, but not less than 95 percent nor greater than 100 percent.
 - 2. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 95 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials. Remove paving course over area affected and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.6 INSTALLATION TOLERANCES

- A. Thickness: Compact each course to produce the thickness indicated within the following tolerances.
 - 1. Base Course: Plus or minus ½” (13 mm).

2. Surface Course: Plus 1/4" (6 mm), no minus.
- B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10' (3 m) straightedge applied transversely or longitudinally to paved areas:
1. Base Course: 1/4" (6 mm).
 2. Surface Course: 1/8" (3 mm).
 3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4" (6 mm).

3.7 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors and placement have been verified with Architect.
- B. Allow paving to cure for thirty (30) days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply two (2) coats of paint with mechanical equipment to produce pavement markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).

3.8 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports.
 1. Testing agency will conduct and interpret tests and state in each report whether tested work complies with or deviates from specified requirements.
- B. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.
- C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.
- D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- E. In-Place Density: Samples of uncompacted paving mixtures and compacted pavement will be secured by testing agency according to ASTM D 979.
 1. Reference laboratory density will be determined by averaging results from four(4) samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 1559 and compacted according to job-mix specifications.

2. Reference maximum theoretical density will be determined by averaging results from four (4) samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
 3. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
 - a. One core sample will be taken for every 1000 sq. yd. (836 sq. m) or less of installed pavement, but in no case will fewer than three (3) cores be taken.
 - b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.
- F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

END OF SECTION

CONCRETE SECTION 02515

PART 1 - GENERAL

1.1 SUMMARY

- A. Work included: The work includes the furnishing and installing of all concrete flatwork as shown and noted on the drawings and as specified. The Conditions of the Contract and Division 1 apply to this section as fully as if repeated herein.

1.2 SUBMITTALS

- A. Provide mix designs break sample results and weighmaster certificates.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portland cement: Type II and shall conform to the specifications for portland cement, ASTM C 150-81 and CBC Section 1903.
- B. Aggregates: Concrete aggregates shall conform to specifications for concrete aggregates ASTM C 33-81 except as modified by CBC Section 1903.3 grading to conform to CBC Table 19 A - J.
- C. Reinforcing Bars: New, deformed, billet steel bars, meeting the requirements of ASTM A 615-80, Grade 40. Deliver bars new and free from rust and mill scale in original bundles with mill tags intact.
- D. Welded Wire Fabric: New, welded steel wire fabric, meeting the requirements of ASTM A 185-79. Provide gauge and center-to-center spacing as indicated.
- E. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement.
 - 1. Use flexible spring steel forms or laminated boards to form radius bends.
 - 2. Coat forms with a non-staining form release agent.

2.2 MIXING

- A. Provide mix designs for each class of concrete used. The exact proportions of the mix, including amounts of admixture (if any) and water, will be determined by the Testing Laboratory or Mill, based on cement and aggregate submitted by the Contractor. The Concrete Supplier may utilize an established mix design by supplying at least twenty (20)

break sample results by testing lab and supplying weigh master certificate.

- B. Use ready-mixed concrete mixed and delivered in accordance with the requirements of ASTM C 94-81, and UBC Standard No. 19-3. In the event concrete is mixed at a central batching plant, arrange delivery so intervals between batches are kept at a minimum, and in any event not more than 30 minutes. Do not add water during transit or at the Project Site without the Architect's approval. Place concrete within 90 minutes after cement has been mixed with aggregate or 45 minutes after addition of water and admixtures.

2.3 PROPERTIES AND PROPORTIONS

- A. Proportion concrete to provide a minimum compressive strength at 28 days of 3,000 psi for all site work concrete.
- B. Slump: 4 inches maximum.
- C. Aggregate Size: Maximum 1 inch.

PART 3 - EXECUTION

3.1 INSTALLATION OF SIDEWALKS AND OTHER FLATWORK

- A. Placing: Place concrete in accordance with CBC Section 1905. Strike off and compact the fresh concrete until a layer of mortar has been brought to the surface. Float the surface to grade and cross section with a float not less than 10 feet in length and not less than 6 inches in width. Trowel surfaces to a uniform smooth texture free of trowel marks ready to receive final finish as specified below.
- B. Joints: Tool the surfaces of flatwork to provide weakened plane joints in accordance with patterns indicated. Where no pattern is shown, mark flatwork into rectangles - minimum 12 square feet, maximum 20 square feet. Use a scoring tool that will leave the corners rounded. Form expansion joints 1/4 inch wide at all returns and opposite expansion joints in curbs. Where curb is not adjacent, form expansion joints at intervals of 60 feet. Fill expansion joints with pre-molded expansion joint filler as specified.
- C. Tolerances: The surface of flatwork shall not vary more than 0.02 foot from a 10 foot straight edge except at grade changes.
- D. Finish: Concrete is to be medium broom finish, 0.6 coefficient of friction at typical locations. Provide heavy broom finish at locations where slopes are over 6%.

END OF SECTION

PAVING MARKING PAINT SECTION 02760

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Pavement marking paint.
- B. Related Sections including the following:
 - 1. Asphalt Paving.

1.3 PROJECT CONDITIONS

- A. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 50 degrees Fahrenheit (10 degrees Celsius) for water based materials and not exceeding 95 degrees Fahrenheit (35 degrees Celsius).

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Pavement-Marking Paint: Latex, water-base emulsion, ready-mixed, complying with FS TT-P-1952. Contractor is to restripe parking spaces as indicated on the Drawings.
 - 1. Color: As indicated on the Drawings.

PART 3 - EXECUTION

3.1 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors and placement have been verified with Architect.
- B. Allow paving to cure for twenty (20) days before starting pavement marking.

- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).

END OF SECTION

DETECTABLE TACTILE WARNING SURFACES

SECTION 02775

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies furnishing and installing Cast In Place Detectable/Tactile Warning Surface Tiles where indicated on the plans and herein specified. Drawings and general provisions of Contract, including General and Special Conditions and Division 1 Specifications Section, apply to this Section.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's literature describing products, installation procedures and routine maintenance.
- B. Samples for Verification Purposes: Submit two (2) tile samples minimum 6"x6" of the kind proposed for use.

1.3 QUALITY ASSURANCE

- A. Provide Cast In Place Detectable/Tactile Warning Surface Tiles and accessories as produced by a single manufacturer with a minimum of three (3) years experience in the manufacturing of Detectable/Tactile Warning Surface Tiles.
- B. Americans with Disabilities Act (ADA): Provide Detectable/Tactile Warning Surface Tiles which comply with the detectable warnings on walking surfaces section of the Americans with Disabilities Act (Title III Regulations, 28 CFR Part 36 ADA STANDARDS FOR ACCESSIBLE DESIGN, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES).
- C. California Code of Regulations (CCR): Provide only approved DSAAC detectable warning products as provided in the 2025 CBC California Code of Regulations (CCR) Title 24, Part 2, Section 205 definition of "Detectable Warning". Section 11B-406.5.12 and 11B-705 for "Curb Ramps" and Section 11B-247.1.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Detectable/Tactile Warning Surface Tiles shall be suitably packaged or crated to prevent damage in shipment or handling. Finished surfaces shall be protected by sturdy plastic wrappings to protect tile from concrete residue during installation and tile type shall be identified by part number.

- B. Detectable/Tactile Warning Surface Tiles shall be delivered to location at building site for storage prior to installation.

1.5 SITE CONDITIONS

- A. Environmental Conditions and Protection: Maintain minimum temperature of 40°F in spaces to receive Detectable/Tactile Warning Surface Tiles for at least 24 hours prior to installation, during installation, and for not less than 24 hours after installation.
- B. The use of water for work, cleaning or dust control, etc. shall be contained and controlled and shall not be allowed to come into contact with the general public. Provide barricades or screens to protect the general public.

1.6 GUARANTEE

- A. Cast In Place Detectable/Tactile Warning Surface Tiles shall be guaranteed in writing for a period of five (5) years from date of final completion. The guarantee includes defective work, breakage, deformation, fading and loosening of tiles.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The Vitrified Polymer Composite (VPC) Detectable/Tactile Warning Surface Tile specified is based on Armor-Tile manufactured by Engineered Plastics Inc. (800-682-2525). Existing engineered and field tested products, which have been in successful service for a period of three (3) years are subject to compliance with requirements, may be incorporated in the work and shall meet or exceed the specified test criteria and characteristics.
- B. Color: Yellow conforming to Federal Color No. 33538. Color shall be homogeneous throughout the tile.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Cast In Place Warning Surface Tiles:
 - 1. During Detectable/Tactile Warning Surface Tile installation procedures, ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.
 - 2. Prior to placement of the Detectable/Tactile Warning Surface Tile system, review manufacturer and contract drawings with the Contractor prior to the construction and refer any and all discrepancies to the Engineer.

3. The specifications of the structural embedment flange system and related materials shall be in strict accordance with the contract documents and the guidelines set by their respective manufacturers.
4. The physical characteristics of the concrete shall be consistent with the contract specifications while maintaining a slump range of 4 - 7 to permit solid placement of the Cast In Place Detectable/Tactile Warning Surface Tile system. An overly wet mix will cause the tile to float. Under these conditions, suitable weights such as 2 concrete blocks or sandbags (25 lb) shall be placed on each tile.
5. The concrete pouring and finishing operations require typical mason's tools, however, a 4' long level with electronic slope readout, 25 lb. weights, and a large non-marring rubber mallet are specific to the installation of the Cast In Place Detectable/Tactile Warning Surface Tile system. A vibrating mechanism such as that manufactured by Vibco can be employed, if desired. The vibrating unit should be fixed to a soft base such as wood, at least 1 foot square.
6. The factory-installed plastic sheeting must remain in place during the entire installation process to prevent the splashing of concrete onto the finished surface of the tile.
7. When preparing to set the tiles, it is important that no concrete be removed in the area to accept the tile. It is imperative that the installation technique eliminates any air voids under the tile. Holes in the tile perimeter allow air to escape during the installation process. Concrete will flow through the large holes in each embedment flange on the underside of the tile. This will lock the tile solidly into the cured concrete.
8. The concrete shall be poured and finished true and smooth to the required dimensions and slope prior to the tile placement. Immediately after finishing concrete, the electronic level should be used to check that the required slope is achieved. The tile shall be placed true and square to the curb edge in accordance with the contract drawings. The Cast In Place Detectable/Tactile Warning Surface Tiles shall be tamped (or vibrated) into the fresh concrete to ensure that the field level of the tile is flush to the adjacent concrete surface. The embedment process should not be accomplished by stepping on the tile as this may cause uneven setting which can result in air voids under the tile surface. The contract drawings indicate that the tile field level (base of truncated dome) is flush to adjacent surfaces to permit proper water drainage and eliminate tripping hazards between adjacent finishes.

9. In cold weather climates it is recommended that the Cast In Place Detectable/Tactile Warning Surface Tiles be set deeper such that the top of domes are level to the adjacent concrete on the top and sides of ramp and that the base of domes to allow water drainage. This installation will reduce the possibility of damage due to snow clearing operations.
10. Immediately after placement, the tile elevation is to be checked to adjacent concrete. The elevation and slope should be set consistent with contract drawings to permit water drainage to curb as the design dictates. Ensure that the field surface of the tile is flush with the surrounding concrete and back of curb so that no ponding is possible on the tile at the back side of curb.
11. While concrete is workable, a 3/8" radius edging tool shall be used to create a finished edge of concrete, then a steel trowel shall be used to finish the concrete around the tile's perimeter, flush to the field level of the tile.
12. During and after the tile installation and the concrete curing stage, it is imperative that there is no walking, leaning or external forces placed on the tile that may rock the tile causing a void between the underside of tile and concrete.
13. Following tile placement, review installation tolerances to contract drawings and adjust tile before the concrete sets. Two suitable weights of 25 lb each may be required to be placed on each tile as necessary to ensure solid contact of the underside of tile to concrete.
14. Following the concrete curing stage, protective plastic wrap is to be removed from the tile surface by cutting the plastic with a sharp knife, tight to the concrete/tile interface. If concrete bled under the plastic, a soft brass wire brush will clean the residue without damage to the tile surface.
15. If desired, individual tiles can be bolted together using 1/4 inch or equivalent hardware. This can help to ensure that adjacent tiles are flush to each other during the installation process. Tape or caulking can be placed on the underside of the bolted butt joint to ensure that concrete does not rise up between the tiles during installation. Any protective plastic wrap which was peeled back to facilitate bolting or cutting, should be replaced and taped to ensure that the tile surface remains free of concrete during the installation process.
16. Tiles can be cut to custom sizes, or to make a radius, using a continuous rim diamond blade in a circular saw or mini-grinder. Use of a straightedge to guide the cut is advisable where appropriate.

17. Any sound-amplifying plates on the underside of the tile, which are dislodged during handling or cutting, should be replaced and secured with construction adhesive. The air gap created between these plates and the bottom of the tile is important in preserving the sound on cane audible properties of the Armor-Tile system as required in various jurisdictions.

3.2 CLEANING, PROTECTING AND MAINTENANCE

- A. Protect tiles against damage during construction period to comply with Tactile Tile manufacturer's specification.
- B. Protect tiles against damage from rolling loads following installation by covering with plywood or hardwood.
- C. Clean Tactile Tiles not more than four days prior to date scheduled for inspection intended to establish date of substantial completion in each area of project. Clean Tactile Tile by method specified by Tactile Tile manufacturer.
- D. Comply with manufacturers maintenance manual for cleaning and maintaining tile surface and it is recommended to perform annual inspections for safety and tile integrity.

END OF SECTION

**PARKING APPURTENANCES
SECTION 02841**

PART 1 - GENERAL

1.1 SUMMARY

- A. The work includes furnishing and installing parking appurtenances as indicated and specified herein. The conditions of the Contract and Division 1 apply to this section as fully as if repeated herein.

PART 2 - PRODUCTS

2.1 CONCRETE WHEEL STOPS

- A. Precast concrete using smooth metal forms, 2,000 psi concrete, with two No. 3 horizontal reinforcement bars; 72 inches long unless otherwise indicated, 5 inches high, sides battered, ends battered or vertical, with edges rounded to 3/4 inch radius.
- B. Reinforcing Materials: Grade 40 bars.
- C. Concrete Materials: As specified in Section 02515.

2.2 PARKING IDENTIFICATION SIGNS

- A. Sign Panels: Construct sign panels of 20 gage minimum hot-dip galvanized steel sheet or 16 gage minimum aluminum with rounded corners. Clean and prepare galvanized surfaces to assure maximum paint adhesion and paint with reflectorized porcelain enamel. Apply legends, symbols and borders using the silk screen process.
- B. Posts: Galvanized steel standard weight pipe posts.
- C. Identification: Each parking accessible parking space shall be identified by a sign displaying the International Symbol of Accessibility. The sign shall not be smaller than 70-inch squared in area and shall be centered at the interior end of the parking space at a minimum height of 80-inch, or as indicated on the Plan, from the bottom of the sign to the parking space finished grade.
- D. A sign shall also be posted, at the entrance to the off-street parking facility, as show on drawings.

PART 3 - EXECUTION

3.1 SETTING WHEEL STOPS

- A. Secure each wheel stop with two ½" x 16" long galvanized steel anchor bolts through prepared holes, one at each end of bumper. Install bolts flush with top of wheel stops. Drive anchors through holes in wheel stops into asphaltic concrete paving.

3.2 INSTALLATION OF SIGNS

- A. Install signs in locations indicated. Set posts into pipe sleeve inserts set and anchored into concrete. Fill Space between pipe posts and sleeves with quick setting hydraulic cement.

END OF SECTION

SEALANTS AND CAULKING

SECTION 07920

PART 1 - GENERAL

1.1 SUMMARY

- A. The work includes the furnishing and installing of all caulking and sealing work required to weatherproof the building, including exterior caulking and sealing, as shown and noted on the drawings and specified herein. The conditions of the contract and Division 1 apply to this section as fully as if repeated herein.

1.2 SUBMITTALS

- A. Prior to ordering materials or their installation, submit for selection, samples indicating the color range available for each caulking and sealant material intended for installation in exposed locations. Materials installed prior to selection of color will be subject to removal and replacement with approved materials. Color of finished caulking and sealant shall match approved samples.
- B. See section 01300 for number and manner of submittals.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Do not expose caulking and sealants to excessive heat, cold or other conditions that would adversely affect the serviceability of the materials. Do not store caulking and sealants past the shelf-life recommended by the manufacturer.

1.4 JOB CONDITIONS

- A. Apply caulking and sealants only when weather conditions are within the manufacturer's recommended limits for satisfactory installation.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Caulking and Sealant Compounds: Compounds shall be products and manufacturers listed herein or equal products approved in accordance with section 01630.
 - 1. Exterior Vertical Applications: One part low modulus silicone sealant; Dow Corning No. 790, General Electric "Silpruf" or equal.

2. Exterior Horizontal Applications: Two component, self leveling, polyurethane base sealant, Mameco "Vulkem 245", Pecora, "NR200 Urexpan", Sonneborn "Sonolastic Paving Joint Sealer" or equal.
- B. Primers: Primers shall be quick-drying, colorless, non-staining sealer of type of consistency as recommended by the manufacturer of the caulking and sealant material for the particular surfaces to be caulked or sealed.
- C. Packing: Sealant backup and packing for caulking and sealant compounds shall be non-staining resilient material, such as glass fiber rope, or neoprene, butyl, polyurethane, or other open cell foams, compatible with the compound used.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect joint sizes and surfaces prior to start of work. Do not start work until deficiencies or other conditions that would adversely affect performance, installation or quality of the application have been corrected. Start of work constitutes acceptance of joint surfaces.

3.2 SURFACE PREPARATION

- A. Joints and spaces to be caulked or sealed shall be completely cleaned of dirt, dust, mortar, oil, and other foreign materials which might adversely affect the caulking and sealant work. Where necessary, degrease with an approved solvent or commercial degreasing agent. Surfaces shall be thoroughly dry before application of caulking compounds.
- B. If recommended by manufacturer, remove paint and other protective coatings from surfaces to be caulked or sealed prior to priming and caulking or sealant application.
- C. All joints shall be enclosed on three sides. Where grooves for adequate caulking or sealing have not been provided, suitable grooves shall be cleaned out to the depth required or as indicated on drawings and ground to a minimum width of 1/4 inch without damage to the adjoining work. No grinding shall be required on metal surfaces.
- D. Preparation of surfaces to receive caulking or sealant compound shall conform to the compound manufacturer's specifications. Use air pressure or other approved methods to achieve required results. Use masking tape to keep compound off surfaces that will be exposed in the finished work.

3.3 APPLICATION

- A. Caulk and seal around all openings in exterior walls, and other locations shown or required for waterproofing the building. Caulk and seal all other joints as herein specified, shown on drawings, and required to properly complete the building.
- B. Caulking and sealants shall be applied by experienced mechanics using specified materials and proper tools. Preparatory work (cleaning etc.) And application of caulking and sealants shall be as specified herein and in accordance with the manufacturer's printed instruction and recommendations.
- C. Plaster and other porous surfaces, and other surfaces if recommended by the manufacturer, shall be primed before applying caulking and sealants. Primer shall be applied with a brush that will reach all parts of joints to be filled with compound.
- D. Joints and spaces deeper than ½ inch shall be filled with packing as specified to within ½ inch of the surface.
- E. Caulking and sealants shall not be used when they become too jelled to be discharged in a continuous flow from the gun. Modification of compounds by addition of liquids, solvents, or powders will not be permitted.
- F. Compounds shall be applied with guns having proper size nozzles. Sufficient pressure shall be used to fill all voids and joints solid. In caulking and sealing around openings, include entire perimeter of each impracticable, suitable hand tools shall be used.
- G. Caulked and sealed joints shall be neatly pointed on flush surfaces with beading tool and internal corners with eaving tool. Excess material shall be cleanly removed. Caulking and sealant where exposed, shall be free of wrinkles and uniformly smooth. Caulking and sealing shall be complete before final coat of paint are applied.

3.4 MISCELLANEOUS CAULKING AND SEALING WORK

- A. The entire extent of caulking and sealing work is not necessarily fully or individually described herein. Caulking and sealing shall be provided wherever required to prevent light leakage as well as moisture leakage. Refer to drawings for conditions and related parts of the work.

3.5 CLEANING

- A. Clean surfaces of materials adjoining caulked and sealed joints of smears of compound or other soiling due to caulking and sealing application.

END OF SECTION

ELECTRICAL GENERAL REQUIREMENTS
SECTION 16000

PART 1 - GENERAL

1.1 INCLUSION OF GENERAL CONDITIONS AND DIVISION ONE

- A. The General Conditions, Supplemental Conditions, and Division 1, General Requirements, are a part of this Section and the Contract for this work and apply to this Section as fully as if repeated herein.

1.2 SCOPE

- A. Work under this Section includes all labor, materials, tools, plant equipment, transportation and perform all operations necessary for proper execution and completion of all electrical work whether specifically mentioned or not; all as indicated, specified herein, and/or implied thereby to carry out the apparent intent thereof. Items of work include, but are not limited to, the following:
1. Study work and related drawings and specifications of all other crafts whose work abuts, adjoins, or in any manner is affected by work of this section. Consult with other trades and with them expedite and coordinate materials and labor to avoid omissions and delays.
 2. Complete system of wiring distributions including panelboards, transformers and all power hookups to relocatables, as shown on the drawings.
 3. Excavation, backfill, framing and other associated work required for the installation of the electrical system.
 4. Submission of shop drawings.
 5. As-Built drawings.
 6. Tests.
 7. Prepare day-by-day record of "as built" changes as specified hereinafter.
 8. Furnish, install and connect all line voltage wiring to mechanical equipment and other electrical equipment.

1.3 WORK NOT INCLUDED

- A. The following work as outlined is not included in the Electrical Contract; however, this Contractor shall cooperate with other contractors involved and shall be responsible to give complete directions on sizes of openings, locations, etc., and to insure that the completed electrical installations shall be of good workmanship and in accordance with drawings and specifications.
- B. Equipment or work indicated "NIC" or "By others."

1.4 PERMITS AND ORDINANCES

- A. Comply with all codes, ordinances, and authorities having jurisdiction, including all local public utility requirements, the California Building Code and the California Electrical Code. Electrical Contractor shall procure and pay for all permits, licenses, etc. required to carry on and complete the work.

1.5 SPECIFICATION AND CONTRACT DRAWINGS

- A. Accuracy of data given herein and on the drawings are as exact as could be secured, but their extreme accuracy is not guaranteed. The drawings and specifications are for the assistance and guidance of the Contractor and exact locations, distances, levels, etc., will be governed by the building and the Contractor shall accept same with the understanding.
- B. Drawings and specifications may be superseded by later detail specifications and detail drawings prepared by the Architect, and the Contractor shall conform to them and to such reasonable changes in the Contract drawings as may be called for by those revised drawings without extra cost to the Owner. Where work called for exceeds code requirements, drawings and specifications shall take precedence.
- C. Layouts of equipment, accessories and wiring systems are diagrammatic (not pictorial), but shall be followed as closely as possible. Architectural, structural and other mechanical drawings shall be examined, noting all conditions that may affect this work. Report conflicting conditions to the Architect for adjustment before proceeding with work.
- D. Should Contractor proceed with work without so reporting the matter, he does so on his own responsibility, and shall alter work if directed by the Architect at his own expense. Right is reserved to make minor changes in locations of equipment and wiring systems shown, providing change is ordered before conduit runs and/or work directly connected to same is installed and no extra materials are required.

1.6 STRUCTURAL REQUIREMENTS

- A. Installation under this Section shall comply with the California Building Code and Title 24.

1.7 EXAMINATION OF SITE

- A. The Contractor shall be held to have visited the site and satisfied himself as to the conditions under which the work is to be performed. He shall check existing conditions which may affect his work. No allowance shall subsequently be made in his behalf for any extra expense to which he may be put due to failure or neglect to discover conditions affecting his work.

1.8 MANUFACTURER'S DIRECTIONS

- A. Follow manufacturer's directions where these directions cover points not included in the drawings or in the specifications.

1.9 CLEANING

- A. After all work has been accomplished such as sanding, painting, etc., lighting fixtures, panelboards, and switchboards shall be cleaned to remove all dust, dirt, grease, paint, or other marks. All electrical equipment shall be left in a clean condition inside and outside, satisfactory to the Architect.

1.10 WORKMANSHIP

- A. Workmanship shall be of the best quality and shall be performed by skilled craftsmen to insure long and trouble-free service. The requirements of the Codes and Safety Orders are minimum standards.

1.11 REVIEW SUBMITTALS

- A. Materials List: Submit to the Architect for review, seven (7) copies of submittals covering the following items to be furnished under this Section. This submittal shall specifically include:
 - 1. Service switchboards.
 - 2. Panelboards.
 - 3. Fire Alarm system addition.

- B. For ease of maintenance and parts replacement, to the maximum extent possible use equipment of a single manufacturer. The Architect reserves the right to reject any submittals which contains equipment from various manufacturers if suitable materials can be secured from fewer manufacturers and to require that the source of materials be unified to the maximum extent possible.
- C. When specific names are used in connection with materials, they are used as standards only, but this implies no right upon the part of the Contractor to use other materials or methods unless approved as equal in quality and utility by the Architect in writing and in accordance with provisions for substitutions previously stipulated in these specifications.
- D. Shop drawings and all supporting data shall be submitted as instruments of the Contractor. Contractor shall place his stamp on the cover sheet of submittal documents, thereby stating that the equipment meets all requirements of the conditions. At least one set of submittals shall have check marks at each item indicating that the Contractor has verified compliance with the above requirements.
- E. Should the original submittal of a proposed substitution be rejected, the specified item shall be furnished.
- F. Within twenty one (21) days after award of contract, submit (7) bound copies of brochures containing complete information and catalog cuts on all equipment including that which is to be furnished as specified. Include wiring diagrams where so required. The brochures shall be bound separately according to classifications of equipment such as power, light fixtures, fire alarm system, signals systems and miscellaneous systems. Submittals which consist of all brochures for all classifications of equipment to be furnished bound in one single book shall be returned unreviewed. Proposed substitutions shall be accompanied by catalog cuts, ratings, sizes, performance curves, shop drawings and other data complete to prove full equality to the specified item. At least one copy of the submittals for each system shall be made up of original printed manufacturer's cut sheets. Additional copies may be made up of Xerox copies. FAX submittals are not acceptable and will be returned unreviewed.
- G. Approval of a substitution does not authorize any deviation from the utility, size or function of the specified item unless specifically pointed out and approval requested in the letter of submittals. Responsibility for conflicts due to space limitations are not relieved by approval of a substitution. If revision of wiring, piping or arrangement of other equipment is necessary, after approval, furnish the Architect with (7) copies for file and future reference.
- H. Panelboard submittals shall be arranged to show bussing circuit numbers with respective branch circuit devices similar to schedules on drawings. Switchboard and motor control center submittals shall show elevations indicating layout of devices, metering, etc. Device ratings, circuit numbers and nameplates shall be in table form. Terminal cabinet submittals shall include elevations with terminal strip mounting arrangement.

- I. Unless otherwise shown or specified, material shall be new, full weight, standard, the best quality of its' kind and satisfactory to the Architect. Materials shall be stored and protected as necessary and/or required by the Architect, and the Contractor shall be entirely responsible for damage or loss from any cause. Unless otherwise shown or specified, major equipment shall be the product of a manufacturer who has for a period of not less than five (5) years, been in successful manufacture of the equipment and who has nationally distributed catalog covering ratings and specifications of said equipment.
- J. Electrical materials shall bear the label of, or be listed by, the Underwriters' Laboratories unless of a type for which label or listing service is not provided.
- K. Materials and components shall conform to industrial standards including:
 - 1. N.E.M.A. - National Electrical Manufacturers' Association.
 - 2. A.S.A. - American Standards Association.
 - 3. A.S.T.M. - American Society of Testing Materials.
 - 4. I.P.C.E.A. - Insulated Power Cable Engineers' Association.
 - 5. C.B.M. - Certified Ballast Manufacturers.
- L. Samples of fixtures, materials and equipment shall be submitted for approval of Architect if requested.

1.12 CUTTING AND PATCHING

- A. Obtain the Architect's and DSA approval before performing any cutting or patching of concrete, masonry, or wood structure by this installation and including provisions for holes in concrete before concrete is poured.

1.13 PROTECTION

- A. The Contractor shall protect from damage during construction, the work and materials of other trades as well as the electrical work and materials. Electrical equipment stored and installed on the job site shall be protected from dust, water, or any other damage.

1.14 IDENTIFICATION OF EQUIPMENT

- A. Nameplates shall be installed on electrical equipment. Equipment to be labeled shall include the following:
 - 1. Individual enclosures such as disconnect switches, time switches, pushbuttons, contractors, relays, motor starters, etc.

2. Group mounted equipment such as panelboards, switchboards, motor control devices.
 3. Individual circuit breakers on switchboards.
 4. Wall switches for lighting or other use where the control function is not self-evident.
 5. Existing panel boards, disconnects, etc which are reused shall be re-labelled in accordance with this section. All old labeling, if any, shall be removed.
- B. Each panel shall be labeled externally to provide the following information as a minimum:
1. Panel name.
 2. Size of feeder feeding the panel.
 3. Rated voltage, amps and phases.
- C. Each main service switchboard and distribution panel shall be labeled to provide the following information as a minimum:
1. Rated voltage, amps and phases.
 2. Main switch rating.
 3. Feeder circuit breaker rating with name of panel or equipment fed and size of feeder to this equipment.
- D. Nameplates shall adequately describe the item and its' function or use of the particular equipment involved.
- E. Manufacturers label shall include date of manufacture.
- F. Nameplate material shall be laminated phenolic plastic, black front and back with white core. Engraving shall be through the outer layer. Embossed plastic pressure sensitive labels are not acceptable.
- G. In lieu of plastic plates, device plates shall be engraved directly with lettering filled with black enamel.
- H. Nameplates shall be securely fastened to the equipment with #4 Phillips round head cadmium plated steel self-tapping screws.

1.15 EXCAVATION AND BACKFILL

- A. Perform excavation and backfill required for electrical installation. Restore surfaces, roadways, walks, curbs, walls, existing underground installations or original condition in an acceptable manner.
- B. Excavation: Dig trenches straight and true to line and grade, with bottom smoothed of any rock points. Support conduit for entire length on undisturbed, original earth. Minimum conduit depth of pipe crown shall be twenty four (24") below finished or natural grade.
- C. Backfill: Provide all necessary backfill material placement and compaction for trenches. Backfill may be sand or native soil.

1.16 TESTS

- A. The entire electrical installation shall be free from short circuits and improper grounds. Test all wiring and connections for continuity and grounds before any fixtures or equipment are connected and where such tests indicate faulty insulation or other defects, they shall be located, repaired and retested at the Contractor's expense. Electrical load shall be balanced at the panelboards. Rotation of all motors shall be checked and corrected, if necessary, after final connections are made. Demonstrate to the Owner and the Engineer that the entire installation is complete, in proper operating condition and that the Contract has been properly and fully executed. Provide all instruments to make such tests.
- B. All signal systems listed and described in Part 2 shall be tested in the presence of the Owner's representative or the enforcing authority as applicable and provide a completion certificate and a successful test report to the Architect. Three copies shall be provided. Provide a minimum of five days notice prior to tests.
- C. System test shall be performed only by an individual who has attended a manufacturer's training school for installation and testing the system as described herein. Testing of the system shall be performed with the test instruments as required by the manufacturer; testing by means other than the manufacturer's procedures will not be acceptable unless agreed to by the Owner, specifying Engineer and the Manufacturer.

1.17 WORKING SPACE

- A. Adequate working space shall be provided around electrical equipment in strict compliance with the California Electrical Code and Electrical Safety Orders, with particular reference to CEC Article 110-16 and 384-4. In general, provide six and one-half feet (6'-6") of headroom and thirty-six inches (36") minimum clear work space in front of panelboards and controls for 120 volts and forty-two inches (42") for 480 volts.

1.18 AS-BUILT DRAWINGS

- A. Upon completion of work covered by this Contract, furnish Architect with mylar transparencies, as required by the General Conditions, upon which shall be shown all changes of feeders, panels, circuits, light fixtures, etc., within building and installed under this Contract, which are not in accord with these drawings for the work. Diazo sepia transparencies will not be acceptable.
- B. In addition, furnish one tracing showing all outside utility lines, transformer pad, pull boxes, etc. installed under this Contract. Locate and dimension all work with reference to permanent landmarks.
- C. All symbols and designations used in preparing "Record" drawings shall match those used in Contract drawings.
- D. Properly identify all stubs for future connections, as to locations and use, by setting of concrete marker at finished grade in the manner suitable to the Architect.

1.19 GUARANTEE

- A. Acceptance of the Contract for this work includes this guarantee: The Contractor guarantees that he has performed the work in accordance with the Contract Documents. Contractor agrees to replace or repair, as new, any defective work, materials, or part which may appear within one year (1) year of final acceptance, if, in the opinion of the Architect or the Owner, the defect is due to workmanship or material.

1.20 WARRANTIES, GUARANTEES, CERTIFICATES, ETC.

- A. Warranties, Guarantees, Certificates, etc. that are furnished and available for equipment and materials furnished and installed under this Section shall be properly filled out as of the date of acceptance of the work by the Owner and shall be delivered to the Architect.

1.21 COOPERATION AND COORDINATION

- A. Cooperate and coordinate with other crafts in putting the installation in place at a time when the space required by this installation is accessible. Work done without regard to other crafts shall be moved at the Contractor's expense.

1.22 FLASHING AND SEALING

- A. Flash and counter flash roof and wall penetrations in manner described under other applicable sections of this specification and as approved by the Architect. Conduits, ducts, etc. passing through finished walls shall be fitted with steel escutcheon plates, chrome or paint finish as directed. Conduits which penetrate floor slabs and concrete or masonry walls shall be grouted and sealed watertight at penetration.

1.23 ELECTRICAL WORK FOR MOTORS AND APPLIANCES FURNISHED BY OTHERS:

- A. Work is shown on drawings according to best information available at time drawings was prepared; but this Contractor shall obtain accurate information on equipment power requirements and connection points from Contractors furnishing the actual equipment and shall install electrical work to suit at no extra cost to Owner. Should Contractor proceed with work without first verifying accuracy of the plans, he does so at his own risk and shall alter work if required at his own expense.
- B. Mechanical and Plumbing Contractors shall furnish written or printed specifications, dimension sheets and diagrams for the electrical work applying to the actual equipment being installed. Electrical Contractor shall be responsible for obtaining this information in a timely manner and shall assist other Contractors in testing of their systems, but his responsibility is restricted to having correctly installed and connected electrical work in accordance with diagrams and specifications furnished him by the other Contractors.

1.24 ACCEPTANCE BY GOVERNING AUTHORITIES

- A. Upon the completion of the electrical work, and as a condition of its acceptance, this Contractor shall obtain final inspections and acceptance from local building inspection agencies, utility companies, and/or other governing authorities. Deliver to the Owner and the Architect verification of such acceptance.

1.25 CLEANING UP

- A. Keep the premises in a neat, safe and orderly condition at all times during the execution of the electrical work. Areas adjacent to the electrical work, both interior and exterior shall be free from accumulations of debris and/or shipping containers and packing. All refuse shall be removed to the area of the job site set aside for its storage. All items removed from the existing installation shall be removed from the site.

1.26 OPERATIONS AND MAINTENANCE MANUALS

- A. Submit the following prior to final acceptance and request for final payment for Division 16 work, in conformance with the Project Closeout requirements of the General Provisions.
 - 1. As-Built Drawings.
 - 2. Operation and Maintenance Manuals.
- B. Provide four complete sets of Operation and Maintenance Manuals including, but not limited to, the following:

1. Shop Drawings and Installation, Operation and Maintenance Manuals for all power distribution and control equipment including service and distribution equipment, branch panels, etc.
 2. Schematic diagrams, installation wiring diagrams and instructions and Operation and Maintenance Manuals for all communications, special systems, signaling and control systems and equipment.
 3. Copies of certificates of code authority acceptance, and test data and other special guarantees, warranties, etc. specified elsewhere herein and/or indicated on the Drawings.
- C. Assemble each set in standard hardback, 3-ring binders. Do not exceed binder fill of 50 percent; i.e., 1-inch thickness of paper in 2-inch binder. Use tabular dividers to organize the materials in the same order as this Specification. Mark each divider according to (sub)section number and name.

END OF SECTION

RACEWAYS AND FITTINGS

SECTION 16110

PART 1 - GENERAL

1.1 RACEWAYS:

- A. All wiring shall be in raceways unless otherwise so specifically noted. Raceways shall be run in slabs, walls, above ceilings or exposed as indicated on drawings. Acceptable raceway and their limitations of use are as follows:
1. Rigid Steel Conduit may be used in all areas.
 - a. Standard weight, zinc coated on outside by hot dipping or sherardized process, with either zinc coating or other approved corrosion resistant coating on the inside.
 - b. Fittings shall be threaded and finished similar to conduit. Threadless fittings shall not be used.
 - c. Conduits connected to boxes and cabinets shall be fitted with two locknuts and insulated bushing, OA "A" Series.
 - d. Conduits not connected with locknuts and bushings shall be fitted with grounding bushing, OZ "BL" Series, U. L. approved and bonded.
 - e. Conduit stubs underground shall be capped with coupling, nipple, coupling and plug.
 - f. Conduits connected to boxes, cabinets, etc., exposed to weather or in areas subject to excessive moisture shall be fitted with watertight sealing hubs of steel or malleable iron with sealing ring and insulated throat, T & B 370 Series, Efcor 40-50B Series or equal.
 - g. Conduit shall be wrapped with black 10 mil PVC tape for underground installation. Not required to be concrete encased when run underground except at road or alley crossings.
 - h. Only conduit approved for use on roof and within 8 feet of grades on exterior walls.
 2. Electrical Metallic Tubing (EMT):
 - a. Rolled steel, zinc coated outside with either zinc-coating or other approved corrosion-resistant coating on the inside.
 - b. Couplings shall be rain compression type Appleton TWC-CS series or equal.
 - c. Connectors shall be raintight compression type with insulated throat Appleton TW-CS1 Series or equal.
 - d. May be used:
 1. Concealed in drywall partitions.
 2. Exposed in telephone and electrical equipment rooms above six foot elevation.
 3. Concealed above furred ceilings.

4. Exposed in fan rooms and/or plenum chambers provided location is dry.
- e. May not be used:
 1. Any location subject to physical damage.
 2. Normal exposed locations on exterior walls, within 8 ft. of grade or roofs.
 3. In boiler and mechanical rooms.
 4. Any other areas not listed under (5) above unless specifically otherwise noted on the plans.
3. Flexible Metal Conduit may be used only for indoor final connections to mechanical equipment (not to exceed 36") and final connections to recessed fluorescent lighting fixtures (not to exceed 72") unless otherwise noted on drawings.
 - a. Minimum trade size - one-half inch ($\frac{1}{2}$ ").
 - b. Connectors - T & B "Tite Bite" insulated.
 - c. Suitable for connection of recessed fixtures, control and mechanical equipment. Not permitted where exposed to weather or other wet or corrosive conditions.
 - d. Length shall be a practical minimum, but to allow for movement of equipment connected without restricting flexibility of conduit.
4. Liquid Tight Flexible Metal Conduit - Sealtight: May be used only for outdoor final connections to mechanical equipment and to surface panels and boxes on portable classrooms which are not anchored and tied down to bases.
 - a. Minimum trade size - one-half inch ($\frac{1}{2}$ ").
 - b. Connectors - Appleton STB Series through two inch trade size and ST Series with insulated bushings over two inch trade size. Appleton, Crouse-Hinds or equal may be used.
 - c. Length shall be practical minimum, but to allow for movement of equipment connected without restricting flexibility of Sealtight.
5. Poly-Vinyl-Chloride Schedule 40
 - a. Minimum trade size - three-fourths inch ($\frac{3}{4}$ ").
 - b. Joints shall be solvent welded.
 - c. All portions shall be below grade.
 - d. Not suitable for conduit stub for future extension.
 - e. A copper bonding conductor shall be pulled in each power raceway and bonded to equipment at each end with approved lugs.
 - f. Continuation of run above concrete slab or into building interior from underground shall be with rigid steel elbow or bend.
 - g. Connection to steel conduit shall be made with approved threaded adapters.

6. Surface Wiremold: May be used only for indoor installations at locations specifically permitted on the plans.
 - a. Shall be Wiremold #500 with matching connectors and accessories.
 - b. Paint raceway to match wall or ceiling finish.
 - c. Non-metallic raceways are not approved.
7. Conduit Support:
 - a. Conduit shall be supported with straps, with galvanized malleable split ring and rod for individual runs or with Kindorf, Unistrut, or equal channel for multiple runs. Distance between supports shall not exceed 10 feet. Conduits shall be supported independently of one another.
 - b. Conduits run on roof shall be fastened to a 4" x 6" x length as required fire retardant redwood block set in mastic on roof structure using galvanized double hole straps and screws. Multiple conduit runs shall be gathered neatly in straight lines and fastened individually to the redwood block.
8. Conduit straps for individual runs shall be secured by toggle bolts on hollow masonry, expansion shields and machine screws on solid concrete or masonry, machine screws or bolts on metal surfaces and wood screws on wood construction. Use of nails to anchor straps on wood construction is prohibited. Straps shall be two hole malleable iron or snap type steel with ribbed back, galvanized or cadmium plated. Use of perforated strap iron or nail type straps is prohibited.
9. Conduit Fittings: Except where otherwise noted, conduit fittings shall be Appleton. Unilets shall be malleable iron and fitted with covers and gaskets. Aluminum fittings are not acceptable.
10. Telephone and signal conduit bends where required shall have a radius of ten times the conduit trade size.
11. Underground conduit bends shall have a minimum radius of twelve times the conduit trade size.
12. Conduits shall be capped during construction.
13. Provide pull wires in empty conduits. Pull wires shall be #12 TW in conduits 1" and smaller and 3/16" polypropylene rope in conduits 1-1/4" and larger.
14. Minimum size underground conduit shall be 3/4".

1.2 BOXES

- A. Boxes shall be of the shape and size best suited for the particular application and shall be supported directly to structural members, framing or blocking by means of screws, anchors, bolts or embedded in masonry.
- B. Switch and receptacle box shall be one piece drawn steel boxes. Minimum size shall be four inches (4") square. Boxes shall be fitted with flush device covers, plaster rings, or tile switch rings in masonry. In areas where exposed wiring is permissible, boxes shall be fitted with surface type covers.
- C. Lighting outlets shall be four inch (4") octagon, minimum fitted with three-eighths inch (3/8") malleable fixture studs.
- D. Floor Boxes: Hubbell dual level fully adjustable round type standard or shallow type as required. Provide multi service box where so indicated.
- E. Weatherproof boxes shall be Appleton FD Series and fitted with gasketed cast covers.
- F. Telephone and television outlet boxes shall be 4-11/16" x 2-1/2" deep minimum, fitted with plaster rings.
- G. Boxes for special equipment shall be suitable for the particular equipment.
- H. Boxes shall be located and placed according to architectural and structural requirements.

1.3 PULL OR JUNCTION BOXES

- A. Install where indicated, or as required by Code, pull boxes and junction boxes of sufficient size and capacity to facilitate all wiring. Boxes shall be sized to properly accommodate all conductors entering same.

1.4 SUPPORTS

- A. Furnish all necessary foundations, supports, backing, etc., for all electrical enclosures, conduits and equipment.
- B. Attach all boxes, cabinets, etc. to wood with wood or lag screws, to metal with machine screws or bolts and to concrete with expansion anchors and machine screws or bolts.
- C. Electrical lighting fixtures weighing 50 lbs. or more shall not be installed using wood screws for supports to the ceiling. Each such fixture shall have pre-stretched galvanized wires or rods anchored to the roof or structural member of the building.

1.5 CONDUCTORS

- A. Deliver to the site in unbroken packages, plainly marked with the manufacturer's name, date of manufacture (not more than six months old), voltage size and classification number.
- B. Branch circuit conductors shall be copper conductors, Type THHN/THWN, unless otherwise noted.
- C. Conductors for feeders and branch circuits installed on the roof shall be copper conductors, Type THWN/THHN, unless otherwise noted.
- D. Minimum size of all conductors shall be #12 AWG unless otherwise indicated on the drawings.
- E. All wiring in continuous rows of fluorescent fixtures shall be Type TEW/AWM.
- F. Conductors shall be as manufactured by Essex, American, Rome Cable Co., or equal.

1.6 SPLICES

- A. Splices of #10 and smaller, including fixture tape, shall be made with Scotchlok connectors, T & B "Piggys" or equal.
- B. Splices of #8 through #4 shall be split bolt service connectors "Kerneys", T & B "Lock Tites" or equal, insulated with Scotch #88 or Okeweld four-purpose tape.
- C. Splices #2 and larger shall be OZ "ST" Series insulated with Scotchfil and Scotch #88 or Okeweld.
- D. Splices in underground pull boxes shall be Scotchcast cast resin splices.
- E. Wire splicing devices shall be sized according to manufacturer's recommendations.

1.7 CONDUCTORS IN PANELS

- A. Conductors in panels, motor control centers, etc. shall be laced with T & B Ty-raps.
- B. LUBRICANT: Lubricant for conductor installation shall be powdered soapstone, Y-er EAS, Minerallac "Pull-In" compound or other U.L. approved lubricant. Flax soap is not approved and not permitted on the job.

1.9 SIGNAL CONDUCTORS

- A. Signal conductors shall be as listed on drawings and hereinafter specified.

- B. Connections in terminal cabinets shall be on terminal blocks suitable for the system being installed.

1.10 EXPOSED WIRING

- A. All wiring that is permitted per this specifications to be installed exposed shall be low-smoke plenum-rated. Such exposed wiring shall only be installed in accessible ceiling space.
- B. Wall drops for such wiring shall be in raceways, installed concealed in wall in all new walls and preferably in existing walls as well.
- C. Such cables shall be gathered neatly and tied into bundles every three feet and hung from “J” hangers attached to building structure every six feet. Do not lay these cables over T - bar ceiling or drape them over HVAC ducts. All such runs shall be parallel or perpendicular to building walls.
- D. See relevant wiring system specifications to determine whether such wiring is permissible in this project.

1.11 CABLE IDENTIFICATION

- A. Non-ferrous identifying tags or pressure sensitive labels shall be securely fastened to all cables, feeders and power circuits in pull boxes and manholes. Tags or labels shall be stamped or printed to correspond with markings on drawings or marked so that feeder or cable may be readily identified.

END OF SECTION

ELECTRICAL DISTRIBUTION SYSTEM
SECTION 16300

PART 1 - GENERAL

1.1 DISCONNECT SWITCHES

- A. Units shall be heavy duty fused disconnect switches, tow or three pole type, where indicated on the Drawings or as required by Code. Switches and fuses shall be as required by the loads serving.
- B. Fuse rating shall be the maximum indicated on the nameplate of the equipment.

1.2 TERMINAL CABINETS

- A. Terminal cabinets shall be of panelboard type construction and finish.
- B. Trim shall be fitted with hinged door and flush latch.
- C. Doors shall provide maximum size openings to box interior.
- D. Boxes shall be provided with half inch (½") backboard having a two coat insulating varnish finish.
- E. Top of cabinet shall be 6'-6" above finished floor.
- F. Flush terminal cabinet installed adjacent to flush panelboards shall be of the same physical size and trim as the panelboard.
- G. Terminal cabinets for signal systems to be mounted outdoors shall have tamperproof screws.

END OF SECTION