BURRIS PARK FOUNDATION

NEW FABRIC SHADE STRUCTURE AT THE AMPHITHEATER
DESIGN-BUILDING BRIDGING DOCUMENTS BID PACKAGE
BURRIS PARK
KINGS COUNTY REGIONAL PARK
KINGS COUNTY, CA

Prepared by TETER, Inc.
7535 N. Palm Ave, Suite 201
Fresno, California 93711
559-437-0887

July 2023

TETER, Inc. Project No. 12792

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END OF SECTION

SECTION 00 10 00
NOTICE TO CONTRACTORS

NOTICE IS HEREBY GIVEN that the Burris Park Foundation ("Foundation") will receive sealed bids from contractors licensed in accordance with the provisions of the Public Contract Code for the furnishing of all labor, materials, equipment, transportation, and services for the performance of the following work:

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

in accordance with the Plans and Specifications thereof on file in the office of the Department of Public Works, Burris Park Foundation, 1400 W. Lacey Blvd., Hanford, California.

SCOPE OF WORK

The work to be performed consists, in general, of New Tensioned Fabric Shade Structure at the existing amphitheater, including design, engineering, construction documents, and all materials and installation of the shade structure.

PLANS AND SPECIFICATIONS AVAILABLE:

Plans and Specifications and addenda for the work may be obtained at the Purchasing Division page of the Kings Foundation website,
https://www.Foundationofkings.com/departments/administration/purchasing/requests-for-proposals

SEALED BIDS:

Bid Location: Sealed bids on the above project shall be filed with the **Purchasing Manager of the Burris Park Foundation at 1400 W. Lacey Blvd., Building No. 6, Hanford, California, 93230.**

Bid Date/Time: On or before 4:00 PM, local time, **on October 10, 2023**. Said bids will be opened in public at or after 4:00 p.m. local time of said day in the office of the Purchasing Manager. Bids shall be submitted only on the forms provided thereof.

REQUEST FOR INFORMATION OR CLARIFICATIONS:

Questions: Proposers are responsible for submitting any and all questions concerning the work as set forth in the project documents. Questions must be presented in writing via email to Loren Aiton at loren.aiton@teterae.com prior to **4:00 PM, local time, on October 3, 2023**.

BIDDER'S BOND:

Bids must be accompanied by a bidder's bond approved by the Foundation or a certified or cashier's check for at least 10 percent of the amount bid and made payable to the Burris Park Foundation, State of California. Said Bidder's Bond or certified or cashier's check shall be declared forfeited if the successful bidder refuses or neglects to enter into contract after being so requested by the Foundation. Said Bond shall be obtained from an admitted surety company satisfactory to the Foundation.

CONTRACTOR'S LICENSE REQUIRED:

The Foundation will not consider or accept any bids from contractors who are not licensed to do business in the State of California and are in possession of a current Class A contractor's license.

If the license classification specified herein above is that of a "Specialty Contractor" as defined in Section 7058 of the Business and Professions Code, the specialty contractor awarded the Contract shall itself construct a majority of the Work in accordance with the provisions of the Business and Professions Code.

SUBCONTRACTOR'S LIST: Each bid filed shall set forth:

a. The work to be performed and the name and the location of the place of business of each subcontractor who will perform work or labor or render services to the general contractor in or about the construction of the work or improvement, or a subcontractor licensed by the state of California who, under contract with the general contractor, specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of 1/2 of 1 percent of the general contractor's total bid; and

b. The portion of the work which will be done by each subcontractor, as required by Section 4104 of the Public Contract Code; and

c. All bids shall be submitted subject to the terms, conditions, and penalties of Sections 4100 through 4113 inclusive of the Public Contract Code.

BONDS AND INSURANCE REQUIRED:

a. Performance and Maintenance Bond(s) - The successful bidder shall file with the Foundation, at the time of execution of the Contract, a Performance Bond acceptable to the Foundation in the full amount of the Contract Price, as security for the faithful performance of the Contract for the construction of the Work, and to cover all guarantees against defective workmanship or materials, or both, during the warranty period following the date of the final acceptance of the Work by the Foundation.

b. Payment Bond - The successful bidder shall file with the Foundation, at the time of execution of the Contract, a Payment Bond acceptable to the Foundation in the full amount of the Contract Price, as security for the payment of all persons supplying labor and materials for the construction of the Work.

c. Form of Bonds - The Bonds shall be submitted on the bond forms contained in these Contract Documents or shall be in substantial compliance with same. Compliance shall be judged solely by the Burris Park Foundation.

d. All bonds required, whether Bid, Performance, Payment, or Maintenance shall be issued by an admitted surety insurer. The Bid Bond and Payment Bond must be issued by the same admitted surety insurer. The Bonds required by these specifications will neither be accepted nor approved by the Foundation unless the Bonds are underwritten by an admitted surety, the requirements of California Code of Civil Procedure section 995.630(a) and (b) are met, and the Bond is accompanied by the Foundation Clerk's certificate as provided for in Code of Civil Procedure section 995.640(b). The Foundation further reserves the right to satisfy itself as to the acceptability of the surety and the form of each bond. The bidder must submit, together with the Bonds, the following documents:

1. The original, or certified copy, of the unrevoked appointment, power of attorney, bylaws, or other instrument authorizing the person who executed the bond to do so for and in behalf of the Owner.

2. A certified copy of the certificate of authority of the insurer issued by the California Insurance Commissioner.

3. A certificate from the Foundation Clerk that the certificate of authority has not been surrendered, revoked, canceled, annulled, or suspended, or in the event that it has, that renewed authority has been granted.

4. A financial statement of the assets and liabilities of the insurer to the end of the quarter calendar year prior to 30 days next preceding the date of the execution of the bond, in the

form of an officer's certificate as defined in Section 173 of the California Corporations Code.

If the surety insurer is found not to be an admitted surety insurer, the bid shall be determined to be non-responsive and shall be rejected. If the surety insurer's assets do not exceed its liabilities in an amount equal to or in excess of the amount of the bond as set forth in Section 12090 of the California Insurance Code, or if the bidder fails to provide the specified documents, the bid may be determined to be non-responsive and may be rejected.

e. Power-of-Attorney - The Attorney-in-Fact who executes this bond on behalf of the Surety must attach a notarized copy of his or her power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond.

f. Surety - The Surety furnishing these bonds shall have a sound financial standing, a record of service satisfactory to the Burris Park Foundation, and be authorized to do business in the State.

The successful bidder shall be required to furnish certificates indicating that he or she carries adequate worker's compensation insurance and public liability and property damage insurance, which list the Foundation as an additional insured.

SUBSTITUTION OF SECURITIES:

Bidders are hereby put on notice that the successful bidder may substitute securities for any monies withheld by Burris Park Foundation to insure performance of the Contract pursuant to Public Contracts Code Section 22300.

PREVAILING WAGE PROVISION:

a. Pursuant to Labor Code Section 1770 et seq., each laborer or mechanic of contractor or any subcontractor engaged in work on the project under this contract shall be paid not less than the hourly wage rate of per diem wages set forth in the prevailing wage rate schedule published by the Director of Industrial Relations, regardless of any contractual relationship which may be alleged to exist between the contractor or any subcontractor and such laborers and mechanics.

b. Any laborer or mechanic employed to perform work on the project under this contract, which work is not covered by any of the foregoing classifications, shall be paid not less than the prevailing rate of per diem wages specified herein for the classification which most nearly corresponds to the work to be performed by him.

c. The foregoing specified prevailing wage rates are minimum rates only, and the contractor may pay any wage rate in excess of the applicable rate as contained in this contract.

d. Pursuant to Labor Code Section 1775, the Contractor as a penalty to the Owner shall forfeit $200.00 for each calendar day, or portion thereof for each worker paid less than the prevailing rate established by the Department of Industrial Relations for such work or craft in which the worker is employed. The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which the worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor. NOTE: An error on the part of an awarding body does not relieve the Contractor from responsibility for payment of the prevailing rate of per diem wages or liability for any penalties pursuant to Labor Code Sections 1770, et seq..

e. Copies of the applicable prevailing wage rates are available at the website of the California Department of Industrial Relations, http://www.dir.ca.gov/OPRL/dprewagedetermination.htm.

f. Any or all portions of this Section shall not be applicable to the extent that Contractor is specifically exempted from said requirements by statute. However, in the event that Contractor is so exempted, Contractor shall provide the legal authority for the claimed exemption.

DEPARTMENT OF INDUSTRIAL RELATIONS REGISTRATION

No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 (with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)). No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

MISCELLANEOUS:

The Burris Park Foundation reserves the right to reject any or all bids or to waive any informality in any bid.

If this contract is awarded, then the Notice of Award shall be issued to the lowest responsible bidder within sixty (60) days following the bid opening.

Unless otherwise required by law, no bidder may withdraw his bid for a period of 60 days after the date the Board awards bid to the lowest responsible bidder. The Bid Bond shall be returned 60 days from the time the Award is made.

BY ORDER OF THE KINGS FOUNDATION BOARD OF DIRECTORS, Hanford, California.

Original Signed

_____

Steve Bogan
President, Burris Park Foundation

Date of Publication: September 16, 2023 & October 7, 2023

SECTION 00 20 00
INSTRUCTIONS TO BIDDERS

PREPARATION OF PROPOSAL:

The outside of the envelope in which the bid is submitted shall include the bidders name and be plainly marked:

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

Bids shall be made upon the forms included in these specifications and available at the Purchasing Division page of the Kings County website, https://www.countyofkings.com/departments/administration/purchasing/requests-for-proposals. All items shall be filled in and the signatures of all persons signing shall be in longhand. Unless bids are submitted on these forms, they will not be considered by the Board. Each bidder shall write out the total amount of his or her bid in addition to inserting the same in figures.

Mistakes must be corrected, and the correction inserted. Corrections must be initialed in ink by the person presenting the proposal.

EXAMINATION OF CONTRACT DOCUMENTS:

The bidders shall carefully examine the Plans and Specifications, and satisfy themselves as to their sufficiency. The bidders shall not at any time after submission of the bids, dispute or complain of the Plans and Specifications, the directions explaining or interpreting them, or assert that there is any misunderstanding in regard to the location, extent, nature, or amount of work to be performed.

Should a bidder find discrepancies in, or omissions from, the Plans and Specifications, or should he or she be in doubt as to their meaning, he or she shall at once notify the Architect, and should it be found that the point in question is not clearly and fully set forth, a written Addendum will be sent to all bidders and made a part of the contract. The Architect will not be responsible for any oral instructions. No proposal will be considered which makes exceptions, changes, or reservations to the Plans or Specifications. Exceptions, explanations, or alternate proposals may be made on a separate sheet, attached to the proposal form. However, they will not be considered in determining the low bid.

EXAMINATION OF PROJECT SITE:

Bidders shall examine the site and have full knowledge of all facilities and difficulties affecting the work which may not be set forth herein. No allowance shall subsequently be made because of lack of such examination or knowledge.

Bidders are presumed to have visited and inspected the site and familiarized themselves with the conditions there existing. The submittal of a bid shall be considered an acknowledgment on the part of the bidder of familiarity with the conditions at the construction site.

SUBCONTRACTOR LIST:

Pursuant to the provisions of Section 4104 of the Public Contract Code of the State of California, every bidder shall set forth in his or her bid the following:

a. Subcontractor Information: The work performed, the name, and location of the place of business of each subcontractor who will perform work or labor or render services to the

bidder in or about the construction of the work or improvement in an amount in excess of 1/2 of 1 percent of the bidder's total bid.

b. Work Conducted by Subcontractor: The portion of the work which will be done by each subcontractor. If the bidder fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of 1/2 of 1 percent 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 subcontract to be assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the bid.

3. Other than in the performance of Change Orders, causing changes or deviations from the Contract, sublet, or subcontract any portion of the work in excess of 1/2 of 1 percent of the total bid as to which his original bid did not designate a subcontractor.

All bids shall be submitted subject to the terms, conditions, and penalties of Sections 4100 to 4113, inclusive, of said Public Contract Code, as AMENDED.

NON-COLLUSION AFFIDAVIT:

Bidders shall include with their bids a signed affidavit stating that their bid is not a sham or a collusive bid. The affidavit is to be signed exactly as worded, alternative wording will not be accepted. Notarization of signature is required. The affidavit is included with the Proposal.

BIDDER'S BOND:

Bids must be accompanied by a bidder's bond approved by the Burris Park Foundation or a certified or cashier's check for at least 10 percent of the amount bid and made payable to the Burris Park Foundation, State of California. Said bidder's bond shall be by an admitted surety insurer, cash, certified or cashier's check and shall be declared forfeited if the successful bidder refuses or neglects to enter into a contract after being requested to do so by the Kings County Board of Supervisors.

The Attorney-in-Fact who executes this bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond. Where State Statute requires, certification by a resident agent shall also be provided.

If the Bidder elects to furnish a Bid Bond, he shall use the Bid Bond form contained in the Proposal, or one conforming substantially thereto in form and content, as determined by the Burris Park Foundation.

RETURN OF BID SECURITY:

Contractors submitting bids on this work agree that the Board may retain the bid security submitted with the bid for 60 days after the Board awards the bid to the lowest responsible bidder. Retained security will be returned 60 days after the bid is awarded or immediately in case all bids are rejected.

AWARD OF CONTRACT:

Within sixty (60) calendar days after opening of Proposals, the Board of Supervisors will accept one of the Proposals or will act in accordance with BASIS OF AWARD, below. The acceptance of the Proposal will be by written Notice of Award, mailed to the office designated in the Proposal, or delivered to the lowest

responsible bidder's representative. In the event of failure of the lowest responsible bidder to sign the Construction Agreement and provide an acceptable Performance Bond, Payment Bond, and insurance certificates, the Burris Park Foundation may award the contract to the next lowest responsible bidder. Such award, if made, will be made within 90 days after opening of Proposals.

TYPE OF PROPOSAL:

The Proposal for the work is to be submitted on a Lump Sum basis. Lump Sum amounts shall be submitted on all items of work set forth in the Proposal. All items required to complete the work specified or shown on the Plans, but not included in the Proposal shall be considered incidental to those set forth in the Proposal.

BASIS OF AWARD:

The contract will be awarded to the lowest single responsible bidder. However, the Burris Park Foundation reserves the right to reject any and all bids if deemed excessive and re-advertise for bids, provide for the work to be done by alternative means, or not construct the project at all. The Burris Park Foundation also reserves the right to waive any informality or irregularity in any bid.

The lowest single responsible bidder will be determined on the following basis; the low bidder will be determined on the total of the Base Bid presented in the Bid Proposal.

EXECUTION OF CONTRACT:

The successful bidder shall execute the contract in accordance with the proposal as accepted within 10 working days of the date of mailing the Notice of Award to him or her at his or her address given below and secure workmen's compensation and any other required insurance and bonds within said time. If the bidder should fail to do so, the certified or cashier's check or surety bond and the money payable thereon accompanying the bid, shall become the property of, and be retained by, the Burris Park Foundation as liquidated damages for such failure, provided that if the successful bidder shall execute the contract, secure workmen's compensation, and any other required insurance and bonds, his or her check or bid bond shall be returned to him or her within 10 days thereafter.

CONTRACT BONDS:

a. Performance and Maintenance Bond(s) - The successful bidder shall file with the County, at the time of execution of the Contract, a Performance Bond acceptable to the County in the full amount of the Contract Price, as security for the faithful performance of the Contract for the construction of the Work, and to cover all guarantees against defective workmanship or materials, or both, during the warranty period following the date of the final acceptance of the Work by the County.

b. Payment Bond - The successful bidder shall file with the County, at the time of execution of the Contract, a Payment Bond acceptable to the County in the full amount of the Contract Price, as security for the payment of all persons supplying labor and materials for the construction of the Work.

c. Form of Bonds - The Payment Bond shall be submitted on the bond form contained in these Contract Documents or shall be in substantial compliance with same. Compliance shall be judged solely by the Burris Park Foundation.

d. All bonds required, whether Bid or Payment, shall be issued by an admitted surety insurer. The Bid Bond and Payment Bond must be issued by the same admitted surety insurer. The Payment Bond required by these specifications will neither be accepted or approved by the County unless the bond is underwritten by an admitted surety and

unless the requirements of California Code of Civil Procedure section 995.630(a) and (b) are met and the bond is accompanied by the County Clerk's certificate as provided for in California Code of Civil Procedure section 995.640(b). The County further reserves the right to satisfy itself as to the acceptability of the surety and the form of each bond. The bidder must submit together with the Payment Bond, the following documents:

1. The original, or certified copy, of the unrevoked appointment, power of attorney, bylaws, or other instrument authorizing the person who executed the bond to do so for and on behalf of the bidder.

2. A certified copy of the certificate of authority of the insurer issued by the California Insurance Commissioner.

3. A certificate from the County Clerk that the certificate of authority has not been surrendered, revoked, canceled, annulled, or suspended, or in the event that it has, that renewed authority has been granted.

4. A financial statement of the assets and liabilities of the insurer to the end of the quarter calendar year prior to 30 days next preceding the date of the execution of the bond, in the form of an officer's certificate as defined in Corporations Code section 173.

If the surety insurer is found not to be an admitted surety insurer, the bid shall be determined to be non-responsive and shall be rejected. If the surety insurer's assets do not exceed its liabilities in an amount equal to or in excess of the amount of the bond, subject to Section 12090 of the Insurance Code, or if the bidder fails to provide the specified documents, the bid may be determined to be non-responsive and may be rejected.

e. Power-of-Attorney - The Attorney-in-Fact who executes this bond in behalf of the Surety must attach a notarized copy of his or her power-of-attorney as evidence of his or her authority to bind the Surety on the date of execution of the bond.

f. Surety - The Surety furnishing these bonds shall have sound financial standing, a record of service satisfactory to the Burris Park Foundation, and be authorized to do business in the State of California.

NOTICE TO PROCEED:

The successful bidder shall commence work within ten (10) calendar days after the receipt of the written Notice to Proceed or, if no such written Notice to Proceed is issued, within ten (10) calendar days from the date of execution of the Construction Agreement.

TIME FOR COMPLETION:

The successful bidder shall complete said work within the **ninety (90) working days** from the date of commencement work as defined in the above paragraph "Notice to Proceed".

PERFORMANCE OF WORK:

The work shall be performed in a workmanlike, diligent, and expeditious manner with such force and materials as may be required, time being of the essence of the contract.

SECTION 00 42 00
BID PROPOSAL

For

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

TO: PROJECT MANAGER
BURRIS PARK FOUNDATION
HANFORD, CALIFORNIA

Gentlemen:

Having carefully examined the Notice to Contractors, Instruction to Bidders, General Conditions, Supplemental Conditions, Specifications, Plans and form of the Sample Construction Agreement for the **NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER**, and having examined the site of the work and conditions affecting it, the undersigned proposes to execute the complete work in full accordance with the plans and specifications for the sum quoted below.

BIDDER'S DECLARATION AND UNDERSTANDING:

In submitting this proposal, the undersigned understands and agrees that the BURRIS PARK FOUNDATION BOARD OF DIRECTORS, Hanford, California, shall and does reserve the right to reject any and all proposals, to accept other than the lowest proposal, and to waive any informality in any proposal.

The undersigned also understands and agrees that said Board reserves the right to accept or reject his or her proposal at any time within 60 days following the date the Board executes the contract with the lowest responsible bidder. The undersigned further understands and agrees that this proposal shall be valid and effective until the expiration of said period and that the certified or cashier's check or bidder's bond accompanying this proposal shall be valid and effective for a period of 90 days following the date the Board executes the contract with the lowest responsible bidder.

The undersigned has carefully examined the sites where the work is to be done, and in addition has carefully examined and is thoroughly familiar with said Drawings and Specifications, and is familiar with local conditions affecting the cost of the construction herein bid upon, and further understands that the County will not be responsible for any errors or omissions on the part of the undersigned in making this proposal.

In submitting this Bid, Bidder represents that:

(a) Bidder has examined copies of all the Bidding Documents and the following Addenda (receipt of all which is hereby acknowledged):

Date	Number
_____	_____
_____	_____
_____	_____
_____	_____

(b) Bidder has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, availability of labor, all local conditions, laws, and regulations that in any manner may affect cost,

progress, performance or furnishing of the Work, and has thoroughly examined the plans and specifications.

(c) Bidder has reviewed and checked all information and data shown or indicated on the Contract Documents. No additional information or data will be required by Bidder in order to perform and furnish the Work at the contract Price, within the contract Time, and in accordance with the other terms and conditions of the Contract documents, including specifically the provisions of the General Conditions.

(d) Bidder has correlated the results of all such observations with the terms and conditions of the Contract Documents.

(e) Bidder has given Owner written notice of all conflicts, errors, or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by Owner is acceptable to Bidder.

EXECUTION OF CONTRACT AND NOTICE TO PROCEED:

The successful bidder shall execute the contract in accordance with the proposal as accepted, within 10 working days of the date of mailing the Notice of Award to him or her at his or her address as given below and secure workmen's compensation and any other required insurance and bonds within said time. If the bidder fails to do so, the certified or cashier's check or surety bond and the money payable thereon accompanying the bid shall become the property of, and be retained by, the BURRIS PARK FOUNDATON BOARD OF DIRECTORS as liquidated damages for such failure, provided that if said undersigned shall execute the contract, secure workmen's compensation, and any other required insurance and bonds, his or her check or bid bond shall be returned to him or her within 10 days thereafter.

TIME FOR COMPLETION:

The successful bidder shall complete said Base Bid work within **ninety (90)** working days from the date of commencement work as defined in the above paragraph "Notice to Proceed".

The undersigned understands and agrees that time of performance is of the essence of the contract.

The undersigned agrees, if awarded the contract for the work included in the Proposal as accepted, to commence work within 10 calendar days after the receipt of written Notice to Proceed or, if no such written Notice to Proceed is issued, within 10 calendar days from the date of execution of the Construction Agreement.

LIQUIDATED DAMAGES:

The undersigned further agrees that there may be deducted from this contract price the sum of **$3,000.00 per calendar day** for each work day beyond the original contract completion time, excepting any extension obtained for cause.

BID BOND:

The certified or cashier's check, or bidder's bond accompanying this proposal is equal to 10 percent or more of the total sum or sums bid under the several bid proposals.

Enclosed find (check one):

( ) Bidder's Bond
( ) Certified Check
( ) Cashier's Check No.___in the amount of for 10% of the bid amount

BID FORM

The undersigned agrees to perform all work within the time provided, assuming the obligation for the liquidated damages herein before specified, for the construction of the **NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER**, as indicated in the Drawings and Specifications, for the lump sum price of:

Base Bid:

$_____DOLLARS (Figures)

$_____
(Words)

SIGNATURE:

The names of all persons interested in the foregoing proposal as principals are as follows:

_____

_____

_____

The Contractor's license number of the undersigned is: _____

License Expires: _____

Department of Industrial Relations Registration Number: _____

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

Company Name: _____

Business Address: _____

Mailing Address: _____

Telephone No.:(____) _____-_____

Signature of Bidder: _____

Date: _____, 20_____

No bid is valid unless signed by the person making the bid. If the party is an individual the same shall be signed by the individual; if the party is a partnership the name of the partnership shall be given and signed by one of the partners; if the same is a corporation the proposal bid must be signed for the corporation by its properly authorized officer or officers.

****

S U B C O N T R A C T O R L I S T CONTRACTOR NAME:

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

The following listed subcontractors are proposed to perform the categories of work hereinafter referred to. All work not covered in the following list will be performed directly by the General Contractor. (Note: This list shall contain the name, address, and telephone number of each subcontractor and an enumeration of work to be performed by each in an amount in excess of one-half of 1 percent of the prime contractor's total bid or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars ($10,000), whichever is greater.)

WORK TO BE PERFORMED	NAME OF SUB-CONTRACTOR	MAILING ADDRESS/PHONE NUM./CONTRACTOR LICENSE #

NONCOLLUSION DECLARATION TO BE EXECUTED BY
BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The **bid is not made in** the **interest of**, **or on behalf of**, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham . The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

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

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

By: _____

The names of all persons interested in the foregoing proposal as principals are as follows:

_____

_____

_____

Contractor's license number of the undersigned is _____ License Expires: _____

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

Business Address:_____

Mailing Address: _____

Telephone No.: _____

Signature of Bidder: _____

Date: _____, 20_____

No bid is valid unless signed by the person making the bid. If the party is an individual the same shall be signed by the individual; if the party is a partnership the name of the partnership shall be given and signed by one of the partners; if the same is a corporation the proposal bid must be signed for the corporation by its properly authorized officer or officers.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of)

On _____ before me
_____Notary Public
personally appeared _____
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
I **certify** under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.
WITNESS my hand and official seal.

Signature
_____

(Seal)

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

BIDDER'S BOND

Accompanying this Bid is _____

(NOTICE: INSERT THE WORDS "CASH($ _____)," "CASHIER'S CHECK," "CERTIFIED CHECK," OR "BIDDER'S BOND," AS THE CASE MAY BE.)

in amount equal to at least ten percent of the total of the Bid.

The names of all persons interested in the foregoing Bid as principals are as follows:

IMPORTANT NOTICE
If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a copartnership, state true name of firm, also names of all individual copartners composing firm; if bidder or other interested person is an individual, state first and last names in full.

_____

_____

_____

Licensed in conformance with an act providing for the registration of Contractors,

License No. _____ Classification(s) _____

ADDENDA - This Bid is submitted with respect to the changes to the contract included in addenda number/s _____

(*Fill in addenda numbers if addenda have been received and insert, in this Proposal, any Engineer's Estimate sheets that were received as part of the addenda*.)

By my signature on this proposal I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232 and 10285.1 are true and correct and that the bidder has complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, Title 2 of the California Administrative Code). By my signature on this Bid I further certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Noncollusion Affidavit required by Title 23 United States Code, Section 112 and Public Contract Code Section 7106; and the Title 49 Code of Federal Regulations, Part 29 Debarment and Suspension Certification are true and correct.

Date: _____

_____

_____

_____

Signature and Title of Bidder

Business Address _____

Place of Business _____

Place of Residence _____

COUNTY OF KINGS
DEPARTMENT OF PUBLIC WORKS

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

BIDDER'S BOND

We, _____

_____ as Principal, and

_____

as Surety are bound unto the Burris Park Foundation, State of California, hereafter referred to as "Obligee", in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the Obligee for the work described below, for the payment of which sum we bind ourselves, jointly and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

WHEREAS, the Principal is submitted to the Obligee, for _____

_____

(Copy here the exact description of work, including location as it appears on the proposal)

_____

for which bids are to be opened at _____ on _____

(Insert place where bids will be opened) *(Insert date of bid opening)*

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and manner required under the specifications, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in conformance with the bid, and files two bonds with the Obligee, one to guarantee faithful performance of the contract and the other to guarantee payment for labor and materials as provided by law, then this obligation shall be null and void; otherwise, it shall remain in full force.

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

Dated: _____ , 20____ .

_____

_____

_____

Principal

_____

Surety

By _____

Attorney-in-fact

CERTIFICATE OF ACKNOWLEDGEMENT

State of California
Burris Park FoundationSS

On this _____ day of _____ in the year 20____ before me _____, personally appeared _____, proved to me on the basis of satisfactory evidence

Attorney-in-fact

to be the person whose name is subscribed to this instrument as the attorney-in-fact of _____, and acknowledged to me that he (she) subscribed the name of the said company thereto as surety, and his (her) own name as attorney-in-fact.

(SEAL) _____

Notary Public

CONSTRUCTION AGREEMENT

For

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

THIS AGREEMENT, made and entered into this ____day of _____, 2023, by and between the Burris Park Foundation, hereinafter referred to as "Owner", and _____. hereinafter referred to as "Contractor"

That the parties hereto, for and in consideration of the covenants, promises and agreements to be made, kept and performed as hereinafter set forth, do agree as follows:

ARTICLE 1
THE CONTRACT DOCUMENTS

The complete Contract between the Owner and the Contractor shall consist of the following Contract Documents: The Notice to Contractors, the Bonds, the Instruction to Bidders, the Accepted Bid Proposal, all Addenda, this Construction Agreement, the General Conditions, Supplemental Conditions the Drawings and Specifications, Notice of Award, Notice to Proceed, Change Orders, Notice of Substantial Completion, Notice of Completion, and modifications incorporated in those documents. The Contract, Drawings, and Specifications are intended to supplement one another. A complete listing of the Contract Documents can be found in Article 9. In case of any conflict among the Contract Documents, this Agreement shall take precedence over the other listed documents, followed by any validly approved Change Orders. The Supplemental Conditions, the Drawings, the Specifications, and the Bonds (if in a form approved by the County), shall take next precedence, followed by the General Conditions, followed by the remaining documents listed above in the order presented.

ARTICLE 2
THE WORK

The Contractor agrees to furnish at his own cost and expense, all tools, equipment, apparatus, labor, materials, mechanical workmanship, transportation and services necessary to complete the construction of the **NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER** and in strict accordance with the Contract Documents. All such work shall be completed in a good and workmanlike manner.

ARTICLE 3
TIME FOR COMPLETION:

3.1 For the purpose of determining the contract completion date, the date of commencement shall be ten (10) calendar days after receipt of written Notice to Proceed, or if no such written Notice to Proceed is issued, it shall be 10 calendar days from the date of this Agreement.

3.2 The Base Bid Work shall be commenced on the date provided for in Paragraph 3.1, and shall be diligently pursued by the Contractor and completed not later than **ninety (90) working days** from the date of commencement for the base bid.

ARTICLE 4
THE CONTRACT PAYMENT

4.1 In consideration of the covenants, agreements, and promises on the part of the Contractor contained in the Contract Documents, and the strict and literal fulfillment of each and every such covenant, agreement, and promise, and as compensation agreed upon for the erection, construction, and completion of the said work as described in Article 1 hereof in strict accordance with the Plans and Specifications therefore, the Owner agrees to pay and cause to be paid to the Contractor the Contract Sum of **$**_____lawful money of the United States, subject to any additions or deductions as provided in the Contract Documents.

4.2 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

ARTICLE 5
PROGRESS PAYMENTS

5.1 Applications for Payment shall be submitted monthly in a timely manner by the Contractor on or before the date mutually agreed upon by the Owner and Contractor. The form shall be approved by the Owner.

5.2 Progress Payments shall be made once each month, on or about a date to be determined by the Owner. The amount shall be based on the percent completion of each portion of work completed at the end of the month covered by the Application of Payment. Payment of undisputed contract amounts (progress payments) is contingent upon the Contractor furnishing the Owner with a release of all claims against the Owner arising by virtue of the work relating to the amount so paid. The release may be on the form used for computing monthly progress payment.

5.3 The progress payment amount shall be adjusted as set forth in Article 6 of the General Conditions.

ARTICLE 6
FINAL PAYMENT

6.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when 1) the Contract has been fully performed by the Contractor, and 2) a final Certificate for Payment has been issued by the Inspector. Such final payment shall be made by the Owner not more than 60 days after the recording of the Notice of Completion, subject to any retention on pending stop payment notices pursuant to Civil code Section 9350, et seq., and subject to the Contractor furnishing the Owner with a release of all claims against the Owner arising by virtue of the work relating to the amount so paid.

6.2 Pursuant to Public Contract Code Sections 7107 and 7201, in the event of a dispute between the Owner and Contractor, the Owner may withhold from the final payment an amount not to exceed 150 percent of the disputed amount. Except as so withheld, the Owner shall release the retention withheld within 60 days after the date of completion of the work of improvement, as "completion" is defined in Public Contract Code section 7107. In the event that retention payments are not made within the time periods required by Public Contract Code section 7107, the Owner shall be subject to the interest payment provisions of Public Contract Code section 7107.

ARTICLE 7
MISCELLANEOUS

7.1 Liquidated Damages shall be imposed upon the Contractor should the Contractor fail to complete this contract and the work provided herein within the time fixed for such completion. Subject to Public Contract Code section 7203, the Contractor shall also become liable to the Owner for all loss and damage which the latter may suffer on account thereof.

7.2 IT IS HEREBY FURTHER AGREED, that in case the Contractor does not complete the work within the days as herein provided, for reasons or causes other than those provided for in the Contract Documents hereof, the Owner will be damaged. After considering such a breach and all aspects of the work including, but not limited to, the type of installation, the current and future uses of facilities and premises, the disarrangement of the premises and facilities thereof during the work, and the additional cost and difficulty of using the disarranged facilities during the work, the parties agree that a reasonable daily damage for such a breach, if any, will be **$3,000.00** per calendar day and the payment of the same, if any, is payment of liquidating damages and not a penalty. It is understood that this agreement for liquidated damages is entered into because the amount is manifestly reasonable under the circumstances existing at the time of this agreement and it would be extremely difficult or impossible to determine with any degree of accuracy the actual damages in case of any

such breach. In case of such breach, it is agreed that the Owner may deduct the amount thereof from any money due or to become due said Contractor under this contract.

7.3 Terms used in the Agreement which are defined in the General Conditions of the Contract shall have the meanings designated in those Conditions.

ARTICLE 8
TERMINATION OR SUSPENSION

8.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 10 of the General Conditions.

8.2 The Work may be suspended by the Owner as provided in Article 10 of the General Conditions.

ARTICLE 9
ENUMERATION OF CONTRACT DOCUMENTS

9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated as follows:

9.1.1 The agreement is this executed standard form of Construction Agreement.

9.1.2 The General Conditions are the General Conditions dated August 2019.

9.1.3 The Supplementary Conditions, and any other Conditions of the Contract are those detailed below:

Document	Date	Pages

9.1.4 The Specifications contained in the contract documents approved by the BURRIS PARK FOUNDATION BOARD OF DIRECTORS, as amended by addendum.

9.1.5 The Drawings contained in the Contract Documents approved by the BURRIS PARK FOUNDATION BOARD OF DIRECTORS, as amended by Addenda.

9.1.6 The Addenda, if any, are as follows:

Number	Date

9.1.7 Other documents, if any, forming part of the Contract Documents are as follows: those documents listed in Article 1.

ARTICLE 10
MISCELLANEOUS PROVISIONS

10.1 Headings in any contract document may be useful in the construction of ambiguous language, but are for convenience only and shall not be construed to extend the scope, meaning, or intent of the document or to control in the event of a direct conflict with any express provision thereof. Wherever the context so requires, the neuter gender includes the feminine and masculine and vice versa, the singular includes the plural and vice versa, and the word “person” includes any jurisdictional person, including a corporation, partnership, firm, or association. “Shall,” “will,” and “agrees” are mandatory, and “may” is permissive. Any reference to term includes extensions of such term. Any word or phrase expressly defined by this Agreement shall carry the defined meaning unless the context unambiguously requires otherwise.

10.2 This Agreement, including each of the contract documents enumerated in Articles 1 and 9 and any exhibit thereto, shall constitute the entire Agreement between the parties, and shall not be modified, amended, altered,

or changed except as provided for therein or otherwise by a written document signed by both parties. No verbal agreements or conversations prior to execution of this Agreement or requested Amendment shall affect or modify any of the terms or conditions of this Agreement unless reduced to writing according to the applicable provisions of this Agreement. The parties agree to execute such additional documents as may be necessary to carry out the intent and provisions of this Agreement.

10.3 Contractor shall prevent unauthorized disclosure of any of Owner's confidential information, and shall not use any confidential information shared with it for any purpose other than carrying out Contractor's obligations under this Agreement.

10.4 Contractor shall comply with all federal, state, and local laws and regulations applicable to its performance, including but not limited to prevailing wage laws and other labor and employment laws affecting wages, hours, and conditions of employment, licensing laws, safety regulations, and purchasing practices. Without limiting the generality of the foregoing:

10.4.1 Contractor represents that it, its employees, officers, and directors, and the immediate family members of its employees, officers, and directors, have no direct or indirect conflict of interest, which conflicts with the rendering of services under this Agreement; neither shall any such interest be acquired, and Contractor shall disclose any conflict of interest that may arise in writing to Owner. A "conflict of interest" includes any circumstance or activity that is likely to cause or encourage any of Owner's officers, employees, or agents to violate Part IV of Owner's Purchasing Policy, last revised May 24, 2016.

10.4.2 Contractor is knowledgeable of Government Code section 8350, et seq., regarding a drug free workplace, and shall abide by and implement its statutory requirements.

10.4.3 In rendering services under this Agreement, Contractor shall comply with all applicable federal, state, and local laws, rules, and regulations regarding nondiscrimination, and shall not discriminate based on any basis forbidden by federal, state, or local law, including any classification identified in Government Code Section 12940. Contractor shall not discriminate against its employees, which includes, but is not limited to, employment upgrading, demotion, transfer, recruitment, recruitment advertising, layoff, termination, rates of pay, other forms of compensation, and selection for training including apprenticeship. Further, Contractor will include this provision in all of its subcontracts to perform work under this Agreement.

10.5 This Agreement, including any other contract documents enumerated herein in Articles 1 and 9 that must be executed by the Parties, may be executed simultaneously and in several counterparts, each of which shall be deemed an original, but which together shall constitute one and the same instrument. This Agreement may be executed electronically.

10.6 Any language in this Agreement found to be ambiguous shall be construed in the manner that best effectuates the objects and purposes of the Agreement. This Agreement represents the contributions of both parties, who each have the opportunity to be represented by competent counsel, and it is expressly agreed and understood that the rule stated in Civil Code section 1654, that ambiguities in a contract should be construed against the drafter, shall have no application to the construction of this Agreement.

10.7 Each signatory to this Agreement represents that it is authorized to enter into this Agreement and to bind the party to which its signature represents.

10.8 Nothing in this Agreement may be construed to create, and the parties do not intend to create, an independent right of action in any third party.

10.9 This Agreement shall be governed in all respects by the laws of the state of California, wherein the Agreement has been executed and delivered.

10.10 Whenever this Agreement requires notice of any kind but fails to indicate the manner in which notice should be given and the person to whom it should be delivered, notice shall be given in writing by personal service or by prepaid first-class mail addressed as follows:

OWNER:
BURRIS PARK FOUNDATION
PROJECT MANAGER
P.O. BOX 571
HANFORD, CA 93232

CONTRACTOR:
_____
_____
_____
_____

If notice is given by personal delivery, notice is effective as of the date of personal delivery. If notice is given by mail, notice is effective as of three days following the date of mailing or the date of delivery reflected on a return receipt, whichever occurs first.

IN WITNESS WHEREOF, the Owner has caused this Agreement to be executed by the Chairman of the Board of Directors and the Contractor has executed this Agreement on the day and year first above written.

OWNER:

By: _____
STEVE BOGAN, PRESIDENT

CONTRACTORS:

By: _____

NOTE: If the Contractor executing this contract is a corporation, a certified copy of the By-Laws, or of the Resolution of the Board of Directors, authorizing the officers of said corporation to execute the contract and the bonds required thereby must be annexed thereto.

CALIFORNIA PAYMENT BOND

BOND NO._____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that _____

_____

of _____

hereinafter called the CONTRACTOR (Principal), and _____

_____

a corporation duly organized and existing under and by virtue of the laws of the State of _____, hereinafter called the SURETY, and authorized to transact business within the State of California, as SURETY, are held and firmly bound unto **BURRIS PARK FOUNDATION** as OWNER (obligee), in the sum of:

_____ DOLLARS ($_____),
lawful money of the United States of America, for the payment of which, well and truly be made to the OWNER, the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain Contract hereto attached, with the OWNER, dated _____, 20____, for:

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

That, if said Contractor, his or its heir, executors, administrators, successors or assigns, or subcontractors, shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor that the Surety or Sureties will pay for the same, in an amount not exceeding the sum specified in the bond, and also, in case suit is brought upon the bond, a reasonable attorney's fee, to be fixed by the court.

That, this bond shall inure to the benefit of any of the persons named in Civil Code Section 3181 as to give right of action to such persons or their assigns in any suit brought upon this bond.

Now therefore, if the CONTRACTOR shall promptly make payment to all persons supply labor and materials in the prosecution of the work provided for in said Contract, and any and all duly authorized modifications of said Contract that may hereinafter be made, without notice to the Surety, then this obligation shall be void; otherwise the same shall remain in full force and virtue.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this _____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

_____

By_____

_____
Attest

SURETY

_____

By _____ (Seal)

_____
Attest

The rate of premium on this bond is $_____ per thousand.

Total amount of premium charged $_____.

* * * * *

CALIFORNIA PERFORMANCE BOND

BOND NO. _____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that _____

_____

of _____

hereinafter called the CONTRACTOR (Principal), and _____

_____

a corporation duly organized and existing under and by virtue of the laws of the State of _____, hereinafter called the SURETY, and authorized to transact business within the State of California, as SURETY, are held and firmly bound unto **BURRIS PARK FOUNDATION** as OWNER (Obligee), in the sum of:

_____ DOLLARS ($_____),
lawful money of the United States of America, for the payment of which, well and truly be made to the OWNER, the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain

Contract hereto attached, with the OWNER, dated _____, 20____, for:

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

NOW, THEREFORE, if the CONTRACTOR shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreement of said Contract during the original term of said Contract and any extensions 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 thereafter be made, then this obligation shall be void, otherwise the same shall remain in full force and virtue.

Whenever the Contractor shall be, and declared in default under the contract, the Owner having performed Owner's obligation thereunder, the Surety may promptly remedy the default, or shall promptly:

(1) Complete the contract in accordance with its terms or conditions, or

(2) Obtain a bid or bids for submission to Owner for completing the contract in accordance with its terms or conditions, and upon determination by Owner and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as work progresses (even though there should be a default or a

succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which the final payment under contract falls due.

No right or action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of Owner.

IN WITNESS WHEREOF, the above parties bounded together have executed

this instrument this _____day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

_____

By _____ (Seal)

_____
Attest

SURETY

_____

By _____ (Seal)

_____
Attest

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

Total amount of premium charged $_____

* * * * * *

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

MAINTENANCE BOND

BOND NO. _____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that _____

_____

of _____

hereinafter called the CONTRACTOR (Principal), and _____

_____

a corporation duly organized and existing under and by virtue of the laws of the State of _____, hereinafter called the SURETY, and authorized to transact business within the State of California, as SURETY, are held and firmly bound unto **BURRIS PARK FOUNDATION** as OWNER (Obligee), in the sum of:

_____ DOLLARS ($_____),
lawful money of the United States of America, for the payment of which, well and truly be made to the OWNER, the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain

Contract hereto attached, with the OWNER, dated _____, 20____, for:

NEW FABRIC SHADE STRUCTURE AT THE BURRIS PARK AMPHITHEATER

NOW, THEREFORE, the condition of this obligation is such that if above bounded CONTRACTOR shall remedy without cost to the said OWNER any defects which may develop during a period of one year from the date of completion and acceptance of the work performed under said contract provided such defects are caused by defective or inferior materials or workmanship, then this obligation shall be void; otherwise it shall remain in full force and effect.

IN WITNESS WHEREOF, the above parties bounded together have executed

this instrument this_____day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

_____

By _____ (Seal)

_____
Attest

SURETY

_____

By _____ (Seal)

_____
Attest

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

Total amount of premium charged $_____

SECTION 00 72 00
GENERAL CONDITIONS
(August 2019)

ARTICLE 1
GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 Owner: The Burris Park Foundation is Owner and is identified as Owner in the Contract Documents.

1.1.2 Owner's Representative: Owner's designated representative or to an officer of the Burris Park Foundation as may otherwise be designated in the Supplemental Conditions.

1.1.3 Contractor: The person or entity identified as such in the Construction Agreement and referred to throughout the Contract Documents as if singular in number. The term Contractor means Contractor or Contractor's authorized representative.

1.1.4 Inspector: Owner or its agent employed as the inspector of the Work.

1.1.5 Subcontractor: Those contractors, of whatever tier, including manufacturers, dealers, or suppliers, whether general or special, furnishing labor or material, or both, for the Work under contract with Contractor. The singular includes the plural.

1.1.6 Substantial Completion: The stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so Owner can occupy or utilize the Work for its intended use.

1.1.7 Final Payment: The Final Payment shall be the last progress payment made to Contractor and shall not be considered to be the payment of any or all of the five percent (5%) retention or any amount withheld in the event of a dispute as provided in Section 7107 of the Public Contract Code or pursuant to a valid stop notice.

1.1.8 Field Order: A written order of Inspector directing Contractor to conduct minor changes in the Work involving neither extra cost nor extra time and being consistent with the scope and functioning of the Work.

1.1.9 Change Directive: A written order prepared by Inspector and signed by Owner directing a change in the Work and stating a proposed basis for adjustment, if any, of the Contract Time or Contract Price. Owner may, by Change Directive, without invalidating the Contract and without Contractor's agreement, unilaterally order changes in the Work. This procedure will be used in the absence of an agreement between Owner and Contractor and shall take effect upon the date signed by Owner or the date stated in the Change Directive, if different.

1.1.10 Change Order: A written order prepared by Inspector and signed by Owner and Contractor stating their agreement upon all of the following: 1) a change in the Work; 2) the amount of the adjustment in the Contract Price, if any; and 3) the extent of the adjustment in the Contract Time, if any.

1.1.11 Contract Documents: The Contract Documents shall include those documents set forth in

Article 1 of the Construction Agreement. The Contract and the Contract Documents may be used interchangeably.

1.1.12 Work: The construction and services required by the Contract Documents, including all labor, materials, equipment, and services provided or to be provided by Contractor to fulfill Contractor's obligations.

1.1.13 Plans: The graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work, generally including but not limited to plans, elevations, sections, details, schedules, and diagrams.

1.1.14 Specifications: That portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards, and workmanship for the Work, and performance of related services. Manufacturer installation instructions and recommendations shall be followed in the event they are more explicit or stringent than the requirements set forth in the Specifications.

1.1.15 Claim: A demand or assertion by Contractor seeking, as a matter of right, adjustment, or interpretation of Contract terms, payment of money, extension of time, or other relief with respect to the Contract Documents. Claims must be made by written notice and shall include a demand for Owner's decision. The responsibility to substantiate claims and to resolve the claims of Subcontractors of whatever tier shall rest with Contractor.

1.1.16 Guarantee Period: Contractor shall guarantee all materials and equipment furnished and Work performed for a period of one (1) year from the date of Notice of Completion.

1.2 CONTRACT DOCUMENTS

1.2.1 One Document: The Contract Documents are one document executed in multiple parts. All Work shown or mentioned therein shall be performed or furnished. Contractor understands, admits, and agrees that the Specifications exhibit the intent and purpose of Owner in regard to the Work, may or may not be complete in every detail, and are to be considered as evidence of Owner's purpose and intent only. Contractor further agrees to furnish all labor or material for any detail that is necessary to carry out the intent and purpose of the Specifications without extra charge. This includes, but is not limited to, Work referenced as "by others," which remains the responsibility of Contractor.

1.2.2 Misuse of Words or Punctuation: The misplacement, addition, or omission of any word, letter, or punctuation mark will not in any way change the intent or meaning of the Contract Documents. Any part of the work, or any article pertaining thereto which is not specifically set forth in the Contract Documents, but which is necessary for the proper completion of the Work, is to be supplied and set in place at Contractor's expense, the same as if it had been mentioned in the Contract Documents. Contractor shall furnish all things necessary to make a good and workmanlike job in accordance with the intent and purpose of the Contract Documents.

1.2.3 Precedence, Discrepancies, and Omissions: In resolving inconsistencies that may exist between any of the Contract Documents, precedence shall be given in the following order: 1) Construction Agreement, 2) Bid Proposal, 3) Notice to Contractors, 4) Instruction to Bidders, 5) Supplementary Conditions, 6) General Conditions, 7) Specifications, and 8) Plans. Properly executed Addenda, Field Orders, Change Directives, and Change Orders shall take precedence over all Sections referenced therein. Figure dimensions on Plans shall take precedence over

scale dimensions and detail Plans shall take precedence over general Plans.

1.3 ASSIGNMENT OF CONTRACT

1.3.1 Mutual Consent: Neither party to the Contract shall assign the Contract without the written consent of the other party, nor shall Contractor assign any monies due or to become due to him or her without the written consent of Owner.

1.3.2 Assignment Under Anti-Trust Claims: In accordance with Section 4552 of the California Government Code, Contractor and Subcontractors shall conform to the following requirements:

> In submitting a bid to Owner, the Bidder offers and agrees that if the bid is accepted, it will assign to Owner all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C Sec. 15) or under the Cartwright Act [Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code], arising from the purchases of goods, services, or materials by the Bidder for sale to Owner pursuant to the bid. Such assignment shall be made and become effective at the time Owner tenders Final Payment to the Bidder.

1.4 WAIVER OF "COMMON PRACTICE"

1.4.1 Contractor Waives Common Practice: Contractor waives "common practice" and "common usage" as construction criteria wherever the Contract Documents, statutes, or ordinances require greater quantity or better quality than common practice or common usage would require.

1.5 EXCESSIVE COSTS

1.5.1 Failure to comply with Contract: If Contractor fails to comply with any Contract requirement, including required coordination with other contractors or governmental agencies, and that failure results in additional work to Owner or Inspector, consultants, or other contractors, Contractor shall be liable for any additional costs incurred, directly or indirectly, by Owner from the resulting additional work. This section includes, but is not limited to, work related to failed inspections, Requests for Instructions (RFIs) for repairs, deviations from previously reviewed and accepted submittals, or deviations from the Contract Documents.

1.5.2 Construction Methods: If Contractor's construction methods and techniques result in additional costs to Owner, Contractor, upon written notice by Owner of unacceptable methods or techniques, shall be responsible for any and all costs attributable to said methods and techniques. This section includes, but is not limited to, Contractor's ability to coordinate or work with Owner or Inspector.

ARTICLE 2
OWNER

2.1 OWNER'S REPRESENTATIVE

2.1.1 Inspector is Owner's Representative: Owner will be represented by Inspector who shall see that the performance of the Work proceeds in strict accordance with the Contract Documents.

2.1.2 Owner May Appoint Another Inspector: Owner shall be entitled to appoint such other agent(s), as in Owner's opinion is duly qualified to carry out the duties of Inspector.

2.1.3 Communication through Inspector: In order that Owner may act upon expert advice and upon good procedure, all communications from Contractor will be through said Inspector and all communications and instructions from Owner to Contractor will be through said Inspector. All communications not in compliance herewith shall be considered non-binding on Owner. Owner reserves the right to alter this procedure without the consent of Contractor.

2.2 RIGHTS OF OWNER

2.2.1 Right to Clean Up: Subject to the strict prohibition against maintaining a nuisance, if a dispute arises between Contractor and Subcontractor as to responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, Owner may, but need not, clean up the premises and surrounding area and allocate the cost among those responsible as Owner determines to be just.

2.2.2 Right to Accept Imperfect Work: If any part or portion of the Work completed under this Contract is defective and not in accordance with the Contract Documents, and if the imperfection is judged by Owner to be not of sufficient magnitude or importance so as to make the Work unacceptable, Owner shall have the right and authority to retain such Work after making such deductions in the Contract Price as may be equitable and reasonable. Owner does not, however, waive any rights available under any other provision of the Contract Documents or otherwise available to Owner in law or equity.

2.2.3 Right to do Adjacent Work: Owner reserves the right to perform construction or operations on the site of the Work. In doing this, Owner may use its own forces or award separate contracts in connection with other construction or operations on the site but not covered by the Contract Documents. Contractor shall coordinate all activities on the site so as to avoid hindering, interfering with, or disturbing any other contractors or other workers performing Work on the site.

2.2.4 Right to Finish Contractor's Work: If Contractor defaults or neglects to carry out all or any part of the Work in accordance with the Contract Documents, Owner has the right, exercisable solely at Owner’s discretion, to commence and continue completion of the Work with diligence and promptness as set forth in the Contract Documents.

2.2.5 Right of Partial Use of Project: Owner may occupy or use any completed or partially completed portion of the Work at any stage, upon agreement of Owner and Contractor.

> **2.2.5.1** Such partial occupancy or use may commence whether or not the portion is substantially complete, provided Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work, and insurance, and have agreed in writing concerning the period for completion of the Work and commencement of warranties required by the Contract Documents.
>
> **2.2.5.2** Consent of Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between Owner and Contractor or, if no agreement is reached, by decision of Inspector.
>
> **2.2.5.3** Immediately prior to such partial occupancy or use, Owner, Contractor, and Inspector shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

2.2.5.4 Unless otherwise agreed upon in writing, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

2.2.5.5 No claim for acceleration, delay, or hindrance, may be made by Contractor on his or her own behalf or that of any of his or her Subcontractors, for any delays, accelerations, or hindrances that may arise out of Owner's partial occupancy of the Project.

2.2.6 Right to Audit: Contractor shall maintain and make available to Owner all books, papers, job cost records, detailed cost estimates, claims, and accounts, including payment, property, payroll, personnel, Subcontractors, and financial records related to or which arise out of the Work or under terms of the Contract Documents. The form of record keeping shall be subject to approval by Owner. These books, papers, records, claims, and accounts shall be made available for examination during normal business hours by Owner and Inspector and shall be retained at Contractor's principal place of business in California for audit during normal business hours at such place of business for four (4) years after recording of the Notice of Completion of the Work or longer if required by law. Contractor shall provide an office to enable Owner and Inspector to conduct such audit.

2.3 RESPONSIBILITIES OF OWNER

2.3.1 Removal, Relocation, or Protection of Existing Main or Trunkline Utility Facilities: In accordance with the provisions of Section 4215 of the Government Code, Owner shall be responsible for the timely removal, relocation, or protection of existing main or trunkline utility facilities which are located on the site of the Work and which are not identified in the Plans and Specifications. If the existing main or trunkline work is not completed due to the failure of Owner to exercise reasonable care, Contractor shall be compensated for the costs of locating, removing, relocating, or repairing damage to such existing main or trunkline utility facilities not indicated in the Plans and Specifications with reasonable accuracy. Such compensation shall include the costs for equipment necessarily idled during such main or trunkline work. Contractor shall not be assessed liquidated damages for any delays in completion of the Work if caused by the failure of Owner or the owner of the utility to timely provide for the removal or relocation of such existing main or trunkline utility facilities.

Nothing in this Section shall be deemed to require Owner to indicate in the Plans and Specifications the presence of other existing utility service laterals or appurtenances whenever the presence of such utilities on the site can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site. Contractor retains the responsibility to verify the presence or absence of utilities by potholing, reviewing as-builts, or excavating prior to commencing Work.

2.3.2 Furnish Plans and Specifications: Owner shall be responsible for furnishing Contractor with an electronic copy of the Plans, Specifications, and any Addenda that may have been issued.

ARTICLE 3
CONTRACTOR'S RESPONSIBILITIES

3.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS

3.1.1 Reporting Errors in Contract Documents: Contractor shall carefully study and compare the

Contract Documents with each other and shall at once report to Inspector any errors, inconsistencies, omissions, or ambiguities discovered. If Contractor performs any construction activity knowing it involves a recognized error, inconsistency, omission, or ambiguity in the Contract Documents without such notice to Inspector, Contractor shall assume responsibility for such performance and shall bear all costs for correction.

3.1.2 Reporting Errors in Field Conditions: Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to Contractor with the Contract Documents before commencing Work. Any errors, inconsistencies, or omissions discovered shall be reported to Owner at once.

3.1.3 No Implied Warranty: No warranty is to be implied nor shall any warranty arise by operation of law, or by interpretation of the Contract Documents, that the Plans and Specifications are adequate and sufficient to construct the Work. Contractor understands and agrees that this section constitutes a waiver of the implied warranty of correctness in Plans and Specifications.

3.2 SUPERVISION AND CONSTRUCTION PROCEDURES

3.2.1 Supervision of Work: Contractor shall supervise and direct the Work using Contractor's best skill and attention. Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract Documents unless the Contract Documents give other specific instructions concerning these matters.

3.2.2 Acts of Employees and Agents: Contractor shall be responsible to Owner for acts and omissions of Contractor's employees, Subcontractor, their agents and employees, and any other persons performing portions of the Work under a contract with Contractor or under the direction of Contractor.

3.2.3 Inspector's Acts Do Not Waive Contractor's Obligation: Contractor shall not be relieved of any obligation to perform the Work in strict accordance with the Contract Documents either by activities or duties of Inspector in Inspector's administration of the Contract Documents, or by tests, inspections, or approvals required or performed by persons other than Contractor.

3.3 PROGRESSION OF WORK

3.3.1 Time of the Essence: It is expressly understood and agreed that the time of beginning, rate of progress, and time of completion of the Work are of the essence. The Work shall progress at such time and in or on such part or parts as may be required to complete the Work as set forth in the Contract Documents.

3.3.2 Construction Schedule: A construction schedule is required to be submitted as set forth in the Contract Documents. The schedule will be for Owner's information only. Silence or inaction with regard to Contractor's schedule shall not be construed as acquiescence or acceptance of the schedule as being binding on Owner. Unless specifically adopted by resolution or minute order of the Burris Park Foundation Board of Directors, such schedule shall not be binding on Owner. Contractor's schedule shall provide for the completion date not to exceed the Contract Time and shall not provide for an earlier completion date unless otherwise agreed to in writing by Owner in accordance with the Contract Documents.

3.4 SUBMITTALS

3.4.1 Review of “or Equals:" In accordance with the provisions of Section 3400 of the Public Contract Code, Contractor shall, within thirty-five (35) calendar days after the Award of the Contract, submit all substitution requests and data substantiating any such requests for a substitution of an “or equal” item. Failure to submit substitution requests and substantiating data within thirty-five (35) days shall result in an automatic denial of the request for substitution.

3.4.2 Excessive Submittal Reviews: Owner shall be responsible for the costs associated with the first and second review of any submittals. Any and all costs incurred as a result of a submittal requiring more than two (2) reviews, including costs incurred by Owner’s consultants or contractors for the handling, processing, and review of excessive submittals, shall be borne by Contractor, whether the submittal is from Contractor, Subcontractor, or any other individual providing goods or services on the Work. Owner reserves the right to withhold monies due to cover the costs of excessive submittals from any payment due to Contractor.

3.5 STATE LABOR REQUIREMENTS

3.5.1 Hours of Work:

3.5.1.1 Eight (8) hours of labor shall constitute a legal day's work and it is expressly stipulated that no worker employed at any time by Contractor or Subcontractor shall be required or permitted to work thereon more than eight (8) hours in any one (1) calendar day and/or more than forty (40) hours in any one (1) calendar week except as provided in Section 1815 of the Labor Code. It is further expressly stipulated that for each and every violation, Contractor shall forfeit, as a penalty to Owner under Section 1813 of the Labor Code, twenty-five dollars ($25.00) for each worker employed in the execution of this Contract, or by any Subcontractor, for each calendar day during which said worker is required or permitted to labor more than eight (8) hours in any one (1) calendar day or more than forty (40) hours in any one (1) calendar week in violation of the provisions of the Labor Code.

3.5.1.2 In accordance with the provisions of the Labor Code, Contractor, and each Subcontractor, shall also keep an accurate record showing the names and actual hours worked for all workers employed by him or her in connection with the Work, which record shall be open at all reasonable hours to the inspection of Owner or its officers or agents, and to the Labor Commissioner, the Division of Labor Standards Enforcement or the Labor Commissioner’s deputies or agents.

3.5.2 Apprentice Employment: Contractor or Subcontractor employing tradesmen in any apprenticeable occupation shall comply with the provisions of Section 1777.5 and 1777.6 of the Labor Code in the employment of apprentices.

3.5.3 Wage Rates:

3.5.3.1 Pursuant to Article 2, Section 1770 et seq. of the Labor Code, each worker of Contractor or Subcontractor engaged in the Work shall be paid not less than the hourly wage rate of per diem wages set forth in the prevailing wage rate schedule published by the Director of the Department of Industrial Relations, regardless of any contractual relationship which may be alleged to exist between Contractor or Subcontractor and such workers.

3.5.3.2 Any worker employed to perform the Work, which work is not covered by the prevailing wage rate schedule, shall be paid not less than the prevailing rate of per diem wages specified herein for the classification which most nearly corresponds to the work to be performed by him or her.

3.5.3.3 The foregoing specified prevailing wage rates are minimum rates only and Contractor may pay any wage rate in excess of the applicable rate.

3.5.3.4 Pursuant to Section 1775 of the Labor Code, Contractor as a penalty to Owner shall forfeit two hundred dollars ($200.00) for each calendar day, or portion thereof for each worker paid less than the prevailing rate established by the Department of Industrial Relations for such work or craft in which the worker is employed. The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which the worker was paid less than the prevailing wage rate shall be paid to each worker by Contractor.

3.5.3.5 An error on the part of Owner does not relieve Contractor from responsibility for payment of the prevailing rate of per diem wages or liability for any penalties pursuant to Sections 1770 to 1775 of the Labor Code, inclusive.

3.5.3.6 Copies of the applicable prevailing wage rates are on file with the Kings County Director of Public Works, 1400 West Lacey Boulevard, Hanford, California, and are available to any interested party on request.

3.5.3.7 Monitoring of compliance with prevailing wage requirements shall be done by the Department of Industrial Relations. Contractor and Subcontractor must be registered with the Department of Industrial Relations as required under Section 1725.5 of the Labor Code and maintain compliance with any and all statutory, regulatory, or departmental policies or procedures concerning said compliance.

3.5.4 Certified Payroll: As required under the provisions of Section 1776 of the Labor Code, Contractor and Subcontractor shall keep accurate payroll records:

3.5.4.1 The payroll records shall show the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee by him or her in connection with the Work.

3.5.4.2 A certified copy of all payroll records enumerated above shall be available for inspection at all reasonable hours at the principal office of Contractor as follows:

a. Made available or furnished to the employee or his or her authorized representative on request.

b. Made available for inspection or furnished upon request to Owner, Inspector, the Division of Labor Standards Enforcement, and the Department of Industrial Relations.

c. Made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either Owner, Inspector, the Division of Labor Standards Enforcement, or the Department

of Industrial Relations. The requesting party shall, prior to being provided the records, reimburse the costs of preparation by Contractor, Subcontractor, and the entity through which the request was made. The public shall not be given access to the records at the principal office of Contractor.

3.5.5 Discrimination in Employment: In accordance with the provisions of Section 12940 of the Government Code and Section 1735 of the Labor Code, neither Contractor nor Subcontractor shall be discriminate in their employment of persons.

3.5.6 Convict Made Materials: Except as may be provided by law, Contractor agrees that no materials manufactured or produced in a penal or correctional institution shall be incorporated in the Work.

3.5.7 Statutory Exemptions: Any or all portions of this Section shall not be applicable to the extent that Contractor is specifically exempted from said requirements by statute. However, in the event that Contractor is so exempted, Contractor shall provide the legal authority for the claimed exemption.

3.6 TAXES

3.6.1 Contractor Pays Taxes: Contractor and Subcontractor shall pay all local, state, and federal taxes upon labor or materials involved in their part of the Work, which shall be included in the Contract Price.

3.7 COMPLIANCE WITH LAW AND LOCAL REQUIREMENTS

3.7.1 Regulations: Contractor and Subcontractor shall conform to and abide by any and all city, county, and state laws, ordinances, rules, and regulations, applicable to the Work. The Work shall be constructed in accordance with the standards and policies relating to energy efficiency, which are contained in the state energy conservation plan as issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163).

3.7.2 Permits, Licenses, and Fees: Contractor shall give all notices and shall procure and pay for all permits, licenses, and inspection fees that may be required to commence, carry on, and complete the Work.

3.7.3 Patent Rights, Copyrights, Trade Names, and Royalties: Contractor shall indemnify and hold harmless Owner and all persons acting under him or her for all liability on account of any patent rights, copyrights, or trade names which may affect the articles or materials or their application under the Contract Documents. Contractor shall pay all royalties, or other charges that may arise, due to methods, types of construction, processes, materials, or use of equipment, and shall hold Owner harmless from any charges whatsoever which may arise, and shall furnish written assurance, satisfactory to Owner, that such charges have been paid.

3.8 GUARANTEE

3.8.1 Final Guarantee: Contractor warrants and guarantees for the Guarantee Period that the Work is free from all defects due to faulty materials or workmanship and Contractor shall promptly make such corrections as may be necessary, including repairs of any damage to other parts of the Work or other parts of Owner's property, real or personal, resulting from such defects. Owner will give notice of observed defects with reasonable promptness. In the event that Contractor

should fail to make such repairs, adjustments, or other Work that may be made necessary by such defects, Owner may do so and charge Contractor the cost thereby incurred. The Maintenance Bond shall remain in full force and effect through the Guarantee Period.

3.8.2 Environmental and Toxics Warranty: The covenants, warranties, and representations contained in this Section will be effective on the date of recording of the Notice of Completion and will survive completion of the Work. Contractor covenants, warrants, and represents to Owner that:

3.8.2.1 No litigation is pending or, to Contractor's knowledge, proposed, threatened, or anticipated with respect to Contractor, or with respect to any other matter affecting the Work.

3.8.2.2 To Contractor's knowledge after due inquiry, no asbestos-containing materials were installed or were discovered in the Work at any time. If any such materials were discovered, Contractor made immediate disclosure to Owner.

3.8.2.3 To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts, or other equipment containing PCBs are or were located at the Work site at any time. If any such materials were discovered, Contractor made immediate disclosure to Owner.

3.8.2.4 To Contractor's knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located at the Work site at any time. If any such materials were discovered, Contractor made immediate disclosure to Owner.

3.8.2.5 Contractor's operations concerning the Work were not and are not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances, and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code, regulation, or order, or requiring or calling attention to the need for any work, repairs, construction, alteration, or installation on or in connection with the Work in order to comply with any such laws, ordinances, codes, regulations, or order with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide Owner with copies thereof.

3.8.2.6 Contractor shall indemnify Owner as set forth in Section 3.10.

3.9 WARRANTY

3.9.1 Contract Warranty: Contractor warrants to Owner that materials and equipment furnished for the Work will be of good quality and new, unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects or flaws and is of the highest quality of workmanship, and that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, shall be considered defective.

3.10 INDEMNIFICATION

3.10.1 Owner Not Liable for Damages: Owner shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or

part thereof, or in or about the same during its construction and before acceptance and that Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any causes whatever. Contractor shall hold Owner, its officials, officers, employees, and agents harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatever, except the active, sole negligence of Owner its officials, officers, employees, and agents.

3.10.2 Owner not Liable for Debts: Indebtedness incurred for any cause in connection with this Work must be paid by Contractor and Owner is hereby relieved at all times from any indebtedness or claim other than the Contract Price.

3.10.3 Contractor Responsible for Accident, Damage, etc.: To the fullest extent permitted by law, Contractor shall be responsible for any and all loss, accident, neglect, injury or damage to person, life, or property which may be the result of, caused by, or arise out of his performance of the Work.

3.10.4 Contractor Indemnifies Owner: Contractor shall indemnify Owner, Inspector, and their officials, officers, employees, and agents and hold them free, safe, and harmless of, from, and against any and all liability, claims, losses, damages, or expenses, including reasonable attorneys' fees, arising from all acts or omissions of Contractor or its officers, agents, employees, contractors, or Subcontractor in rendering services under the Contract Documents, except for any liability, claims, losses, damages, or expenses arising from the sole negligence or willful acts of Owner, its officials, officers, employees and agents.

> **3.10.4.1** Contractor shall defend or, at Owner's sole option, reimburse Owner upon demand for all reasonable costs and expenses, including attorneys' fees, which Owner may incur in resisting any claim which may be made against Owner for any injury or damage to any person or property.
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> **3.10.4.2** In any and all claims against Owner or Inspector or their officials, officers, employees and agents, by any employee of any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for those acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts. Upon demand, Contractor shall defend any suits or actions arising from such claims.

3.10.5 Environmental Indemnification: From and after recording of Notice of Completion, Contractor shall indemnify, defend, and save harmless Owner, its officials, officers, employees and agents from all losses or damages resulting from injury to or death of any person and damage to property, and any fine, which is occasioned by or arises out of any breach of the Environmental and Toxics Warranty, representations, or covenants of Contractor under the Contract Documents. Contractor further agrees to indemnify and hold harmless Owner, its officials, officers, employees, and agents from and against any and all liability as follows:

> **3.10.5.1.** All foreseeable and unforeseeable incidental, consequential, or special damages, directly or indirectly arising out of the use, generation, storage, or disposal of hazardous materials by Contractor; and
>
> **3.10.5.2.** The cost, without limitation, of any required or necessary repair, cleanup, or detoxification and the preparation of any closure or other required Plans, whether such

action is required or necessary prior to or following filing of the Notice of Completion to the full extent that such action is attributable, directly or indirectly, to the presence or use, generation, storage, release, threatened release, or disposal of hazardous materials by any person regarding the Work prior to filing of the Notice of Completion. Contractor's obligations pursuant to the foregoing indemnity shall survive the filing of Notice of Completion.

3.10.5.3. This Section shall survive the termination of the Contract and shall remain in full force and effect notwithstanding completed performance by Contractor under the Contract Documents.

3.10.5.4. The foregoing duties of indemnity shall not apply to loss, damage, expense, or liability caused solely by the negligence, or willful misconduct of Owner or Owner's officials, officers, employees, or agents.

3.11 WORK REQUIREMENTS

3.11.1 Conduct of Work: Contractor shall confine the storage of his or her equipment and materials to limits as designated by Inspector. Contractor shall at all times exercise due caution and provide all necessary barricades and other safety equipment around the Work to protect the public from injury to person and property during the entire time of performance of the Work. Contractor shall not create excessive dust or noise.

3.11.2 Maintenance of Site: Strict prohibition against committing nuisances in or about the Work shall be maintained and Contractor shall not in any way obstruct or interfere with movements of traffic on any public highway or public right of way without first obtaining the necessary approval of the proper public agency.

3.11.3 Clean Up of Site: Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations in performance of the Work. At completion of the Work, Contractor shall remove from and about the Work site waste materials, rubbish, tools, construction equipment, machinery and surplus materials. If Contractor fails to clean up, Owner may do so and the cost thereof shall be charged to Contractor.

3.11.4 Cutting and Patching:

3.11.4.1. Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

3.11.4.2. Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of Owner or separate contractors by cutting, patching, or otherwise altering such construction or by excavation. Contractor shall not cut or otherwise alter such construction by Owner or a separate contractor except with written consent of Owner and of such separate contractor, which shall not be unreasonably withheld. Contractor shall not unreasonably withhold from Owner or a separate contractor Contractor's consent to cutting or otherwise altering the Work.

3.12 SUBCONTRACTORS

3.12.1 Contractor Responsible for Subcontractor's Acts: Contractor shall be fully responsible to Owner for the acts and omissions, including negligence, of his or her Subcontractor, and of

persons either directly or indirectly employed by them, as he or she is for the acts, omissions, or negligence of persons directly employed by Contractor.

3.12.2 Contractor's Subcontracts: Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to pass through and bind Subcontractor to the terms of the Contract Documents.

3.13 SUPERINTENDENT

3.13.1 Superintendent: Contractor will employ and maintain on the Work site a qualified Superintendent who shall have been designated in writing by Contractor as Contractor's representative at the site. Superintendent shall have full authority to act on behalf of Contractor and all communications given to Superintendent shall be as binding as if given to Contractor. Superintendent shall be present on the site at all times as required to perform adequate supervision and coordination of the Work.

3.13.2 Right to Demand Removal and Substitution of Superintendent: Due to the importance of Superintendent to the timely and efficient completion of the Work, Owner reserves the right to request or demand the removal and substitution of Superintendent if deemed necessary by Owner to continue or improve the Work. Owner shall exercise said right by providing written notice to Contractor with a date by which Superintendent should or must be removed and substituted. Failure by Contractor to replace Superintendent as and when requested by Owner may be considered a material breach.

3.14 LABOR AND MATERIALS

3.14.1 Skilled Labor: All labor must be especially skilled for each type of the Work and must be thorough and first class in all respects. Any person whom Inspector or Owner may deem incompetent or disorderly shall be promptly removed from the Work site and not allowed to return in any capacity.

3.14.2 Quality of Materials: All materials used on the Work shall be new and the best market quality, unless specified or shown otherwise. The Work shall be done in the best, most thorough, substantial and workmanlike manner and without flaws. All material and labor shall be subject to the approval of Inspector as to its quality and fitness and shall be immediately removed if it does not meet with his or her approval. Inspector may refuse to issue any certificate or payment until all defective materials or work have been removed and other material of proper quality substituted therefor. All removal and replacement with same shall be done at Contractor's expense. Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

ARTICLE 4
ADMINISTRATION OF CONTRACT

4.1 INSPECTOR'S ADMINISTRATION OF CONTRACT

4.1.1 Contract Communications: Unless otherwise provided in the Contract Documents or when direct communications have specifically been authorized, all parties shall communicate through Inspector. Communications by and with Subcontractor and material suppliers shall be through Superintendent. Communications by and with separate contractors, architects, or engineers shall be through Inspector.

4.1.2 Inspections: Inspections shall be carried on by Inspector or as otherwise designated by Owner. Inspector shall see that the Work and intent of the Contract Documents is carried out in its entirety.

4.1.3 Inspector Does Not Control Work: Inspector will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences, or procedures or for safety precautions and programs in connection with the Work, since these are solely Contractor's responsibility. Inspector will not be responsible for Contractor's failure to carry out the Work in accordance with the Contract Documents. Inspector will not have control over or charge of and will not be responsible for the acts, omissions, or negligence of Contractor, Subcontractor, or their agents or employees, or of any other persons performing portions of the Work.

4.1.4 Inspector Recommends Payments: Based on Inspector's observations and evaluations of Contractor's Applications for Payment, Inspector will review amounts due Contractor and will recommend to Owner payments to Contractor as set forth in Section 6.6.

4.1.5 Inspector's Authority: Inspector will have the authority to stop the Work whenever necessary to ensure proper execution of the Work. Inspector will also have authority to reject Work which does not conform to the Contract Documents. Whenever Inspector considers it necessary or advisable for implementation of the intent of the Contract Documents, Inspector will have the authority to require additional inspections or testing of the Work in accordance with Section 4.2 whether or not such Work is fabricated, installed, or completed. However, neither this authority nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of Inspector to Contractor, Subcontractor, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.

4.2 INSPECTION AND TESTING

4.2.1 Advance Notice: Contractor shall notify Inspector twenty-four (24) hours prior to any day in which Contractor will require an inspection of any portion of the Work, work in excess of eight (8) hours, or anytime Contractor intends to work weekends. Any Work not performed subject to inspection will not be accepted and will be rejected and/or ordered removed by Inspector.

4.2.2 Access to Work: Inspector will at all times have access to the Work. In addition, authorized representatives and agents of any participating Federal, State, or local agency shall be permitted to inspect all Work, materials, payroll, records on personnel, invoices of materials, and other relevant data and records. Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof.

4.2.3 Costs of Tests: Owner shall bear all costs related to testing for conformance of the Work to the Contract Documents. However, if Contractor has called for testing and that test fails, subsequent tests, and all related costs, shall be borne by Contractor.

4.2.4 Inspector Prepares Change Directives/Orders: Inspector will prepare Change Orders and Change Directives and may authorize minor changes in the Work as provided in Article 5.

4.3 CLAIMS

4.3.1 The provisions of this Section are intended to implement Section 9204 of the Public Contract

Code, the provisions of which are incorporated herein by reference.

4.3.2 Concealed or Unforeseen Conditions: If conditions are encountered at the Work site which are subsurface or otherwise concealed physical conditions, which differ materially from those indicated in the Contract Documents, or which are unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than five (5) days after first observance of the conditions. Inspector will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Price or Contract Time, or both. If Inspector determines that the conditions at the Work site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, Inspector shall notify Owner and Contractor in writing, stating the reasons. Claims by either party in opposition to such determination must be made within five (5) days after Inspector has given notice of the decision. If Owner and Contractor cannot agree on an adjustment in the Contract Price or Contract Time, the adjustment shall be referred to Inspector for initial determination, subject to further proceedings pursuant to Section 4.4.

4.3.3 Submission of Claims: All disputes, except for tort claims, must be submitted by Contractor as a Claim. Claims by Contractor, including, but not limited to, Claims by Subcontractor, not addressed in Section 4.3.2, must be made within twenty-one (21) days after occurrence of the event giving rise to said Claim, except Claims made due to delays or hindrances which Contractor alleges were caused by Owner shall be made within ten (10) days after occurrence of the event giving rise to said Claim. Claims must be made by written notice and contain any and all documentation necessary to support the amount requested. Claims must be submitted to Inspector by registered mail or certified mail, return receipt requested. Failure to make a Claim in writing in the time and manner as set forth herein or failure to provide supporting documentation shall bar Contractor from recourse for said Claim and constitute a waiver by Contractor of the subject matter(s) of the Claim. All Claims must be submitted on or before the payment date of the Final Payment.

4.3.4 Claims for Additional Costs:

> **4.3.4.1** If Contractor wishes to make a Claim for an increase in the Contract Price, Contractor shall submit the Claim as set forth in Section 4.3.3. This submission shall be made by Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case Contractor shall, as soon as possible, advise Owner of Contractor's intent to do the Work.
>
> **4.3.4.2** Increases in Contract Price due to Claims shall be calculated based on the methods detailed in Section 5.4.
>
> **4.3.4.3** Under no circumstances shall Contractor recover any administrative overhead costs or recover on the basis of any "Home Office" damages formula, "Total Cost" recovery formula, or any other such formula.

4.3.5 Claims for Additional Time:

> **4.3.5.1** If Contractor wishes to make a Claim for an increase in the Contract Time,

Contractor shall submit the Claim as set forth in Section 4.3.3. Contractor's claim shall include an estimated probable effect of delay on progress of the Work. In the case of a continuing delay, only one (1) Claim is necessary.

4.3.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated and that weather conditions had an adverse effect on the Work.

4.3.5.3 Owner shall not be liable for any damages on account of any delay or hindrance of Owner, except for an extension of time caused by the same. Contractor shall make any Claims for an extension in time as set forth in Section 4.3.3 for any unreasonable delay or hindrance caused by Owner, and specify the cause thereof.

4.3.6 Submission Under Penalty of Perjury: Contractor shall certify, at the time of submission of a claim, as follows:

"I certify under penalty of perjury under the laws of the State of California, that the claim is made in good faith, that the supporting data is accurate and complete, and that the amount requested accurately reflects the Contract adjustment for which Owner is liable. Executed on ____(date)_____ in ___(City)_____, (State).

By:_____
(Contractor's signature)"

4.3.7 Receipt of Claim:

4.3.7.1 Upon receipt of a Claim, Owner shall conduct a reasonable review of the Claim and, within a period not to exceed forty-five (45) days, shall provide Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Owner and Contractor may, by mutual agreement, extend the time period provided in this subdivision.

4.3.7.2 If Owner needs approval from its Board to provide Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and its Board does not meet within the forty-five (45) days or within the mutually agreed to extension of time following the receipt of a Claim, Owner shall have up to three (3) days following the next duly publicly noticed meeting of its Board after the forty-five (45) day period, or extension, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion.

4.3.7.3 Any payment due on an undisputed portion of the Claim shall be processed and paid within sixty (60) days after Owner issues its written statement. If Owner fails to issue a written statement, Section 4.4.2 shall apply.

4.4 DISPUTE RESOLUTION

4.4.1 Continue Work during Dispute: In the event of any dispute between Owner and Contractor, Contractor will not stop the Work but will prosecute the Work diligently to completion in the manner directed by Owner and the dispute shall be resolved as provided herein or by a court of law after completion of the Work.

4.4.2 Dispute of Owner's Written Response: If Contractor disputes Owner's written response, or if Owner fails to respond to a Claim within the time prescribed, Contractor may demand an informal conference to meet and confer for settlement of the issues in dispute submitted to Inspector in writing sent by registered mail or certified mail, return receipt requested,.

4.4.2.1 Upon receipt of a demand in writing, Owner shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

4.4.2.2 Within ten (10) business days following the conclusion of the meet and confer conference, if the Claim or any portion of the Claim remains in dispute, Owner shall provide Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed.

4.4.2.3 If Owner needs approval from its Board to provide Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and its Board does not meet within the ten (10) days or within the mutually agreed to extension of time following the receipt of a Claim, Owner shall have up to three (3) days following the next duly publicly noticed meeting of its Board after the ten (10) day period, or extension, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion.

4.4.2.4 Any payment due on an undisputed portion of the Claim shall be processed and made within sixty (60) days after Owner issues its written statement.

4.4.2.5 Any disputed portion of the Claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with Owner and Contractor sharing the associated costs equally. Owner and Contractor shall mutually agree to a mediator within ten (10) business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified third party to mediate. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If the mediation is successful, any payment due shall be made in compliance with Section 4.4.2.4. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside this Section.

4.4.2.6 Mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation.

4.4.3 Suit in Kings County Only: Any litigation arising out of the Contract Documents shall be brought and adjudicated in Kings County. Contractor hereby waives the removal provisions of Section 394of the Code of Civil Procedure.

4.4.3.1 In any suit filed under Section 20104.4 of the Public Contract Code, Owner shall pay interest at the legal rate on any arbitration award or judgment, as required by Section 20104.6 of the Public Contract Code.

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ARTICLE 5
CHANGES IN WORK

5.1 WAIVER

5.1.1 Waivers of Contract Provisions: It is expressly understood and agreed that no waiver granted by Inspector or Owner of any term, provision, or covenant of the Contract Documents shall constitute precedent or give rise to an expectation of a future waiver for breach of the same or any other terms, provisions, or covenants.

5.2 CHANGES AND CHANGE ORDERS

5.2.1 Owner May Order Changes in Work: Contractor agrees that Owner may order changes, including but not limited to, revisions to Plans and Specifications, performance of extra Work, and the elimination of Work, without invalidating the Contract Documents and without notice to sureties. Orders for such changes will be in writing and signed by the parties. Changes shall not affect the obligations of the sureties on the contract bonds nor require their consent. Contractor shall notify Owner for its evaluation whenever it appears a change is necessary. Contract Time and Contract Price will be adjusted, by written Change Order for changes which materially increase or decrease the time for or cost of the Work. Owner reserves the right to accelerate the Work.

5.2.2 Proposed Change Order: Changes to the Work will be provided to Contractor with a written Proposed Change Order by Owner, which describes the intended changes to the Work. A request for a Proposed Change Order may be made using the Request for Instruction (RFI) or Architect Supplemental Instruction (ASI) process.

5.2.3 Timeline: Within fourteen (14) days, Contractor shall submit to Owner Contractor's proposed cost estimate to be added or deducted from the Contract Price as a result of the change. Any proposed cost estimates shall be authenticated in full by completely detailed estimates and other authenticators of the cost by Contractor, Subcontractor, vendors, or material suppliers, and any adjustments to the Contract Time that is directly attributable to Owner's Proposed Change Order.

5.2.4 Agreement: If an agreement is reached as to the adjustment in compensation for performance of changed Work, but an agreement is not reached as to the adjustment of Contract Time for such Work, Contractor shall proceed with the Work at the agreed cost, reserving to Contractor the right to further pursue Contractor’s Claim for adjustment of time in accordance with Section 4.3.3.

5.2.5 Failure to Submit Cost Estimate: If Contractor fails to submit the cost estimate within the fourteen (14) day timeline, or there is failure to agree to the cost, Owner shall have the right to issue a Change Directive to Contractor to commence Work immediately, and the Contract Price shall be changed in accordance with Owner's estimate of cost, unless, within fourteen (14) days following completion of the added Work or with written notice to delete the Work, Contractor submits to Owner written proof that Owner's estimate is in error.

5.2.6 Contractor, when ordered by Owner, shall proceed with changes before an agreement is reached on adjustment in Contract Price or Contract Time and shall furnish to Owner records as specified in Section 5.4.1.3. If Contractor fails to provide such records, Owner's records will be used for the purpose of adjustment in Contract Time and Contract Price.

5.2.7 Contractor may request progress payments for such Work.

5.3 OTHER CHANGE INSTRUMENTS

5.3.1 Field Order: Inspector may order minor changes in work by use of a Field Order. These minor changes will involve neither changes in the Contract Price or Contract Time. If Contractor disagrees that the change does not involve a change in the Contract Price or Contract Time, then a Change Order or Change Directive shall be used.

5.3.2 Change Directive: In the event that Owner and Contractor do not agree on the Proposed Change Order as set forth in Section 5.2, or in the event it is essential that Contractor proceed expeditiously and without delay, Owner may order changes in the Work by issuance of a Change Directive and Contractor shall promptly proceed with the change in the Work involved.

5.4 BASES OF ADJUSTMENT TO CONTRACT PRICE

5.4.1 Methods of Adjustment: Methods used in determining adjustments to the Contract Price shall be based on one of the following.

5.4.1.1. By mutual acceptance of a lump sum increase or decrease in costs. Upon Owner's written request, Contractor shall furnish a detailed estimate of increase or decrease in costs, together with cost breakdowns and other supporting data within the time specified in such request. Contractor shall be responsible for any additional costs caused by Contractor's failure to provide the estimate within the time specified.

5.4.1.2 By Owner, on the basis of Owner's estimate of the increase or decrease in the costs.

5.4.1.3 By Owner, whether or not negotiations are initiated, by actual and necessary costs, as determined by Owner, on the basis of records. Beginning with the first day and at the end of each day, Contractor shall furnish to Owner detailed hourly records for labor, construction equipment, and services; and itemized records of materials and equipment used that day in performance of the changes. Such records shall be on a form acceptable to Owner. Such records shall be signed by Contractor and, when agreed to by Owner, will become the basis for compensation for the changed work. Such agreement shall not preclude subsequent adjustment based upon a later audit by Owner.

5.4.1.4 By unit prices stated in the Contract Documents, or subsequently agreed upon.

5.4.2 Allowable Costs: The only costs which will be allowed due to changes in the Work shall be computed in the following manner:

5.4.2.1 Compensation for labor shall include the necessary payroll cost, including first level supervision, directly engaged in performance of the changes. Wages shall not exceed current prevailing wages in the locality for performance of the changes. Use of a classification which would increase labor costs will not be permitted. Exceptions will be permitted only when Contractor establishes, to the satisfaction of Owner, the necessity for payment at higher rates or classifications.

5.4.2.2 Materials and Equipment: Compensation for materials and equipment shall include

the necessary costs for materials and equipment directly required for performance of the changes. Cost of materials and equipment may include costs of transportation and delivery. If discounts by suppliers are available to Contractor, they shall be credited to Owner. If materials and equipment are obtained from a supply or source owned by, or in part, by Contractor, payment therefor will not exceed current wholesale prices for such materials and equipment. If, in the opinion of Owner, the cost of materials and equipment is excessive, or if Contractor fails to furnish satisfactory evidence of costs from supplier, the cost of materials and equipment shall be the lowest current wholesale price at which similar materials and equipment are available in the quantities required. Owner reserves the right to furnish materials and equipment required for performance of the changes and Contractor shall have no claim for costs or mark-ups on such materials and equipment.

5.4.2.3 Construction Equipment: Compensation for construction equipment shall include the necessary costs for use of construction equipment directly required for performance of the changes. Any use for less than thirty (30) minutes shall be considered one-half (1/2) hour. No costs will be allowed for time while construction equipment is inoperative, idle, or on stand-by for any reason, unless such times have been approved in advance by Owner. Rental time for construction equipment moved by its own power shall include the time required to move construction equipment to the Work site from the nearest available source for rental of such equipment and time required to return such equipment to the source. If construction equipment is not moved by its own power, loading and transportation costs will be paid in lieu of such rental time. Neither moving time nor loading and transportation costs will be allowed if the construction equipment is used for any Work other than the changes. No allowance will be made for individual pieces of construction equipment and tools having a replacement value of five hundred dollars ($500.00) or less. No construction equipment costs will be recognized in excess of rental rates established by distributors or equipment rental agencies in the locality for performance of the changes. Unless otherwise approved by Owner, the allowable rate for use of construction equipment shall constitute full compensation to Contractor for cost of fuel, power, oil, lubrication, supplies, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and labor, except for construction equipment operators and any and all costs to Contractor incidental to the use of such construction equipment.

5.4.3 Cost Disallowance: Costs which will not be allowed or paid in Change Orders, Change Directives, or Claim settlements under these Contract Documents include, but are not limited to: interest cost of any type, other than those mandated by statute; Claim preparation or filing costs; legal expenses; the costs of preparing or reviewing Proposed Change Orders, Change Orders, or Change Directives which are not issued by Owner; lost revenues; lost profits; lost income or earnings; rescheduling costs; costs of idled equipment when such equipment is not yet at the site or has not yet been employed on the Work; lost earnings or interest on unpaid retention; Claims consulting costs; the costs of corporate officers or staff visiting the site or participating in meetings with Owner; any compensation due to the fluctuation of foreign currency conversions or exchange rates; or loss of other business.

5.5 EXTENSION OF TIME FOR COMPLETION

5.5.1 Contractor Delayed or Hindered: Should Contractor be delayed or hindered in the completion of the Work by the neglect of Owner, or by fire, strikes, lockouts, embargoes, earthquakes, or any other cause that Inspector approves as not having been reasonably foreseeable at the time of execution of the Contract Documents, the Contract Time shall be extended for a period equivalent to the time lost by reason of any or all of the stated causes. Time

extensions must be requested in accordance with Section 4.3.3.

5.5.2 Agreement on Time Extension: Contractor and Owner reserve the right to mutually agree in writing upon an extension of time for completion for causes other than enumerated above. Inspector must recommend the extension and the additional time must be set forth in a signed Change Order.

5.5.3 Time Extension not Waiver: The granting of an extension of time by Owner shall not operate as a waiver or estop Owner from claiming damages due to any other delays, prior or subsequent, which were not approved by Inspector and Owner as provided herein.

5.6 ACCEPTANCE OF CHANGE ORDERS

5.6.1 Contractor's written acceptance of a Change Order shall constitute final and binding agreement to the provisions thereof and a waiver of all Claims in connection therewith, whether direct, indirect, incidental, consequential, or special in nature.

ARTICLE 6
PAYMENTS AND COMPLETION

6.1 GENERAL

6.1.1 Contract Price: The Contract Price as stated in the Contract Documents, including authorized adjustments, is the total maximum amount payable by Owner to Contractor for performance of the Work.

6.1.2 Waiver: Neither the acceptance of the Work by Owner nor the payment of any part or all of the Contract Price shall constitute a waiver by Owner of any claim which Owner may have against Contractor or surety under the Contract Documents or otherwise.

6.1.3 Manner of Paying Warrants: When payment becomes due under the Contract Documents or as otherwise prescribed by law, Owner shall cause a warrant for the certified amount to be drawn upon the proper fund which shall be approved and issued to Contractor within that period of time customarily required to process said warrants in the ordinary course of Owner's business.

6.2 SCHEDULE OF VALUES

6.2.1 Before the first Application for Payment, Contractor shall submit to Inspector a Schedule of Values allocated to various portions of the Work prepared in such form and supported by such data to substantiate its accuracy as Inspector may require. This Schedule of Values, unless objected to by Inspector, shall be used as a basis for reviewing Contractor's Applications for Payment.

6.3 LIST OF COSTS

6.3.1 Contractor shall ensure that he or she and any Subcontractor employed to do work under the Contract Documents shall list costs according to the CSI Divisions of the Schedule of Values in categories that reflect major costs areas for construction projects.

6.4 APPLICATIONS FOR PAYMENT

6.4.1 Submittal of Applications: At least ten (10) days before the date established for each progress payment, Contractor shall submit to Inspector an itemized Application for Payment for Work completed to date. Such application shall be supported by documentation of Contractor's right to payment as Owner may require, such as copies of requisitions from Subcontractor and material suppliers, and reflect the amount of retention as provided in the Contract Documents.

6.4.2 Basis for Payment: Each Application for Payment shall be submitted by Contractor in accordance with the Contract Documents. Applications shall indicate the percentage of completion of each portion of the Work covered by the Application.

6.5 PROGRESS PAYMENTS

6.5.1 Progress Payments: Based on the Applications for Payment, progress payments shall be made once each month on or about a date to be determined by Owner or on a schedule as mutually agreed by the parties.

6.5.2 Computation of Progress Payments: Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

6.5.2.1. That portion of the Contract Price computed by multiplying the percentage completed of each Work task by the portion of the Contract Price allocated to the Work task in the Schedule of Values, less a retainage of five (5) percent;

6.5.2.2. Plus the values of Change Orders for which the final cost or credit has not yet been determined, and which is not in dispute;

6.5.2.3. Plus the portion of the Contract Price allocated to equipment and materials delivered and suitably stored at the site (or, if approved in advance by Owner, suitably stored off the site) for incorporation in the Work, less a retainage of twenty-five (25) percent.

a. If approved in advance by Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing.

b. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by Contractor with procedures satisfactory to Owner to establish Owner's title to such materials and equipment or otherwise protect Owner's interest, and shall include applicable insurance, storage, and transportation to the site for such materials and equipment stored off the site.

6.5.2.4. Less the aggregate of previous payments made by Owner to Contractor for the Work.

6.5.2.5. Less amounts, if any, for which Inspector has withheld or disallowed as provided in Article 9 and Section 6.7.

6.5.2.6. Plus, upon Substantial Completion of the Work, an amount sufficient to increase the total amount paid to Contractor for the Work to ninety (90) percent of the Contract Price, less amounts as Inspector determines for incomplete Work and unsettled claims.

6.5.2.7. Plus, if final completion of the Work is thereafter materially delayed through no

fault of Contractor, any additional amounts payable in accordance with the Section 6.8.

6.5.2.8. Less amounts, if any, withheld as anticipated liquidated damages incurred as a result of a delay to the Work's completion, as shown on Contractor's schedule.

6.5.2.9. Less amounts, if any, withheld as compensation for excessive submittals, as further set forth in Section 3.4.2.

6.5.3 Release of Claims: Payment of undisputed progress payments is contingent upon Contractor furnishing Owner with a release of all claims against Owner arising by virtue of the Work relating to the amount so paid. The release may be on the form used for computing progress payments.

6.5.4 Work Free of Liens: Contractor warrants that upon submittal of an Application for Payment, all Work for which Certificates for Payment have been previously issued and payments received from Owner shall be free and clear of liens, claims, security interests, or encumbrances against Contractor by Subcontractor, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment in relation to the Work.

6.5.5 Interest Payments: If Owner does not pay Contractor within thirty (30) days after receipt of an undisputed and properly submitted Application for Payment, excluding retention amounts, then Owner shall pay interest to Contractor as provided by Section 20104.50 of the Public Contract Code. If Inspector does not issue a Certificate for Payment, through no fault of Contractor, within seven (7) days after receipt of Contractor's Application for Payment, the number of days available to Owner to make a payment without incurring interest pursuant to this Section shall be reduced by the number of days by which Owner exceeds the seven (7) day return requirement set forth in Section 20104.50, subdivision (c)(2), of the Public Contract Code.

6.6 INSPECTOR'S CERTIFICATION FOR PAYMENT

6.6.1 Inspector's Determination: Inspector will, within seven (7) days after receipt of Contractor's Application for Payment, either issue to Owner a Certification for Payment, with a copy to Contractor, for such amount as Inspector determines is properly due, or notify Contractor and Owner of Inspector's reasons for withholding certification in whole or in part as provided for in Section 6.7.

6.7 WITHHOLDING FROM PAYMENTS

6.7.1 Reasons for Withholding: Owner, upon recommendation of Inspector, may withhold payments or, on account of subsequently discovered evidence, nullify the whole or a part of any progress or retention payments to such extent as may be necessary to protect Owner from loss on account of:

6.7.1.1 Defective work or material not remedied or replaced.

6.7.1.2 The filing of claims or stop notices to withhold or reasonable evidence indicating probable filing of such claims or notices.

6.7.1.3 Failure of Contractor to make payments properly to Subcontractor or for materials or labor.

6.7.1.4 Failure to make payments to any person or entity for financial obligations of Contractor under terms of the Contract Documents,

6.7.1.5 A reasonable doubt that the Work can be completed for the balance then unpaid.

6.7.1.6 Damage to another contractor.

6.7.1.7 Performance of work in violation of the terms of the Contract Documents.

6.7.1.8 Excessive costs to Owner, as described in Section 1.5 or costs for excessive submittals, Requests for Instruction (RFI), Failed Inspections, as described in Section 3.4.2.

6.7.1.9 Failure of Contractor to comply with requirements for timely submittal of specified documentation, including but not limited to construction schedules, cost proposals, and submittals.

6.7.1.10 Anticipated liquidated damages incurred due to an inability to meet the Contract Time and any updates thereto.

6.7.2 Release of Payment: Owner shall pay Contractor the amounts withheld when the reasons for withholding are removed.

6.8 SUBSTANTIAL COMPLETION

6.8.1 Request for Inspection: When Contractor considers that the Work, or a portion thereof which Owner agrees to accept separately, is substantially complete, Contractor shall request an inspection of the Work. Inspector will then make an inspection to determine whether the Work or designated portion thereof is substantially complete. If Inspector's inspection discloses significant Work which is not in accordance with the requirements of the Contract Documents, Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such Work. Inspector shall prepare a list of any items of Work which is judged to be minor repair work or to be covered by warranties.

6.8.2 Certificate of Substantial Completion: When the Work or designated portion thereof is substantially complete, Inspector will recommend to Owner that Owner issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion and shall fix the time within which Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion. The Certificate of Substantial Completion shall indicate responsibilities assigned to Contractor and shall be accepted in writing by him or her.

6.8.3 Final Payment: Except as otherwise provided, upon issuance of a Certificate of Substantial Completion, a sum sufficient to increase the total payments to ninety-five percent (95%) of the Contract Price shall be paid to Contractor.

6.9 ALTERNATIVES TO FIVE PERCENT (5%) RETENTION

6.9.1 Substitution of Securities for Five Percent (5%) Retention: As provided under Section 22300 of the Public Contract Code, Contractor may, at his or her request and expense, and in lieu of the

monies withheld by Owner to ensure performance under the Contract Documents, deposit securities equivalent to the amount withheld with Owner or with a state or federally chartered bank as an escrow agent, who shall then pay those monies to Contractor upon satisfactory completion of the Work and release of retention by Owner.

6.9.2 Alternatively, as further provided under Section 22300 of the Public Contract Code, Contractor may request and Owner shall make payment of retentions earned directly to the escrow agent at the expense of Contractor. Contractor may direct the investment of the payments into securities at Contractor's expense and shall receive the interest earned on the investments upon the same terms provided for securities deposited by Contractor. Upon satisfactory completion of the Work and release of the retention, Contractor shall receive from the escrow agent all securities, interests, and payments received by the escrow agent from Owner.

6.9.3 Securities eligible for investment under this Section shall include those listed in Government Code Section 16430, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and Owner. Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

6.9.4 Form of Escrow Agreement: The terms and conditions of the escrow shall substantially conform to the form set forth in subdivision (f) of Section 22300 of the Public Contract Code.

6.9.5 Escrow Agreements for Subcontractor: In the event Contractor chooses to receive interest on monies withheld by retention, Contractor shall comply with subdivision (d) of Section 22300 of the Public Contract Code for any Subcontractor performing Work under the Contract Documents.

6.10 FINAL COMPLETION AND PAYMENT OF RETENTION

6.10.1 Affidavit of Payment: After the date of Substantial Completion of the Work and before final acceptance of the Work, Contractor shall file with Inspector his or her notarized affidavit stating that all persons employed, all firms supplying materials, and all Subcontractors have been paid in full, except certain items, if any, to be set forth in such affidavit covering disputed claims, including claims for acceleration, disruption, delays, inefficiencies, and hindrance, or items in connection for which stop notices have been filed under the provisions of the statutes of the State of California. The filing of such affidavit by Contractor shall be a prerequisite to the payment of the five percent (5%) retention.

6.10.2 Final Inspection: Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, Inspector will promptly make such inspection and, when Inspector finds the Work acceptable under the Contract Documents and the Contract fully performed, Inspector will promptly recommend to Owner that Owner may consider the Work complete and that payment of the retention may be made.

6.10.3 Final Certification: Before payment of the retention, Contractor shall file with Owner a certificate in which he or she certifies that to the best of Contractor's knowledge, information, and belief, and on the basis of observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents.

6.10.4 Payment of Retention: Sixty (60) days after the Notice of Completion has been filed, the balance due under the Contract Documents shall be paid, less any monies held for stop notices or as disputed amounts. These payments shall not be construed as an absolute acceptance of

the Work done up to the time of such payments. Contractor, if requested by Owner, shall furnish receipts or other vouchers showing his or her payments for materials and labor.

6.10.5 Disputed Amounts: Pursuant to Section 7107of the Public Contract Code, in the event of a dispute between Owner and Contractor, Owner may withhold from the Final Payment an amount not to exceed one hundred fifty (150) percent of the disputed amount plus any amounts necessary to cover any filed and unreleased stop notices. Except as so withheld, Owner shall pay the retention within sixty (60) days after the date of completion of the Work. In the event that retention amounts are not paid timely, Owner shall be subject to the interest provisions of Section 7107 of the Public Contract Code.

6.10.6 Notice of Completion: The Work shall be accepted in writing in the form of a Notice of Completion when the Work has been completed to the satisfaction of Owner. In judging the Work, no allowance for deviations from the original Specifications will be made unless already approved in writing at the proper times and in the manner as called for herein. The Notice of Completion shall be recorded by Owner.

ARTICLE 7
PROTECTION OF PERSONS AND PROPERTY

7.1 PROTECTION OF WORK, PROPERTY, AND PERSONS

7.1.1 Responsible for Damage to Owner's Property: Contractor shall be entirely responsible for any damage to the property of Owner due to careless handling of tools and/or materials or other causes attributed to Contractor or any Subcontractor in performing the Work.

7.1.2 Responsible for Safety: Contractor will take all necessary precautions for the safety of and will provide the necessary protection to prevent damage, injury, or loss to all employees on the Work and other persons who may be affected thereby, all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement during the course of construction.

7.1.3 Safety and Convenience: Contractor will comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction. Contractor will erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. Contractor will notify the owners of adjacent utilities when progression of the Work may affect them.

7.1.4 Remedy Damages: Contractor will remedy all damage, injury, or loss to any property caused, directly or indirectly, in whole or part, by Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or anyone of whose acts Contractor may be liable, except damage or loss attributable to the sole fault or to the acts or omissions of Owner or Inspector or anyone employed by them and not attributable, directly, or indirectly, in whole or in part, to the fault or negligence of Contractor.

7.1.5 Protection of Workers in Trenches: As required by Section 6705 of the Labor Code and any other applicable statute, law, or regulation, whenever the Work involves an estimated expenditure in excess of twenty-five thousand dollars ($25,000) for the excavation of any trench or trenches five (5) feet or more in depth, Contractor shall submit for acceptance by Owner, or by a registered civil or structural Engineer employed by Owner to whom authority to accept has been delegated,

in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation, or such trench or trenches. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Department of Industrial Relations, Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer employed by Contractor and all costs therefor shall be included in the Contract Price for completion of the Work. Nothing in this Section shall be deemed to allow the use of a shoring, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on Owner, Owner's Engineer, or any of their officials, officers, agents, representatives, or employees.

ARTICLE 8
INSURANCE AND BONDS

8.1 INSURANCE

8.1.1 Contractor shall procure and maintain for the Contract Time and for ten (10) years thereafter insurance against claims for injuries to persons or damages to property, which may arise from or in connection with, the performance of the Work by Contractor, his or her agents, representatives, employees, or Subcontractor. Coverage shall be at least as broad as the specifications set forth below.

8.1.2 Commercial General Liability Insurance (CGL): Contractor shall obtain CGL as provided in Insurance Services Office Form CG 00 01, including products and completed operations, with limits of no less than five million dollars ($5,000,000) per occurrence for bodily injury, personal injury, and property damage. If a general aggregate term applies, either the general aggregate limit shall apply separately to this project/location, or the general aggregate limit shall be twice the required occurrence limit.

8.1.3 Automobile Liability: Contractor shall obtain automobile liability insurance as provided in Insurance Services Office Form Number CA 0001 covering Code 1 (any auto), with limits of no less than five million dollars ($5,000,000) per accident for bodily injury and property damage.

8.1.4 Workers' Compensation: Contractor shall carry workers' compensation insurance as required by California law in at least the amounts set forth in the applicable statutes and shall also carry Employers' Liability insurance with a limit of no less than one million dollars ($1,000,000) per accident for bodily injury or disease.

8.1.5 Professional Liability: For Design/Build projects, Contractor shall have professional liability insurance in an amount of not less than one million dollars ($1,000,000) per occurrence or claim and with a three million dollars ($3,000,000) policy aggregate.

8.1.6 Contractor's Pollution; Asbestos Liability; Errors and Omissions: If the Work includes environmental hazards, Contractor shall have contractors' legal liability, asbestos legal liability, and/or errors and omissions insurance with limits of no less than one million dollars ($1,000,000) per occurrence or claim and two million dollars ($2,000,000) policy aggregate.

8.1.7 Deductibles and Self-Insured Retentions: Contractor shall declare to and obtain the approval of Owner for any deductibles or self-insured retentions. At the option of Owner, Contractor shall either cause the insurer to reduce or eliminate such deductibles or self-insured retentions with respect to Owner, its officers, officials, employees, and agents, or Contractor shall provide a

financial guarantee satisfactory to Owner guaranteeing payment of losses and related investigations, claim administration, and defense expenses.

8.1.8 Endorsement: Contractor shall endorse all insurance policies with the following provisions:

8.1.8.1 The Burris Park Foundation, its officers, officials, employees, and agents are to be covered as additional insured on the CGL and automobile liability policies with respect to liability arising out of the Work or operations performed by or on behalf of Contractor, including materials, parts, or equipment furnished in connection with such Work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of Contractor. General liability coverage can be provided in the form of an endorsement to Contractor's insurance in language at least as broad as ISO Form CG 20 10, 11 85, or both CG 20 10 and CG 23 37 forms if later revisions are used.

8.1.8.2 Contractor's insurance shall be the primary insurance for any claims related to the Work with respect to Owner, its officers, officials, employees, and agents. Any insurance maintained by Owner, its officers, officials, employees, or agents shall be in excess of Contractor's insurance and shall not contribute thereto.

8.1.8.3 Each insurance policy obtained as required herein shall provide that coverage shall not be reduced or canceled, except with a minimum of thirty (30) days written notice to Owner.

8.1.8.4 In the event the Work includes trenching or construction of a tunnel, Contractor shall ensure that an exclusion of loss arising from explosion, collapse, and underground shall be endorsed out of the insurance policy.

8.1.9 Acceptability of Insurers: Contractor shall obtain insurance from insurers with a current A.M. Best Rating of no less than A: VII, unless otherwise acceptable to Owner.

8.1.10 Waiver of Subrogation: Contractor hereby agrees to waive rights of subrogation. Contractor agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation. Contractor shall endorse his or her workers' compensation policy with a waiver of subrogation in favor of Owner for all Work performed by Contractor, its employees, agents, and Subcontractor.

8.1.11 Verification of Coverage: Contractor shall furnish Owner with original certificates and endorsements, or copies of the applicable insurance language, effecting coverage required by the Contract Documents. All certificates and endorsements are to be received and approved by Owner before the commencement of any Work. Owner's failure to obtain the required documents prior to the commencement of the Work shall not constitute a waiver of Contractor's obligation as provided herein. Owner reserves the right to require complete, certified copies of all required insurance policies, including endorsements, at any time.

8.1.12 Subcontractor: Contractor shall require and verify that all Subcontractors maintain insurance coverage that meets or exceeds all of the requirements stated herein.

8.2 BONDS

8.2.1 General Requirements for Bonds: Before commencing any Work, Contractor shall file three (3) of each bond together with three (3) certified copies of said bonds with Owner. These bonds

shall be in the amounts and for the purposes specified below. They shall be surety bonds and shall be issued by corporations duly and legally authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California. They shall be maintained by Contractor at his or her expense during the Contract Time or longer as provided.

8.2.2 Performance and Maintenance Bond(s): Contractor shall obtain a Performance bond in the amount of one hundred percent (100%) of the Contract Price which shall guarantee the faithful performance of the Work and insure Owner during the Contract Time. Contractor shall also obtain a maintenance bond in the amount of one hundred percent (100%) of the Contract Price which shall be in full force and effect through the Guarantee Period. Both bonds shall insure against faulty or improper materials and/or workmanship.

8.2.3 Payment Bond: Contractor shall obtain a Payment bond in the amount of one hundred percent (100%) of the Contract Price which shall guarantee the payment in full of all claims for labor and materials in accordance with the provisions of the laws of the State of California.

8.2.4 Change of Surety: If at any time a surety on such bonds becomes irresponsible or loses its right to do business in the State of California, Owner may require another surety which Contractor shall furnish within ten (10) calendar days after receipt of written notice to do so. Evidence of authority of an attorney-in-fact acting for the corporate surety must be provided in the form of a certificate as to his or her power of attorney and to the effect that it is not terminated and remains in full force and effect on the date of the bonds. The form of the bonds shall be subject to approval by Owner.

ARTICLE 9
UNCOVERING AND CORRECTION OF WORK

9.1 DEVIATION FROM CONTRACT DOCUMENTS

9.1.1 Improper Work: If Contractor varies from the Contract Documents in the form or quality of the Work, or the amount or value of the materials herein provided for, Owner shall have the right to order such improper work or materials removed, remade, or replaced without further compensation due to Contractor or Subcontractor. In the event such order is made, any other Work disturbed or damaged by such alteration shall be made good at Contractor’s expense.

9.2 CORRECTION OF WORK

9.2.1 Inspection of Improperly Covered Work: If any Work is covered contrary to the written instructions of Inspector it must, if requested by Inspector, be uncovered for Inspector’s observation and replaced at Contractor’s expense.

9.2.2 Inspection of Covered Work: If Inspector considers it necessary or advisable that covered Work be inspected or tested by others, Contractor, at Inspector's request, will uncover, expose, or otherwise make available for observation, inspection, or testing as Inspector may require, that portion of the Work in question, furnishing all necessary labor, materials, tools, and equipment. Contractor will bear all expenses of such uncovering, exposure, observation, inspection, and testing and of any satisfactory reconstruction, if needed.

9.2.3 Rejected Work: Contractor shall promptly remove from the premises all Work rejected by Inspector or Owner for failure to comply with the Contract Documents, whether incorporated in the construction or not. Contractor shall promptly replace and re-execute the Work either during

the Contract Time or during the Guarantee Period in accordance with the Contract Documents and without expense to Owner. Contractor shall also bear the expense of making good all Work of other contractors or Subcontractor destroyed or damaged by such removal or replacement.

9.2.4 Cost of Correction: All removal and replacement Work shall be done at Contractor's expense. If Contractor does not take action to remove rejected Work within ten (10) days after receipt of written notice, Owner may remove such Work and store the materials at the expense of Contractor. Owner also may perform such Work or repairs itself and charge the expense to Contractor.

9.2.5 Correction During Guarantee Period: If during the Guarantee Period or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, Contractor shall correct it promptly after receipt of written notice from Owner to do so. The Guarantee Period shall be extended with respect to portions of the Work first performed after Notice of Completion by the period of time between Notice of Completion and the actual performance of the Work. This obligation shall survive acceptance of the Work and termination of the Contract. Owner shall give such notice promptly after discovery of the condition.

ARTICLE 10
TERMINATION OR SUSPENSION OF CONTRACT

10.1 TERMINATION BY OWNER FOR CONVENIENCE

10.1.1 Right to Terminate: Owner reserves the right to terminate the Contract at any time upon determination by its Board that termination of the Contract is in the best interest of Owner. Owner shall issue Contractor a written notice specifying that the Contract will be terminated and specify the date of such termination.

10.1.2 Contractor's Duties: Upon receipt of said written notice, Contractor shall stop all Work except that specifically directed to be completed prior to acceptance, perform the Work Inspector deems necessary to secure the Work for termination, remove equipment and tools from the site of the Work, take such action as is necessary to protect materials from damage, dispose of materials not yet used in the Work as directed by Inspector, and clean up the site in accordance with Section 3.11.3.

10.1.3 Payment for Work: If the Contract is terminated for Owner's convenience as provided herein, all finished or unfinished Work and materials previously paid for shall, at the option of Owner, become its property. Contractor shall be paid an amount which reflects costs incurred for Work provided to the date of notification of termination. In addition, Contractor shall be paid the reasonable cost, as solely judged by Inspector, and without profit, for all work performed to secure the Work for termination.

10.2 TERMINATION BY OWNER FOR CAUSE

10.2.1 Written Termination Notice: If Contractor is adjudged a bankrupt or insolvent, makes a general assignment for the benefit of its creditors, has a trustee or receiver appointed for any of its property, files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or applicable laws, fails to supply sufficient skilled workers or suitable material or equipment on more than one (1) occasion, fails to make prompt payments to Subcontractors for labor, materials, or equipment on more than one (1) occasion, disregards the authority of

Inspector, or otherwise violates any provision of the Contract Documents, Owner may, without prejudice to any other right or remedy and after giving Contractor and its Surety a minimum of ten (10) days written notice of termination, terminate the services of Contractor and take equipment and machinery owned by Contractor and finish the Work by whatever method Owner may deem expedient. In such case, Contractor shall not be entitled to receive any further payment until the Work is finished.

10.2.2 Inspector's Notice to Work or Quit: Without prejudice to other rights or remedies Owner may have if Contractor fails to begin delivery of materials and equipment, commence Work within the time specified, maintain the rate of delivery of material, execute the Work in the manner and at such locations as specified, or is not carrying out the intent of the Contract Documents, an Inspector's written notice may be served upon Contractor and its Surety on its faithful performance bond demanding satisfactory compliance with the Contract Documents. Service shall be made by U.S. Mail, First Class, return receipt requested.

10.2.2.1 If Contractor or its Surety does not comply with such notice within five (5) days after the date delivered as indicated on the return receipt, or after starting to comply, fails to continue, Owner may exclude it from the Work site, take possession of all material and equipment, and complete the Work by Owner's forces, letting the unfinished work to another Contractor, or a combination of such methods.

10.2.3 Owner's Rights after Termination: Where Contractor's services have been terminated by Owner, said termination shall not affect any right of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of monies by Owner due Contractor will not release Contractor from compliance with the Contract Documents.

10.2.3.1 If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Work, including compensation for additional professional services, such excess shall be paid by Contractor. If the unpaid portion of the Contract Price is insufficient for completion, Contractor or its Surety shall pay Owner all costs in excess of the Contract Price within five (5) days after the completion of the Work. In any event, the cost of completing the Work shall be charged against Contractor and its Surety and may be deducted from any monies due or coming due from Owner.

10.2.3.2 If the Surety assumes any part of the Work, it shall take Contractor's place in all respect for that part and shall be paid by Owner for all work performed by it in accordance with the Contract Documents. If the Surety assumes the entire Contract, all monies due Contractor at the time of its default shall be payable to the Surety as the work progresses, subject to the terms of the Contract Documents.

10.2.3.3 The provisions of this Section shall be in addition to all other rights and remedies available to Owner under law or equity.

10.2.4 Subsequent to Notice of Termination: If, after notice of termination under Section 10.2, it is determined for any reason that Contractor was not in default, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the provisions of Section 10.1.

10.3 SUSPENSION OF WORK

10.3.1 Owner May Suspend: Owner may suspend the Work or any portion thereof for a period of

not more than ninety (90) days or such further time as agreed upon by Contractor, by written notice to Contractor and Inspector, which shall fix the date on which the Work shall be resumed.

10.3.2 Resumption of Work: Contractor will resume the Work on the date so fixed. Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, as directly attributed to any suspension.

SECTION 011100
SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1. Section 013300 “Submittal Procedures” for information on Delegated Design Services.

1.2 SUMMARY

A. Section includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work by separate contracts.
4. Owner-furnished, contractor-installed products.
5. Access to site.
6. Coordination with occupants.
7. Work restrictions.
8. Specification and drawing conventions.

B. Related Section:

1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

A. Project Identification:

New Fabric Shade Structure at Amphitheater
Burris Park Foundation
Burris County Regional Park, Kings County, CA
6500 Clinton Ave.
Kingsburg, CA 93631

B. Project Owner:

Burris Park Foundation
6500 Clinton Ave.
Kingsburg, CA 93631

Contact: Sharlene Bogan
e-mail: burrispark@kingscoe.net

C. Regional Park Owner:

Kings County, California
1400 West Lacey Blvd., Building 6
Fresno, California 93711

Telephone 559.852-2690

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of the Project is defined by the Contract Documents and consists of the following:

1. New Tensioned Fabric Shade Structure at the existing amphitheater, including design, engineering, construction documents, and all materials and installation of the shade structure.

B. Type of Contract: Project will be constructed under a single prime contract.

1.5 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of the Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to County Park, County's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.6 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, except as otherwise indicated.

1. Submit a written request to Kings County for work hours outside of the indicted on-site hours; request subject to review by the County.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by County or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner not less than 2 days in advance of proposed utility interruptions.
2. Obtain Owner's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Owner not less than 2 days in advance of proposed disruptive operations.

E. Controlled Substances: Use of tobacco products and other controlled substances on Project site is strictly prohibited.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

A. General: Specifications establish minimum quality standards for products, materials, and installation requirements unless more stringent requirements are indicated on the Drawings; Drawings establish material and product location and quantity.

1. Where requirements for materials and/or products indicated on the Drawings are not specified, provide heavy duty commercial grade products and materials.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements shall be complied with by Contractor unless specifically stated otherwise.

D. Drawing Content, Material and Product Identification: Materials and products are identified on Drawings by typical generic terms used in the individual Specification Sections unless materials and products are described in detail on the Drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 011103
ADDENDA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for Addenda issued prior to bid and award of the Contract.

B. Related Requirements:

1. Division 00 Sections as applicable to contract requirements and modifications.
2. Division 01 Section "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 NOTICE TO BIDDERS

A. Addenda will be issued to registered plan holders for changes to the drawings and specifications during the bidding period prior to the award of the contract. Addenda shall serve to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addenda affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 011105
USE OF ARCHITECT'S ELECTRONIC FILES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes Administrative and procedural requirements for use of Architect's electronic files.

B. Related Sections:

1. Division 01 Section "Project Management and Coordination."
2. Division 01 Section "Submittal Procedures."

1.3 USE OF ARCHITECT'S ELECTRONIC FILES

A. Architect may make available to Contractor digital data files of Architect's Drawings for use in preparing shop drawings, coordination drawings, and project record drawings.

1. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
2. Files will be supplied on a CD ROM diskette, DWG format, which shall be returned to the Architect at the end of the Project with the Project Close-out Documents.
3. The cost of the CD ROM shall be as indicated on the "ELECTRONIC DATA FILE DISTRIBUTION WAIVER OF LIABILITY FORM" included at the end of this Specification Section. The cost shall be paid by direct payment to the Architect and shall be attached to the Waiver of Liability Form at the time of request.

B. Contractor, Subcontractors, and Suppliers of this Project shall jointly execute a waiver of Liability for each use of the Architects electronic files and shall be responsible for the use of electronic files.

1. Liability Form: "ELECTRONIC DATA FILE DISTRIBUTION WAIVER OF LIABILITY FORM" included at the end of this Specification Section.

C. The use of the electronic files shall only be used for this Project and for the identified purposes noted on the "ELECTRONIC DATA FILE DISTRIBUTION WAIVER OF LIABILITY FORM." The CD ROM or any files contained on it shall not be duplicated without written permission of the Architect.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

(Electronic Data File Distribution Waiver of Liability included on the following page)

TETER
ARCHITECTS ENGINEERS CONNECTED

ELECTRONIC DATA FILE DISTRIBUTION WAIVER OF LIABILITY

TETER, Inc.
7535 North Palm, Suite 201
Fresno, California 93711

Project: _____

Intended Use: _____

Any electronic data, files or information provided under this Agreement are the property of the above listed Professionals and consultants (Team). It is understood and agreed that the information contained in these electronic data file shall not be copied or duplicated for any use other than the project for which they were created. It is understood by the undersigned that compatibility of this electronic media with other systems is not guaranteed, and conversion to other systems is done at the user's own risk.

The user hereby agrees and recognizes that designs, plans and data stored on electronic media including, but not limited to, computer disk and magnetic tape, may be subject to undetectable alteration and/or uncontrollable deterioration. It is agreed by the undersigned that the Team shall not be liable for the completeness or accuracy of any material provided on electronic media.

The undersigned agrees to defend, hold harmless and indemnify the Team and its officers, directors, employees, agents and consultants for any and all claims, losses, costs or damage whatsoever arising out of, resulting from, or in any way related to the use of electronic data files provided hereunder, whether that use is authorized or unauthorized. The user further agrees to defend, indemnify and hold harmless the Team its officers, directors, employees, agents and consultants from any and all claims, damages, losses, expenses and injuries arising out of the modification of the electronic data files by the user or by anyone obtaining said files through or from the user.

The Team bears no responsibility for the information in the electronic data files once it leaves the offices of **TETER**, INC. The undersigned understands that the electronic data files is subject to applicable copyright laws of the United States and agrees to be bound by same. Upon our receipt of this agreement duly executed by an Officer of your firm you may request the Data files on CD for a fee of $200.

Name (Print/Sign): _____ Date: _____

Firm: _____ _____

Phone and email: _____ _____

Name (Print/Sign): _____ Date: _____

Firm: _____ _____

Phone and email: _____ _____

Name (Print/Sign): _____ Date: _____

Firm: _____ _____

Phone and email: _____ _____

SECTION 012613
REQUEST FOR INFORMATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural provisions for preparation, submittal and response to Contractor's Request for Information (RFI's) during construction of project.

B. Related Sections:

1. General Conditions of the Contract.

1.3 DEFINITIONS

A. PDF, Portable Document Format: An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

B. RFI, Request for Information: Request from Contractor seeking information required by or clarification of the Contract Documents.

1.2 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Submit RFI's via email as PDF electronic files.

1.3 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Owner will return RFIs submitted by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.

5. Name of Architect
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. Owner’s Action: Owner will review each RFI, determine action required, and respond. Allow 10 working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for approval of Contractor’s means and methods.
    d. Requests for coordination information already indicated in the Contract Documents.
    e. Requests for adjustments in the Contract Time or the Contract Sum.
    f. Requests for interpretation of Architect's actions on submittals.
    g. Incomplete RFIs or inaccurately prepared RFIs.

2. Owner’s action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."

    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.

3. Distribution: One electronic copy of each completed RFI review shall be distributed by the Architect to the Contractor and the Owner.

D. On receipt of Owner’s action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Owner within 7 days if Contractor disagrees with response.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 013300
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Sections:
1. Division 01 Section “Operation and Maintenance Data” for submitting operation and maintenance manuals.

1.3 SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Owner and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor’s construction schedule.
2. Initial Submittal: Submit concurrently with start-up construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor’s construction schedule.

    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:

    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Name of subcontractor.
    d. Description of the Work covered.
    e. Scheduled date for Owner’s final release or approval.

f. Scheduled dates for purchasing.
g. Scheduled dates for installation.
h. Activity or event number.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. General Requirements: Owner will return submittals, without review, received from sources other than Contractor.

1. Owner will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Owner's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Owner for Contractor's use in preparing submittals.

C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Owner reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

D. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Owner's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 14 calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Owner will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 14 calendar days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Owner's consultants, Owner, or other parties is indicated, allow 21 calendar days for initial review of each submittal.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Owner and to Owner's consultants, allow 14 calendar days for review of each submittal.

E. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 4 by 5 inches on label or beside title block for Owner's review stamp and approval markings.
3. Provide a space approximately 2 by 3 inches on label or beside title block for Contractor's review stamp and approval markings.
4. Include the following information for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name of Owner.
    d. Name of Contractor.
    e. Name of subcontractor.
    f. Name of supplier.
    g. Name of manufacturer.
    h. Submittal number or other unique identifier, including revision identifier.

        1) Submittal number shall be sequentially numbered and provide the Specification Section number. Resubmittals shall include an alphabetic suffix after original submittal number.

    i. Number and title of appropriate Specification Section.
    j. Drawing number and detail references, as appropriate.
    k. Location(s) where product is to be installed, as appropriate.
    l. Other necessary identification.

5. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form.

    a. Transmittal Form: Provide locations on form for the following information:

        1) Project name.
        2) Date.
        3) Destination (To:).
        4) Source (From:).
        5) Name of Contractor.
        6) Name of firm or entity that prepared submittal.
        7) Names of subcontractor, manufacturer, and supplier.
        8) Category and type of submittal.
        9) Submittal purpose and description.
        10) Specification Section number and title.
        11) Indication of full or partial submittal.
        12) Drawing number and detail references, as appropriate.
        13) Transmittal number
        14) Submittal and transmittal distribution record.
        15) Remarks.
        16) Signature of transmitter.

b. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Owner on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

F. Product Options:

1. Clearly identify product options required to comply with the Contract Documents.
2. Clearly identify product options requiring selection by the Owner.

G. Deviations: Clearly identify deviations from requirements in the Contract Documents including minor variations and limitations.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Owner's action stamp.

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals that are marked with approval notation from Owner's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit one (1) electronic copy or two (2) paper copies of each submittal, unless otherwise indicated. Owner will return one (1) electronic copy.
2. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
3. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
4. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

4. Submit Product Data before or concurrent with Samples.
5. Submit Product Data in the following format:

    a. One (1) electronic copy of Product Data, unless otherwise indicated. The owner will return electronic copies.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

    a. Identification of products.
    b. Schedules.
    c. Compliance with specified standards.
    d. Notation of coordination requirements.
    e. Notation of dimensions established by field measurement.
    f. Relationship and attachment to adjoining construction clearly indicated.
    g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.

3. Submit Shop Drawings in the following format:

    a. Two (2) opaque paper copies of each submittal. The owner will scan and return one (1) copy.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

    a. Generic description of Sample.
    b. Product name and name of manufacturer.
    c. Sample source.
    d. Number and title of applicable Specification Section.
    e. Specification paragraph number and generic name of each item.

3. Disposition: Maintain sets of reviewed Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner’s property, are the property of Contractor.

4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

    a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. The owner will return submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

    a. Number of Samples: Submit 3 sets of Samples. The owner will retain 2 Sample sets; remainder will be returned.

        1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:

a. One (1) electronic copy of product schedule or list, unless otherwise indicated.

F. Coordination Drawing Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

G. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

H. Application for Payment and Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."

K. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."

L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Owners and owners, and other information specified.

M. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.

N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

R. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

S. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

T. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Owner.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit 6 paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Product Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Owner.

B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 OWNER'S ACTION

A. General: Owner will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Submittals: Owner will review each submittal, make marks to indicate corrections or modifications required, and return it. Owner will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action as follows:

1. Reviewed: Final unrestricted release, work may proceed, provided it complies with contract documents.

2. Furnish as Corrected: Final but restricted release, work may proceed, provided written confirmation is delivered to Owner by Contractor that installed work complied with notations and corrections on submittal and with contract documents.

3. Revise and Resubmit: Returned for resubmittal, do not proceed with work. Revise submittal in accordance with notations thereon and resubmit without delay to obtain an acceptable action marking. Do not allow submittals with this marking (or unmarked submittals where a marking is required) to be used in connection with performance of the Work.

4. Rejected: Returned for resubmittal, do not proceed with work. Revise submittal in accordance with notations thereon and resubmit without delay to obtain an acceptable action marking. Do not allow submittals with this marking (or unmarked submittals where a marking is required) to be used in connection with performance of the Work.

C. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

D. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 014000
QUALITY AND TESTING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control including but not limited to the following:

1. General quality requirements.
2. Reports and documents.
3. Contractor’s responsibilities in regard to testing and inspections.
4. Inspector.
5. Testing Agency.
6. Governing agency testing and inspection requirements.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and control services required by Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Requirements:

1. Divisions 02 through 33 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Owner.

C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of 5 previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Owner for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Owner for a decision before proceeding.

1.5 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Reports shall be prepared by the person performing the testing and inspecting. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Factory-Authorized Service Representative's Reports: Provide written report documenting tests and inspections specified in other Sections. Reports shall be prepared by Factory-authorized service representative performing the testing and inspecting. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally licensed to practice in the state where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1. Testing Agency Responsibilities: Submit a written report of each test, inspection, and similar quality-assurance service to Owner, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.7 TESTING AGENCY

A. General: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to conduct tests and inspections required by authorities having jurisdiction. Testing agency shall be acceptable to Owner and the Owner.

1. Costs for testing agency services will be paid by the Owner.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be paid by the

Owner and the amount will be deducted from the Contract Sum by Change Order.

B. Testing Agency Responsibilities: Cooperate with Owner and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Perform testing as required by the Contract Documents.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Taking all test specimens.
4. Prepare written reports of tests and inspections, and submit reports of each test, inspection, and similar quality-control service to Owner and Contractor.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Notify Owner and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
7. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
8. Retesting and reinspecting corrected work.
9. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
10. Do not perform any duties of Contractor.

1.8 CONTRACTOR REQUIREMENTS

A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
7. Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested.

Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

a. Access to the Work.
b. Incidental labor and facilities necessary to facilitate tests and inspections.
c. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
d. Facilities for storage and field curing of test samples.
e. Preliminary design mix proposed for use for material mixes that require control by testing agency.
f. Security and protection for samples and for testing and inspecting equipment at Project site.

8. Coordinate sequence of activities to accommodate required quality-assurance and control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

a. Schedule times for tests, inspections, obtaining samples, and similar activities.

B. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."

C. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

1.9 TESTS AND INSPECTIONS

A. Tests and Inspections: The Governing Agency required tests and inspections shall be as indicated on the Drawings or as required by the authority having jurisdiction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.

3. Date test or inspection results were transmitted to Owner.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Owner's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, security and protection facilities, and fire safety during construction.

B. Related Requirements:

1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

A. General: Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Owner, Architect, testing agencies, and authorities having jurisdiction.

B. Water Service: Coordinate temporary construction use of water with the Owner.

C. Electric Power Service from Existing System for Construction Site: Electric power from Owner's existing system is available for use; provide connections and extensions of services as required for construction operations.

1.4 SUBMITTALS

A. Erosion and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 REGULATORY REQUIREMENTS

A. Regulatory Requirements: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:

1. California Code of Regulations, Title 24, California Code requirements as applicable and specifically the following:

    a. 2022 California Building Code, Chapter 11B, Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing. Accessibility requirements of CBC Chapter 11-B shall apply to permanent and temporary construction support facilities for uses and activities not directly associated with the actual processes of construction, including but not limited to offices, meeting rooms, plan rooms, and other administrative and support functions. Sanitary facilities serving support facilities shall be accessible and comply with CBC Section 11B-213 (Ref. CBC 11B-201.4).

    b. 2022 California Fire Code, Chapter 33, Fire Safety During Construction and Demolition.

2. Health and safety regulations.
3. Utility company regulations.
4. Police, fire department, and rescue squad rules.
5. Environmental protection regulations.
6. Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."

1.7 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere

with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts. Provide concrete or galvanized-steel bases for supporting posts.

B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

C. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

D. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY STORAGE FACILITIES

A. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from buildings.

2.3 TEMPORARY SANITARY FACILITIES

A. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use by construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities. Temporary toilets shall be self-contained, single-occupant units of the chemical, aerated recirculation type; provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material. Use of Owner’s toilet facilities is not permitted.

2.4 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities at locations directed by the Owner where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.
1. Existing Electric Power Service: Where Owner’s existing power service is available, connect temporary service to Owner's existing power source, as directed by Owner.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Locate storage containers, and other temporary construction and support facilities for easy access in the areas designated and approved by the Architect and Owner. Comply with the following:

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Provide temporary parking areas for construction personnel.

1. Where applicable, designated areas of Owner's existing parking may be used for construction personnel when indicated on Drawings.

D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.

E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Division 01 Section "Execution."

1. Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Dispose of material lawfully.

F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Division 01 Section "Summary."

C. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

D. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

E. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
2. All fencing shall be lockable and shall be locked nightly.

F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

G. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

H. General: Comply with the following:

1. 2022 California Fire Code, Chapter 33, Fire Safety During Construction and Demolition.
2. NFPA 241; manage fire-prevention program.

I. Smoking: Smoking shall not be allowed on the project site.

J. Waste Disposal: Combustible debris shall not be accumulated within buildings. Combustible debris, rubbish and waste material shall be removed from buildings at the end of each shift of work. Combustible debris, rubbish and waste material shall not be disposed of by burning on site.

K. Burning: Burning of materials shall not be allowed on the project site.

L. Spontaneous Combustion: Materials susceptible to spontaneous ignition such as oily rags shall be stored in a listed disposal container.

M. Storage and Use of Flammable and Combustible Liquids: Storage and use of flammable and combustible liquids shall be in accordance with the California Fire Code, Chapter 57 Flammable and Combustible Liquids.

1. Class I and Class II Liquids: Storage and use of flammable and combustible liquids at construction sites shall be in accordance with the California Fire Code, Section 5706.2. Ventilation shall be provided for operations involving the application of materials containing flammable solvents.
2. Housekeeping: Flammable and combustible liquid storage areas shall be maintained clear of combustible vegetation and waste materials. Such storage areas shall not be used for the storage of combustible materials.
3. Precautions Against Fire: Sources of ignition and smoking shall be prohibited in flammable and combustible liquid storage areas. Signs shall be posted in accordance the California Fire Code, Section 310.3.
4. Handling at Point of Final Use: Class I and Class II liquids shall be kept in approved safety containers.
5. Leakage and Spills: Leaking vessels shall be immediately repaired or taken out of service and spills shall be cleaned up and disposed of properly.

N. Storage, Use, and Handling Flammable Gases: Storage, use, and handling of flammable gasses shall comply with the California Fire Code, Chapter 58 Flammable Gases and Flammable Cryogenic Fluids.

O. Explosive Materials: Explosive materials shall not be allowed.

P. Fire Protection Program: The Contractor shall designate a person to be the Fire Prevention Program Superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project. The fire prevention program superintendent shall have the authority to enforce the provisions of the California Fire Code, Chapter 33 Fire Safety During Construction and Demolition, and other provisions as necessary to secure the intent of the California Fire Code, Chapter 33. Where guard service is provided, the superintendent shall be responsible for the guard service.

1. Training of responsible personnel in the use of fire protection equipment shall be the responsibility of the fire prevention program superintendent.
2. Fire Protection Devices: The fire prevention program superintendent shall determine that all fire protection equipment is maintained and serviced in accordance with the California Fire Code. The quantity and type of fire protection equipment shall be approved.
3. Hot Work Operations: The fire prevention program superintendent shall be responsible for supervising the permit system for hot work operations in accordance with the California Fire Code, Chapter 35 Welding and Other Hot Work.

Q. Fire Department Access: Approved vehicle access for firefighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.

R. Means of Egress: Required means of egress shall be maintained during construction, demolition, addition, or alterations to any building unless an approved temporary means of egress system is provided.

S. Portable Fire Extinguisher Locations: Portable fire extinguishers shall be provided in accordance with the California Fire Code, Section 906, sized for ordinary hazard, and be located as follows:
1. portable fire extinguishers shall be provided where special hazards exist including, but not limited to, the storage and use of flammable and combustible liquids.

T. Use of Internal Combustion Powered Equipment: Internal combustion powered construction equipment shall be used in accordance with all of the following conditions:

1. Equipment shall be located so that exhaust does not discharge against combustible material.
2. Exhaust shall be piped to the outside of the building.
3. Equipment shall not be refueled while in operation.
4. Fuel for equipment shall be stored in approved areas outside of the building.

END OF SECTION

SECTION 015116
FIRE SAFETY DURING CONSTRUCTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes minimum requirements for fire safety during construction.

B. Related Sections:

1. Division 01 Section "Temporary Facilities and Controls" for additional facilities, requirements, and procedures required during construction.

1.3 REGULATORY REQUIREMENTS

A. Regulatory Requirements: Comply with applicable provisions of the following:

1. NFPA 241.
2. California Fire Code, 2022 Edition, Chapter 33 “Fire Safety During Construction and Demolition” and the 2022 Editions of the following California Codes as Referenced by the California Fire Code:

a. California Building Code (CBC).

1.4 TEMPORARY FACILITIES

A. Temporary facilities shall be as specified in Division 01 Section “Temporary Facilities and Controls.”

1. Store combustible materials apart from buildings.

1.5 PRECAUTIONS AGAINST FIRE (CFC 3304)

A. Smoking: Smoking shall not be allowed on the project site.

B. Waste Disposal: Combustible debris shall not be accumulated within buildings. Combustible debris, rubbish and waste material shall be removed from buildings at the end of each shift of work. Combustible debris, rubbish and waste material shall not be disposed of by burning on site.

C. Spontaneous Ignition: Materials susceptible to spontaneous ignition such as oily rags shall be stored in a listed disposal container.

D. Fire Watch: When required by the fire code official for building demolition, or building construction during working hours that is hazardous in nature, qualified personnel shall be provided to serve as an on-site fire watch. Fire watch personnel shall be provided with at least one approved means for notification of the fire department and their sole duty shall be to perform constant patrols and watch for the occurrence of fire.

E. Cutting and Welding: Operations involving the use of torch cutting and welding shall be done in accordance with the California Fire Code, Chapter 35 “Welding and Other Hot Work.’

1.6 FLAMMABLE AND COMBUSTIBLE LIQUIDS (CFC 5704, 5705)

A. Storage of Flammable and Combustible Liquids: Storage of flammable and combustible liquids shall be in accordance with the California Fire Code, Section 5704.

B. Class I and Class II Liquids: Storage, use, and handling of flammable and combustible liquids at construction sites shall be in accordance with the California Fire Code, Section 5706.2. Ventilation shall be provided for operations involving the application of materials containing flammable solvents.

C. Housekeeping: Flammable and combustible liquid storage areas shall be maintained clear of combustible vegetation and waste materials. Such storage areas shall not be used for the storage of combustible materials.

D. Precautions Against Fire: Sources of ignition and smoking shall be prohibited in flammable and combustible liquid storage areas. Signs shall be posted in accordance the California Fire Code, Section 310.

E. Handling at Point of Final Use: Class I and Class II liquids shall be kept in approved safety containers.

F. Leakage and Spills: Leaking vessels shall be immediately repaired or taken out of service and spills shall be cleaned up and disposed of properly.

1.7 FLAMMABLE GASES

A. Storage and Handling of Flammable Gases: Storage and handling of flammable gasses shall comply with the California Fire Code, Chapter 58 “Flammable Gases and Flammable Cryogenic Fluids.”

1.8 EXPLOSIVE MATERIALS (CFC Chapter 56)

A. Explosive Materials: Explosive materials shall not be allowed.

1.9 OWNERS RESPONSIBILITY FOR FIRE PROTECTION (CFC 3308)

A. Program Superintendent: The Owner shall designate a person to be the Fire Prevention Program Superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project. The fire prevention program superintendent shall have the authority to enforce the provisions of the California Fire Code, Chapter 33, and other provisions as necessary to secure the intent of the California Fire Code, Chapter 33. Where guard service is provided, the superintendent shall be responsible for the guard service.

B. Prefire Plans: The fire prevention program superintendent shall develop and maintain an approved prefire plan in cooperation with the fire chief. The fire chief and the fire code official shall be notified of changes affecting the utilization of information contained in such prefire plans.

C. Training: Training of responsible personnel in the use of fire protection equipment shall be the responsibility of the fire prevention program superintendent.

D. Fire Protection Devices: The fire prevention program superintendent shall determine that all fire protection equipment is maintained and serviced in accordance with the California Fire Code. The quantity and type of fire protection equipment shall be approved.

E. Hot Work Operations: The fire prevention program superintendent shall be responsible for supervising the permit system for hot work operations in accordance with the California Fire Code, Chapter 35.

1.10 FIRE REPORTING (CFC 3309)

A. Emergency Telephone: Readily accessible emergency telephone facilities shall be provided in an approved location at the construction site. The street address of the construction site and the emergency telephone number of the fire department shall be posted adjacent to the telephone.

1.11 ACCESS FOR FIRE FIGHTING (CFC 3310)

A. Required Access: Approved vehicle access for firefighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.

B. Key Boxes: Key boxes shall be provided as required by the California Fire Code, Chapter 5 “Fire Service Features.”

1.12 MEANS OF EGRESS (CFC 3311)

A. Stairways Required: (Requirements not applicable to buildings less than 50 feet in height or less than four stories).

B. Means of Egress: Required means of egress shall be maintained during construction, demolition, addition, or alterations to any building unless an approved temporary means of egress system is provided.

1.13 WATER SUPPLY FOR FIRE PROTECTION (CFC 3312)

A. Water Supply for Fire Protection, Where Required: An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material arrives on site.

1.14 PORTABLE FIRE EXTINGUISHERS (CFC 3315)

A. Portable Fire Extinguishers, Where Required: Structures under construction, alteration or demolition shall be provided with not less than one approved portable fire extinguisher in accordance with the California Fire Code, Section 906 and sized for not less than ordinary hazard, at the following locations:

1. At each stairway on all floor levels where combustible materials have accumulated.
2. In every storage and construction shed.
3. Additional portable fire extinguishers shall be provided where special hazards exist including, but not limited to, the storage and use of flammable and combustible liquids.

1.15 MOTORIZED CONSTRUCTION EQUIPMENT (CFC 3316)

A. Conditions of Use: Internal combustion powered construction equipment shall be used in accordance with all of the following conditions:

1. Equipment shall be located so that exhausts do not discharge against combustible material.
2. Exhausts shall be piped to the outside of the building.
3. Equipment shall not be refueled while in operation.
4. Fuel for equipment shall be stored in approved areas outside of the building.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 017300
EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Installation of the Work.
3. Cutting, patching and repairing.
4. Protection of installed construction.
5. Correction of the Work.

B. Related Requirements:

1. Division 01 Section "Summary of Work" for limits on use of Project site.
2. Division 01 Section "Submittal Procedures" for submitting surveys.

C. Accessible Route: A continuous unobstructed path connecting accessible elements and spaces of an accessible site, building or facility that can be negotiated by a person with a disability using wheelchair, and that is also safe for and usable by persons with other disabilities. Interior accessible routes may include corridors, hallways, floors, ramps, elevators and lifts. Exterior accessible routes may include accessible parking stalls and access aisles, curb ramps, crosswalks at vehicular ways, walks, ramps and lifts.

D. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

E. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.3 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Visual Elements: Cut and patch construction in a manner that results in no visual evidence of cutting and patching. Do not cut and patch exposed construction in

a manner that would, in Owner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Owner for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

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

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Owner according to requirements in Division 01 Section "Request for Information."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Owner promptly.

B. building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Owner.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

3.5 CUTTING, PATCHING, AND REPAIRING

A. Cutting, Patching and Repairing, General: Employ skilled workers to perform cutting, patching, and/or repairing. Proceed with cutting, patching, and repairing at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Division 01 Section "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
5. Proceed with patching after construction operations requiring cutting are complete.

H. Patching and Repairing: Patch and repair construction by grinding, filling, leveling, refinishing, closing up, and similar operations following performance of other work. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION

SECTION 017419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:
   1. Recycling nonhazardous construction and demolition waste.
   2. Disposing of nonhazardous construction and demolition waste.

B. Related Requirements:

   1. Division 02 Section "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

A. General: Recycle and/or salvage for reuse a minimum of 50 percent non-hazardous construction and demolition waste in accordance with one of the following 2016 California Green Standards Code (GBSC) Sections:

1. Construction Waste Management Plan (GBSC Section 5.408.1.1): Provide Waste Management Plan that:

    a. Identifies the construction and demolition waste material to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
    b. Determines if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
    c. Identifies diversion facilities where construction and demolition waste material collected will be taken.
    d. Specifies the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

2. Waste Management Company (GBSC Section 5.408.1.2): Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section.
3. Waste Stream Reduction (GBSC Section 5.408.1.3): The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 50 percent minimum requirement as approved by the enforcing agency.

1.5 ACTION SUBMITTALS

A. Waste Management Procedures: Submit plan within 30 days of date established for the Notice to Proceed indicating method of compliance with the California Green Building Standards Code.

1.6 INFORMATIONAL SUBMITTALS

A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use separate forms for construction waste and demolition waste. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons.
4. Quantity of waste salvaged, both estimated and actual in tons.
5. Quantity of waste recycled, both estimated and actual in tons.
6. Total quantity of waste recovered (salvaged plus recycled) in tons.
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

G. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

3.1 IMPLEMENTATION

A. General: Implement approved waste management procedures. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management procedures during the entire duration of the Contract.

1. Comply with operation, termination, and removal requirements in Division 01 Section "Temporary Facilities and Controls."

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Distribute waste management procedures to everyone concerned within three days of submittal return.
2. Distribute waste management procedures to entities when they first begin work on-site. Review procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Receivers and Processors: Refer to local county websites for the county in which the Project is located for listings of available recycling receivers and processors, and materials accepted.

C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

3.3 DISPOSAL OF WASTE

A. General: Remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION

SECTION 017823
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance documentation, including the following:

1. Operation and maintenance documentation directory.
2. Product maintenance data.

B. Related Sections:

1. Division 01 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Divisions 02 through 33 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 SUBMITTALS

A. Content: Operations and maintenance documentation content is specified in individual Specification Sections and is to be reviewed at the time of Section submittals. Submit reviewed documentation formatted and organized as required by this Section.

1. Owner will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed content to correspond to revisions and field conditions.

B. Format: Submit documentation in the following format:

1. PDF electronic file. Assemble documentation into a composite electronically indexed file; submit two (2) copies on compact disc (CD) media for each submittal.

a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked directory to data documents.
b. Enable inserted reviewer comments on initial submittals.
c. Label CD’s and case/cover as follows:

1) First Line: CLOSE-OUT DOCUMENTS.
2) Project name and date.
3) Owner company name.
4) Contractor company name.

2. Initial Submittal: Submit initial submittal at least 30 days before commencing demonstration and training. Owner will comment on whether general scope and content is acceptable.

3. Final Submittal: Submit in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training.

a. Correct or modify each manual to comply with Owner's comments. Submit copies of each corrected manual within 15 days of receipt of Owner's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION, GENERAL

A. Electronic Files: Develop documentation in the form of a multiple file composite electronic PDF file stored on a compact disc (CD) for each data type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

2.2 OPERATION AND MAINTENANCE DATA DIRECTORY

A. Directory: Prepare a single, comprehensive directory of operation and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. List of Products.
5. Table of contents.

B. List of Systems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. Tables of Contents: Include a table of contents for each operation and maintenance documentation section.

D. Identification: In the documentation directory and in each section, identify each piece of equipment with same designation used in the Contract Documents. If no designation exists, assign an appropriate designation.

2.3 REQUIREMENTS FOR OPERATION AND MAINTENANCE DATA

A. Organization: Unless otherwise indicated, organize data into a separate section for each system and a separate section for each piece of equipment not part of a system. Documentation shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Data contents.

B. Title Page: Include the following information as applicable:

1. Subject matter.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Owner company name.
6. Contractor company name.
7. Installer company name.
8. Cross-reference to related systems in other operation and maintenance documentation.

C. Table of Contents: List each item (Product, equipment or system) included in documentation, identify by name and/or equipment reference, and cross-reference to Specification Section number in Project Manual.

D. Data Content: Arrange content alphabetically by designation. If possible, assemble instructions for subsystems, equipment, and components of one system into a single section.

2.4 SYSTEMS AND EQUIPMENT MAINTENANCE DOCUMENTATION

A. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Precautions against improper maintenance.

B. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.

C. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

D. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.5 PRODUCT MAINTENANCE DATA

A. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

B. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

C. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 DOCUMENTATION PREPARATION

A. Manufacturers' Data: Where documentation contains manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

B. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of operation and maintenance documentation.
2. Comply with requirements of newly prepared Record Drawings in Division 01 Section "Project Record Documents."

C. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION

SECTION 017836
WARRANTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers' standard warranties on products and special warranties.

B. Related Sections include but are not limited to the following:

1. Division 01 Section "Operation and Maintenance Data."
2. Division 02 through 33 Sections for specific warranty requirements.

1.3 DEFINITIONS

A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

B. Special project warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.4 WARRANTY REQUIREMENTS

A. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

B. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.

C. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement.

The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

D. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

E. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.

1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

F. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

C. Warranties: Submit (2) copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
2. Include copy of each warranty in operation and maintenance documentation.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 024119
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Demolition and removal of selected site elements.

B. Related Sections include the following:

1. Division 01 Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for selective demolition operations.
2. Division 01 Section "Execution" for cutting and patching procedures.
3. Division 01 Section “Construction Waste Management and Disposal” for salvaging, recycling, and disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be salvaged or reinstalled.

B. Remove and Salvage to Owner: Detach item from existing construction in a manner to prevent damage and deliver to Owner ready for reuse.

C. Remove and Salvage for Reinstallation: Detach item from existing construction in a manner to prevent damage, prepare for reuse, and securely store item until it is to be reinstalled at locations indicated.

D. Existing to Remain: Existing items or improvements that are to remain and not be removed. Existing items to remain shall be protected from damage during the course of construction.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 SUBMITTALS

A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for physical damage, for dust control, and for noise control. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI A10.6 and NFPA 241.

1.7 PROJECT CONDITIONS

A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

B. Review the following for project conditions.

C. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

D. Notify Owner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

E. Utility Services: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

1. If unanticipated mechanical, electrical, or structural elements are encountered and found to be in conflict with intended function or design, investigate and measure the nature and extent of conflict. Promptly submit a written report to Owner.

B. Inventory and record the condition of items to be removed and salvaged or removed and reinstalled. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.

3.2 PREPARATION AND PROTECTION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Division 01 Section "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.

C. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
4. Dispose of demolished items and materials promptly.

B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

1. Items removed, salvaged, and reinstalled for the Contractor’s convenience shall be considered the same as items to be removed and salvaged for reinstallation.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete Slabs-on-Grade: Using power-driven saw, cut perimeter of area to be demolished, then break up and remove.

1. Where possible or feasible, cut concrete at existing joints.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. Recycle or dispose demolition waste materials according to Division 01 Section "Construction Waste Management and Disposal." Remove demolition waste materials from Project site and legally dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in accordance with local regulations and in a manner that will prevent spillage on adjacent surfaces and areas.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

SECTION 033000
CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1. Footings.
2. Slabs-on-grade.

B. Related Sections:

1. Division 01 Section “Quality and Testing Requirements” for administrative and procedural requirements for quality assurance including independent testing requirements.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

1. Shop drawings shall be in accordance with ACI SP-66 or CRSI “Manual of Standard Practice.”

2. Mill certificates: Steel producer's certificates of mill analysis, tensile, and bend tests for reinforcing steel. Submit certificates accompanying the Shop Drawings.

D. Construction Joint Layout Shop Drawings: Show locations of proposed construction and control joints other than, or in addition to, those as indicated on the drawings. Location of joints is subject to approval of the Owner.

E. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Form materials and form-release agents.
4. Steel reinforcement and accessories.
5. Curing compounds.
6. Floor and slab treatments.
7. Adhesives.
8. Semirigid joint filler.
9. Joint-filler strips.
10. Repair materials.

F. Material Test Reports: For aggregates, from a qualified testing agency, indicating compliance with requirements:

G. Mill certificates: Steel producer's certificates of mill analysis, tensile, and bend tests for reinforcing steel. Submit certificates accompanying the Shop Drawings.

H. Steel Reinforcement Record Drawings: Shop drawings shall be corrected to reflect actual field changes and shall be submitted to the Owner.

I. Delivery Tags: Delivery tags for all concrete.

J. Batch Plant Inspection Waiver: When batch plant inspection waiver is requested, evidence of compliance shall be submitted to, and approved by, the Governing Agency; refer to requirements in Part 3 Article “Field Quality Control.”

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs on Project personnel who shall be thoroughly familiar with the specified requirements, completely trained and experienced in the necessary skills required for work performed under this Section. In actual installation of the work of this Section, use adequate numbers of skilled workmen to insure installation in strict accordance with the contract documents design.

B. Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

C. Testing Agency: An independent agency retained by the Owner, acceptable to the Owner, and qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

1. Identification: Bundle and tag reinforcing steel with grades and suitable identification marks for checking, sorting and placing. Use waterproof tags and markings and do not remove until steel is in place.

1.7 COORDINATION

A. Slab Finishes: Coordinate slab finish requirements with trades installing or applying floor finishes or treatments over slabs. Finishes shall include but not be limited to concrete sealing, ceramic tile, resinous/fluid applied floor systems, adhered resilient floor systems, and adhered carpet.

PART 2 - PRODUCTS

2.1 FORM MATERIALS

A. Earth Forms: Use for sides of footings only where soil is firm and stable and concrete will not be exposed. Where earth forms are used, cut excavations neat and accurate to size for placing concrete directly against the excavation.

B. Rough-Formed Finished Concrete: Use for formed concrete that will not be exposed in the finished work, fabricate forms of plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

C. Smooth-Formed Finished Concrete: Use for formed concrete that will be exposed in the finished work, fabricate forms of form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

1. Plywood, metal, or other approved panel materials.

D. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.Delete paragraph below if no cylindrical columns on the project.

E. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

B. Plain-Steel Wire: ASTM A 82/A 82M, as drawn.

C. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.

D. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.

E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. Slabs on Grade and Foundations: Use precast concrete blocks, plastic-coated steel with bearing plates or specifically designed wire-fabric supports fabricated of plastic. Precast blocks shall be not less than 3 inches by 3 inches square and shall have a compressive strength equal to or greater than the strength of the surrounding concrete.
2. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

F. Fabricating Reinforcement: Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice" or ACI SP-66 and the details shown on the Drawings.

1. In the case of fabricating errors, do not rebend or straighten reinforcement in a manner that will damage or weaken the material.
2. Bends shall be made cold using pin sizes as recommended ACI 318 as modified by T24, CCR, Part 2.
3. Unacceptable Work: Reinforcement with any of the following defects will not be permitted:

    a. Bar lengths, depths, and bends exceeding specified fabrication tolerance.
    b. Bends or kinks not indicated on the project Drawings or the final Shop Drawings.
    c. Bars with reduced cross-section due to excessive rusting or other cause.

2.3 CONCRETE MATERIALS

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

1. Portland Cement: ASTM C 150, Type II, gray.

    a. ASTM C 150, Type V where concrete will be in contact with corrosive soils or mixed with aggregates containing reactive substances. Low alkali cement

shall contain not more than 0.6 percent total alkali when calculated as sodium oxide as determined by the method given in ASTM C114.

b. Fly Ash: ASTM C 618, Class F. The use of a quality fly ash will be permitted as a cement-reducing admixture.

B. Normal-Weight Aggregates: ASTM C 33, Class 3M coarse aggregate or better, graded. Provide aggregates from a single source.

1. Where concrete expansion from alkali silica or alkali carbonate reactions is anticipated, provide aggregate with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
2. Fine and coarse aggregates shall be regarded as separate ingredients. Each size of coarse aggregate, as well as the combination of sizes when two or more are used, shall conform to the grading requirements of ASTM C33.
3. Coarse aggregate: Coarse aggregate shall consist of a clean, hard, fine grained, sound crushed rock, or washed gravel or a combination of both. It shall be free from oil, organic matter, or other deleterious substances. Aggregate shall be uniformly graded from one-quarter inch size to maximum size.
4. The maximum size of aggregates used in the project shall be consistent with the dimensions and form of the section being placed, the location and spacing of the reinforcing bars, and with the method of compaction, and shall be such as will produce dense and uniform concrete free from rock pockets, honey-comb and other irregularities. The nominal maximum size of the aggregate shall not be more than one-fifth the narrowest dimension between forms, one-third the depth of slabs nor three-fourths the minimum clear spacing between reinforcing bars.
5. Combined Grading: The combined grading shall be such that the percentage by weight of the combined aggregates shall fall within the limits established as follows:

Sieve number or size in inches (maximum)	Percentage by Weight		
	1-1/2”	1”	3/4”
Passing a 2 inch	---	---	---
Passing a 1-1/2 inch	95-100	---	---
Passing a 1 inch	70-90	90-100	---
Passing a 3/4 inch	50-80	70-95	90-100
Passing a 3/8 inch	40-60	45-70	55-75
Passing a No. 4	35-55	35-55	40-60
Passing a No. 8	25-40	27-45	30-46
Passing a No. 16	16-34	20-38	23-40
Passing a No. 30	12-25	12-27	13-28
Passing a No. 50	2-12	5-15	5-15
Passing a No. 100	0-3	0-5	0-5

6. Special grading or size limitations: When reviewed and approved by the Owner, other gradings or maximum size limitations may be used if mixes are designed

and tested in accordance with the concrete mixture specified in the “Concrete Mixtures” Article.

7. Soundness of Aggregates: Both the coarse and fine aggregate shall be tested by the use of a solution of sodium or magnesium sulfate, or both, whenever in the judgment of the Owner, such tests are necessary to determine the quality of the material. Such tests shall be performed in accordance with ASTM C88 and the results shall show compliance with the limits set forth in ASTM C33.
8. Reactivity: Aggregates shall be free from any substance which may be deleteriously reactive with the alkalies in the cement in an amount sufficient to cause excessive expansion of the concrete or which will interfere with normal hydration of the cement. Acceptability of the aggregate shall be based upon satisfactory evidence that the aggregate is free from such materials.
9. Aggregates shall be tested, when required by the Owner prior to the concrete mix being established, in accordance with the following specifications:

Test	Specification
Abrasion	ASTM C131 and C535
Gradation	ASTM C136
Alkali Reactivity	ASTM C289 and C227
Organic Impurities	ASTM C40
Clay Lumps	ASTM C142

10. Maximum Coarse-Aggregate Size: Nominal size as indicated on Drawings.
11. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M and potable.

2.4 ADMIXTURES

A. Admixtures shall be reviewed and approved by the Owner.

B. Calcium chloride, thiocyanates or admixtures containing more than 0.05% chloride ions are not permitted.

C. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Certification of requirements and chloride ion content is required from the admixture manufacturer prior to mix design review.

1. Air-entraining Admixture: ASTM C260.

   a. Available Products: Subject to compliance with requirements, provide one of the following products:

      1) Euclid Chemical Company (The); Air Mix.
      2) BASF/Master Builders, Inc.; Micro-Air.
      3) Sika Corporation; Sika AER.

2. Water-reducing Admixtures: ASTM C494 Type A.

a. Available Products: Subject to compliance with requirements, provide one of the following products:

1) Euclid Chemical Company (The); Eucon WR-75.
2) BASF/Master Builders Inc.; Pozzolith 220N.
3) Sika Corporation; Plastocrete 161.

3. Water-reducing, Retarding Admixtures: ASTM C494 Type D.

a. Available Products: Subject to compliance with requirements, provide one of the following products:

1) Euclid Chemical Company (The); Eucon Retarder-75.
2) BASF/Master Builders Inc.; Pozzolith 300 R.
3) Sika Corporation; Plastiment.

4. High Range Water-Reducing Admixture (HRWR): ASTM C494 type F or G.

a. Available Products: Subject to compliance with requirements, provide one of the following products:

1) Euclid Chemical Company (The); Eucon 37.
2) BASF/Master Builders Inc.; Rheobuild 1000.
3) Sika Corporation; Sikament 300.

b. When more than 30 minutes is required between the addition of admixtures to final placement of the concrete, a combination of water-reducing, set controlling admixtures (ASTM C494, Types A, D and E) may be used.

5. Non-Corrosive, Non-Chloride Accelerator: ASTM C494 Type C or E.

a. Available Products: Subject to compliance with requirements, provide one of the following products:

1) Euclid Chemical Company (The); Accelguard 80.
2) BASF/Master Builders Inc.; Pozzutec 20+.
3) Sika Corporation, Plastocrete 161FL.

b. The admixture manufacturer shall have long-term (more than one year duration) non-corrosive test data on metal deck and reinforcing steel from an independent testing laboratory using an acceptable accelerated corrosion test method such as using electrical potential measures.

2.5 CURING AND SEALING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

1. Products: Subject to compliance with requirements, provide one of the following:

a. BASF Construction Chemicals - Building Systems; Confilm.

b. ChemMasters; SprayFilm.
c. Conspec by Dayton Superior; Aquafilm.
d. Dayton Superior Corporation; Sure Film (J-74).
e. Edoco by Dayton Superior; BurkeFilm.
f. Euclid Chemical Company (The), an RPM company; Eucobar.
g. Lambert Corporation; LAMBCO Skin.
h. L&M Construction Chemicals, Inc.; E-CON.
i. Meadows, W. R., Inc.; EVAPRE.
j. Sika Corporation; SikaFilm.
k. Symons by Dayton Superior; Finishing Aid.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

C. Moisture-Retaining Cover: ASTM C 171, clear or white polyethylene film, 6 mil minimum thickness, or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

1. Products: Subject to compliance with requirements, provide one of the following:

a. BASF Construction Chemicals - Building Systems; Kure 200.
b. ChemMasters; Safe-Cure Clear.
c. Conspec by Dayton Superior; W.B. Resin Cure.
d. Dayton Superior Corporation; Day-Chem Rez Cure (J-11-W).
e. Edoco by Dayton Superior; Res X Cure WB.
f. Euclid Chemical Company (The), an RPM company; Kurez W VOX; TAMMSCURE WB 30C.
g. L&M Construction Chemicals, Inc.; L&M Cure R.
h. Meadows, W. R., Inc.; 1100-CLEAR.
i. Symons by Dayton Superior; Resi-Chem Clear.

2. Curing compounds are subject to removal after curing period has elapsed; refer to Part 3 Article “Concrete Protecting and Curing.”

F. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

1. Products: Subject to compliance with requirements, provide one of the following:

a. BASF Construction Chemicals - Building Systems; Kure 1315.
b. ChemMasters; Polyseal WB.
c. Conspec by Dayton Superior; Sealcure 1315 WB.
d. Edoco by Dayton Superior; Cureseal 1315 WB.
e. Euclid Chemical Company (The), an RPM company; Super Diamond Clear VOX; LusterSeal WB 300.
f. Meadows, W. R., Inc.; Vocomp-30.
g. Symons by Dayton Superior; Cure & Seal 31 Percent E.

2. VOC Content: Curing and sealing compounds shall have a VOC content of 200 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.6 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 per ASTM D 2240.

C. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements.

2.7 REPAIR MATERIALS

A. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109/C 109M.

2.8 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301, ACI 318, Chapter 26, and Chapter 19 of the California Building Code.

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

    a. The testing agency used for preparing mixture designs shall be different from the testing agency retained by the Owner for testing concrete strength and materials.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash: 15 percent.

C. Limit water-soluble, chloride-ion content in hardened concrete to the following percentages by weight of cement.
1. Reinforced concrete exposed to chloride in service: 0.15 percent.
2. Reinforced concrete that will be dry or protected from moisture in service: 1.00 percent.
3. Other reinforced concrete: 0.30 percent.

D. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.

2.9 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Proportion normal-weight concrete mixture as indicated below for strength, slump, water/cement ratio, and maximum aggregate size.

1. Slabs-on-Grade:

a. Strength: 3000 psi at 28 days.
b. Aggregate Size: 3/4 inch maximum.
c. Slump: 4 inches.
d. Water Cement Ratio: 0.45 Maximum.

2. Footings:

a. Strength: 3000 psi at 28 days.
b. Aggregate Size: 1-1/2 inches maximum.
c. Slump: 4 inches.
d. Water Cement Ratio: 0.53 Maximum.

2.10 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

B. Project-Site Mixing: Project site mixing of structural concrete will not be permitted. Project site mixing of concrete for other purposes may be permitted only when reviewed and approved by the Owner. When allowed, measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M and ACI 318. Mix

concrete materials in appropriate drum-type batch machine mixer, the capacity of the mixer shall be such that it will handle one or more full sack batches.

C. Control of Admixtures:

1. Admixtures shall be charged into the mixer as solutions and shall be measured by means of an approved mechanical dispensing device. The liquid shall be considered a part of the mixing water. Admixtures that cannot be added in solution may be weighed or may be measured by volume if so recommended by the manufacturer.
2. If two or more admixtures are used in the concrete, they shall be added separately to avoid possible interaction that might interfere with the efficiency of either admixture or adversely affect the concrete.
3. Addition of retarding admixtures shall be completed within 1 minute after addition of water to the cement has been completed, or prior to the beginning of the last three-quarters of the required mixing, whichever occurs first.
4. Admixtures shall be used in accordance with the manufacturer's instructions.

D. Concrete shall be mixed only in quantities for immediate use. Concrete which has set shall not be retempered, but shall be discarded.

E. When concrete arrives at the project with slump below that suitable for placing, as indicated by the specifications, water may be added only if neither the maximum permissible water-cement ratio nor the maximum slump is exceeded. The water shall be incorporated by additional mixing equal to at least half of the total mixing required. An addition of water shall be accompanied by a quantity of cement sufficient to maintain the proper water-cement ratio. Such addition shall be reviewed by the Owner.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

1. Where earth is used for forming sides of footings, increase the width of footings by 1 inch on each side of the footing.

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

1. Class A, 1/8 inch for smooth-formed finished surfaces.
2. Class B, 1/4 inch for rough-formed finished surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

1. Install keyways, recesses, and the like, for easy removal.
2. Do not use rust-stained steel form-facing material.

F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

H. Chamfer exterior corners and edges of permanently exposed concrete.

I. Form openings, chases, offsets, sinkages, keyways, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.3 STEEL REINFORCEMENT

A. Quality Control: Reinforcement steel and placement shall be subject to inspection and testing per Part 3 Article “Field Quality Control.”

B. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

C. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

D. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.4 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Owner.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
2. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.

    a. Use only grooved joints for concrete surfaces that will be permanently exposed to view.

2. shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

    a. Sawn joints shall not be used for concrete surfaces that will be permanently exposed to view.

D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Division 07 Section "Joint Sealants," are indicated.
3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.5 CONVEYING

A. Concrete shall be handled from the mixer to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of ingredients and in a manner which will assure that the required quality of the concrete is maintained.

B. Conveying equipment shall be of a size and design such that detectable setting of concrete shall not occur before adjacent concrete is placed. Conveying equipment shall be cleaned at the end of each operation or work day. Conveying equipment and operations shall conform to the following additional requirements:

1. Truck mixers, agitators and non-agitating units and their manner of operation shall conform to the applicable requirements of ASTM C94.
2. Belt conveyors shall be horizontal or at a slope which will not cause excessive segregation or loss of ingredients. Concrete shall be protected against undue drying or rise in temperature. A suitable device shall be used at the discharge end to prevent apparent segregation. Mortar shall not be allowed to adhere to the return length of the belt. Long runs shall be discharged into a hopper or through a baffle.
3. Do not use reinforcement or reinforcement supports to support runways for concrete conveying equipment.

C. Chutes shall be metal or metal-lined and shall have a slope not exceeding 1 vertical to 2 horizontal and not less than 1 vertical to 3 horizontal. Chutes more than 20 feet long and chutes not meeting the slope requirements may be used provided they discharge into a hopper before distribution.

D. Pumping or pneumatic conveying equipment shall be of suitable kind with adequate pumping capacity. Pneumatic placement shall be controlled so that segregation is not apparent in the discharged concrete. The loss of slump in pumping or pneumatic conveying equipment shall not exceed 2 inches. Concrete shall not be conveyed through pipe made of aluminum or aluminum alloy. When the concrete is placed into final position by means of pumping, the pumping method for placing concrete shall be reviewed and approved by the Owner at least one week prior to placing the concrete.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

1. Reposition any misaligned reinforcement.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Owner.

C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

F. Hot-Weather Placement: Comply with ACI 305 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.7 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not permanently exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces permanently exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.8 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Owner. Remove and replace concrete that cannot be repaired and patched to Owner's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete.

a. Limit cut depth to 3/4 inch.
b. Make edges of cuts perpendicular to concrete surface.
c. Perimeters of cut areas shall be square or rectangular in shape with cuts vertical and horizontal.
d. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried.
e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Owner.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Owner's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Owner's approval.

3.9 FIELD QUALITY CONTROL

A. Testing and Inspecting Agency: Owner will engage and pay for a qualified independent testing and inspecting agency to perform tests and inspections as applicable and prepare reports.

1. Testing and Inspection Agency shall be acceptable to the Owner.

B. The Owner shall have the right to order the testing of any materials used in the concrete construction to determine if they are of the quality specified.

C. Contractor Responsibilities:

1. The Contractor shall maintain control of the quality of materials and workmanship in order to conform with the drawings and specifications.
2. To facilitate testing and inspection, the Contractor shall:

    a. Schedule tests and inspections with the Testing and Inspection Agency sufficiently in advance of operations to allow for the assignment of personnel and for the completion of testing and inspecting responsibilities.
    b. Provide access to the Work for the designated Testing and Inspection Agency.
    c. Furnish all necessary materials and labor to assist the designated Testing and Inspection Agency in obtaining and handling samples at the project or other sources of materials.
    d. Provide and maintain for the sole use of the Testing and Inspection Agency adequate facilities for safe storage and proper curing of concrete test specimens on the project site for the first 24 hr. as required by ASTM C31.

3. The Contractor shall correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

D. Testing and Inspection Services:

1. Testing and inspections shall be performed by the designated Testing and Inspection Agency.

    a. Inspection of steel reinforcement.
    b. Inspection of headed bolts and studs prior and during concrete placement.
    c. Verification of use of required design mixture.
    d. Sampling of concrete for strength tests, slump, air content, and temperature of concrete at time of placement.
    e. Inspection of concrete placement, including conveying and depositing.
    f. Inspection of curing procedures and maintenance of curing temperature.
    g. Verification of concrete strength before removal of shores and forms from beams and slabs.
    h. Inspection of formwork.

E. Sampling and Testing of Steel Reinforcement:

1. Samples of reinforcing steel shall be taken by a designated approved testing agency at place of distribution prior to shipment or at project site.
2. Where samples are taken from bundles as delivered from the mill, with the bundles identified as to heat number and provided the mill analyses accompany the report, one tensile test and one bend test shall be made from a specimen from each 10 tons or fraction thereof of each size of reinforcing steel.

    a. Where positive identification of the heat number cannot be made or where random samples are to be taken, one series of tests shall be made from each 2-1/2 tons or fraction thereof of each size of reinforcing steel.

3. Each sample shall consist of no fewer than two pieces, each 18 inches long, of each size and grade or reinforcing steel.

F. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture but not less than one sample for each 50 cu. yd. or fraction thereof and one sample for each 2,000 square feet of slab area.

    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M.

    a. Cast and laboratory cure four standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at 7 days for information and two cured specimens at 28 days for strength acceptance, the fourth specimen shall be held in reserve in case additional testing in necessary.

    a. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

7. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified

compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

8. Test results shall be reported in writing to Owner, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7 and 28-day tests.
9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Owner but will not be used as sole basis for approval or rejection of concrete.
10. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Owner. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Owner.
11. Additional testing and inspecting will be performed to determine compliance of replaced or additional work with specified requirements.

    a. The cost of additional testing and inspection of replaced work will be paid for by the Owner with the amount being deducted from the Contract Amount by a Change Order.

END OF SECTION

SECTION 133123
TENSIONED FABRIC SHADE STRUCTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Tensioned Fabric Shade Structure.

B. Related Sections include the following:
1. Division 01 Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for selective demolition operations.
2. Division 01 Section "Execution" for cutting and patching procedures.
3. Division 01 Section “Construction Waste Management and Disposal” for salvaging, recycling, and disposing of nonhazardous demolition and construction waste.
4. Division 02, Section “Selective Demolition” for removal and repair of existing concrete.
5. Division 03, Section “Concrete” for structural footings.

1.3 REFERENCES

A. California Code of Regulations, Title 24, Part 2, California Building Code, 2022 Edition.

B. American Institute of Steel Construction (AISC) Publications:
1. ANSI/AISC 303-16, Code of Standard Practice for Steel Buildings and Bridges.
2. ANSI/AISC 341-16, Seismic Provisions for Structural Steel Buildings.
3. ANSI/AISC 360-16, Specification for Structural Steel Buildings.
4. Quality Criteria and Inspection Standards, latest Edition.
5. Manual of Steel Construction, 15th Edition.

C. American Welding Society (AWS):
1. D1.1-15 Structural Welding Code - Steel.
2. D1.8-16 Structural Welding Code – Seismic Supplement.

D. Steel Structures Painting Council (SSPC):
1. Steel Structures Painting Manual, Vol. 2, Systems and Specifications, latest edition.

1.4 SUBMITTALS

A. Submit to the Authority having Jurisdiction complete construction documents and structural calculations for the structures to be installed.

B. Shop Drawings: For the following metal building system framing components. Include plans, elevations, sections, details, and attachments to other work.
   1. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
   2. Fabric Shade systems and connections.
   3. Accessories: Cable, connectors and other components of the shade system.

C. Warranties: Sample of special warranties.
   1. Warrantee period
      a. 20 years structural steel components
      b. 10 years Shade Fabric

1.5 QUALITY ASSURANCE

A. Single-vendor contractual responsibility for all phases of the design-manufacturing-build process (i.e. design, engineering, fabrication, shipping, unloading, footing construction, structure erection, & warranty servicing).
   1. Design & Engineering
      a. To current, local California building code by Professional Structural Engineer licensed in California.
      b. PE designed & engineered hundreds of commercial, cable-tensioned fabric structures.
      c. Wind design speed: 110+ MPH 3-second wind gusts with fabrics attached (or higher per code).

B. In-Plant Fabrication
   1. 10+ years' experience exclusively manufacturing tensioned fabric shade structures.
   2. All welding performed by certified welders in a certified fabrication facility.
   3. To ensure fit & finish, fabricator does both steel work and sews shade sails.
   4. All materials shall be free of sharp edges, corners, & extremely rough surfaces.
   5. All materials shall be new and conform to all specifications as herein stated.

C. Construction
   1. 10+ years dedicated experience constructing cable-tensioned fabric shade structures.
   2. Licensed California contractor with B License.
   3. Department of Industrial Relations registration
   4. Building permit will always be obtained when required.

1.6 PROJECT CONDITIONS

A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

B. Review the following for project conditions.

C. Owner will occupy portions of the site immediately adjacent to the work area. Conduct construction activities so Owner's operations will not be disrupted.

D. Storage of construction materials on-site to be coordinated with the Owner.

PART 2 - PRODUCTS

2.1 Materials:

A. Fabric:
   1. High density polyethylene (HDPE) fabric or approved equal.
      a. Weighs 9.6 ounces per square yard for durability (ASTM 3776)
      b. Fabric strength: Monofilament & tape construction
      c. Tensile Strength (ASTM D 5034) Warp: 278 lbf/ft.; Weft: 340 lbf/ft.
      d. Tear Strength (ASTM D 2261) Warp: 33lb; Weft: 36 lb
      e. Elongation at Break: (ASTM D 4595-87) Warp: 71%; Weft: 74%
      f. Burst Strength (ASTM 3787 Ball) 363 lb
      g. Burst Strength (ASTM 3786 Mullen) 460 psi
      h. UV stabilized for protection
      i. UVR% blocked: 93-98% (color dependent) UV Protection Factor: 13-33 (color dependent)
      j. Shade Factor (visual light): 79-98% (color dependent)
      k. Abilityto maintain shape under tension and minimize sag
      l. Woven to prevent unraveling if cut
      m. Temperature stability: -13 to 176 degrees F
      n. 10 year warranty

B. Fire Resistance
   1. California State Fire Marshal Approved
   2. NFPA 701-99 (Test Method 2)
   3. ASTM E-84

C. Thread:
   1. Shall be high density; high strength and low shrinkage.
   2. Shall be abrasion resistant and immune to UV radiation.
   3. Shall be unaffected by cleaning agents, acid rain, mildew, rot, chlorine, saltwater, and industrial pollution.

D. Structural Steel
   1. All fabricated steel shall conform to approved shop drawings and calculations.
   2. Pipe columns shall be ASTM A-53 Type E. Square columns shall be HSS ASTM A500 Grade B (Fy=46 ksi). Steel plate shall be ASTM A36.

3. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.
4. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
    a. Weight Class: Standard unless otherwise indicated on Drawings.
    b. Finish: Black except where indicated to be galvanized.

E. Tensioning Cable and Hardware
1. 7x19 steel cable shall conform to ASTM A-603. It shall not be field-cut.
2. Cable diameter determined by calculated engineering load
3. ¼" diameter for small-to-medium loads; 3/8" diameter for heavy loads
4. Cable, cable connectors & turnbuckles shall be hot dipped galvanized or T316 stainless steel
5. with Fy = 30,000 psi minimum.
6. D-shackles shall be T316 stainless steel with Fy=30,000 psi minimum.

F. Anchor Bolts
1. Anchor bolts set in new concrete shall be A36 threaded rod, ASTM A-325, or A-307.
2. All anchor bolts, nuts, & washers shall be hot dipped galvanized.

G. Concrete Reinforcement
1. All reinforcement shall conform to ASTM A-615 grade 60.
2. All reinforcing steel shall conform to approved shop drawings and calculations.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

1. If unanticipated plumbing, electrical, or structural elements are encountered and found to be in conflict with intended function or design, investigate and measure the nature and extent of conflict. Promptly submit a written report to Owner.

3.2 PREPARATION AND PROTECTION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Division 01 Section "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

C. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

3.3 SEWING AND FABRIC PREPARATION

A. On-site sewing of fabric will not be accepted.

B. Corners shall be reinforced with extra non-tear material & strap

C. Perimeters containing cables shall be double row lock stitched.

3.4 FOOTING CONSTRUCTION

A. Footings shall conform to approved engineering specifications.

B. Reinforcement fabricated & placed per ACI Detailing Manual & Manual of Standard Practice.

C. Concrete work shall conform to latest edition of American Concrete Building Code ACI 318.

D. Concrete specifications shall conform to approved engineering specifications.

E. 28 Days Strength F'c = 3000 psi or 2500 psi per engineering specifications.

F. Contractor shall not pour concrete when daily ambient temperature is below 55 degrees F.

3.5 STRUCTURE ERECTION

A. Erect structures & hardware in compliance with fabricators' instructions.

B. Securely fasten all parts to be attached.

C. Ensure all parts interact freely & smoothly without binding.

D. Install shade structure in a timely manner & coordinate with the work of other trades.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

APPENDIX NO. 1

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September 24, 2018 Project No. 18G-0445-0

Mr. Steven Bogan, Chairman
Burris Park Foundation
c/o Teter AE
7535 North Palm Avenue, Suite #201
Fresno, California 93711

Subject: Geotechnical Investigation Report
Burris Park New Amphitheater and Greenhouse
6500 Burris Park Drive
Kings County, California 93631

Dear Mr. Bogan:

In accordance with your request, we have performed a geotechnical investigation for the subject project. This work was performed in accordance with Section 1803 of the 2016 California Building Code. The results of our geotechnical investigation are presented in the accompanying report, which includes a description of site conditions and potential geotechnical hazards, results of our field exploration and laboratory testing, conclusions, and recommendations.

We appreciate this opportunity to be of continued service to you. If you have any questions regarding this report, please do not hesitate to contact us at your convenience.

Respectfully submitted,

RMA GeoScience, Inc.

Megan J. Stewart
Staff Geologist

George P. Hattrup, PE|GE
Principal Geotechnical Engineer

Distribution: Addressee (One Original and a pdf copy to burrispark@kingscoe.net)
Mr. Loren Aiton, Teter AE (3 Originals and a pdf copy to loren.aiton@teterae.com)

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GEOTECHNICAL INVESTIGATION REPORT
BURRIS PARK NEW AMPHITHEATER AND GREENHOUSE
6500 BURRIS PARK DRIVE
KINGS COUNTY, CALIFORNIA 93631

for

Burris Park Foundation
c/o Teter AE
7535 North Palm Avenue, Suite #201
Fresno, California 93711

September 24, 2018

Project No. 18G-0445-0

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FIGURES

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APPENDICES

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1.00 Introduction

1.01 Purpose

A geotechnical investigation has been completed for the planned new amphitheater and greenhouse at Burris Park in Kings County, California. The purpose of the investigation was to summarize geotechnical and geologic conditions at the site, to assess their potential impact on the proposed development, and to develop geotechnical engineering design parameters.

1.02 Scope of the Investigation

The general scope of this investigation included the following:

- Review of published and unpublished geologic, seismic, groundwater and geotechnical literature.
- Examination of aerial maps.
- Sampling, logging, and backfilling of one exploratory boring to a depth of 21 feet and one to 11 feet.
- Laboratory testing of representative soil samples.
- Geotechnical evaluation of the compiled data.
- Preparation of this report presenting our findings, conclusions and recommendations.

Our scope of work did not include a preliminary site assessment for the potential of hazardous materials onsite.

1.03 Site Location and Description

The project site consists of the existing Burris Park located south of the Kings River in the northeast part of Kings County, California. The location of the site relative to nearby streets and other improvements is indicated on Figure 1, Site Vicinity Map. The geographic position of the site is 36.4499° north latitude and 119.5754° west longitude.

At the time of our field exploration on August 8, 2018, the site was an active park (see pictures below and Figure 2). The new amphitheater will be located north of the existing Outdoor School building, while the new greenhouse will be located to the east of the Burris Park FUSRAP site maintained by the US Department of Energy. The ground surface is relatively flat at the project site and the surface elevation is approximately 278 feet according to Google Earth. Many gopher mounds and holes were observed across the site.

Photo depicting the area of the planned amphitheater. Taken August 8, 2018.

Photo depicting the area of the planned greenhouse. Taken August 8, 2018.

1.04 Planned Development

Based on our review of information provided in recent emails by Mr. Loren Aiton of Teter AE, which included a site plan, we understand that the project will consist of constructing a new outdoor amphitheater and greenhouse at the existing Burris Park Outdoor School. It is assumed that the greenhouse will have a light metal or wood frame with a concrete slab-on-grade floor and shallow reinforced-concrete or pole-type foundations. Maximum wall and column loads (dead plus live, not including wind or seismic loads) are anticipated to be less than 1.0 kip per foot and 20 kips, respectively. Appurtenant improvements are anticipated to be various underground utilities, new concrete flatwork, and landscaping.

1.05 Investigation Methods and Limitation

Our investigation consisted of office research, field exploration, laboratory testing, review of the compiled data, and preparation of this report. It has been performed in a manner consistent with generally accepted engineering and geologic principles and practices, and has incorporated applicable requirements of the 2016 California Building Code. Definitions of technical terms and symbols used in this report include those of the ASTM International, the California Building Code, and commonly used geologic nomenclature.

Technical supporting data are presented in the attached appendices. Appendix A presents a description of the methods and equipment used in performing the field exploration, as well as logs of our subsurface exploration. Appendix B presents a description of our laboratory testing and the test results and references are presented in Appendix C.

2.00 Findings

2.01 Geologic Setting

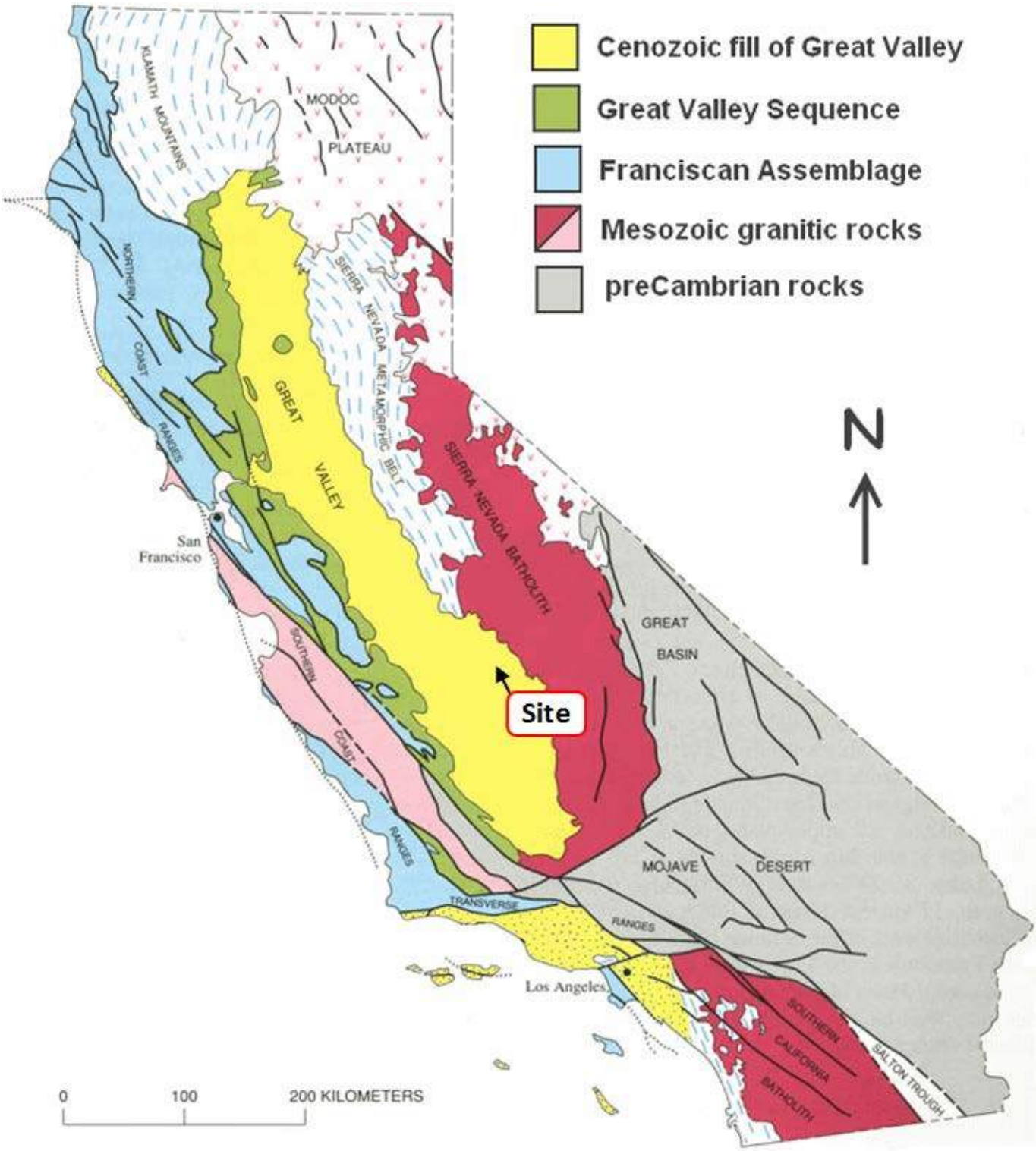
The subject site is located in the central part of the San Joaquin Valley, which comprises the southern half of the Great Valley geomorphic province. The valley is a westward-titling trough which forms a broad alluvial fan, approximately 200 miles long and 50 to 70 miles wide, where the eastern flank is broad and gently inclined, as opposed to the western flank which is relatively narrow (Bartow, 1991; Page, 1968). The Central Valley consists of the Great Valley Sequence, overlain by Cenozoic alluvium. Underlying the Great Valley Sequence are the Franciscan Assemblage to the west and the Sierra Nevada batholith to the east (Bailey, Irwin, and Jones, 1964).

The Franciscan Assemblage, made up of deformed and high pressure and low temperature metamorphosed mafic and ultramafic rocks, was formed around the Late Jurassic through the Miocene (160 to about 20 million years ago) by the offscraping of rocks from a subducting plate dipping to the east (Wakabayashi, 1992; Wakabayashi, 2010).

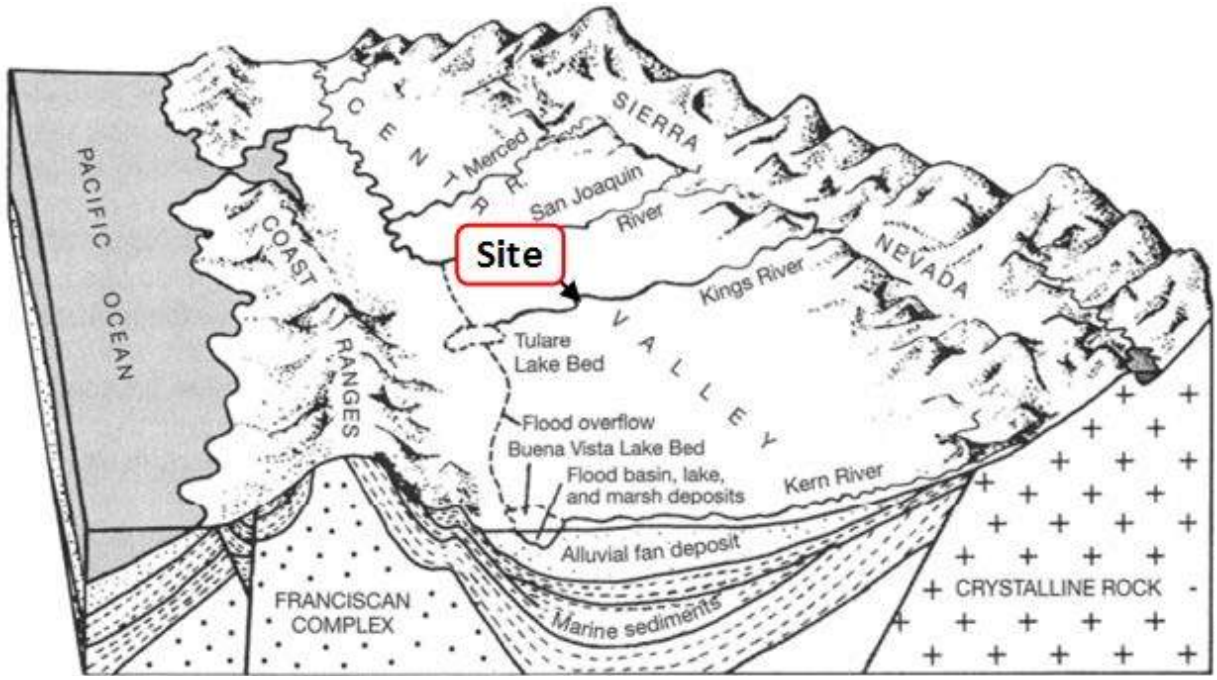
The Sierra Nevada started to form during the Early Jurassic (around 200 million years ago) when the Farallon Plate began subducting under the North American Plate. This subduction resulted in several orogenies, or mountain building events, that created the granitic Sierra Nevada Batholith deep below the surface. During the Miocene (around 10 million years ago), vertical movement along the Sierra Nevada Frontal Fault Zone (part of

the Eastern California Shear Zone) began to uplift the Sierra Nevada. This uplift and erosion exposed the batholiths to the surface. From the Pleistocene (commonly known as the last Ice Age) to the present, glaciers have been carving out many parts of the Sierras. The current uplift of the Sierra Nevada is 1 - 2mm per year (Hammond, et al. 2012).

The Great Valley Sequence is a 40,000 foot sequence of marine shale, sandstone, and conglomerate beds, deposited in a deep marine environment during the Late Jurassic through the Cretaceous (150 – 65 million years ago). Overlying the Great Valley Sequence is several thousand feet of Cenozoic alluvium, deposited by: streams and rivers draining from the mountains and creating alluvial fans; by lakes that covered parts of the valley floor from time to time; flooding; and marsh environments (Page, 1986). In some places, it is thousands of feet thick, and more than half of this thickness is composed of fine grained fluvial and lacustrine deposits. Holocene deposition consists mainly of episodic deposition of alluvial sediments (Bartow, 1991; Page, 1986). The project site is situated on Quaternary fan deposits and older marine sediments that are over a thousand feet deep.



Geologic map showing the locations of Cenozoic alluvium/fill (yellow) overlying the Great Valley Sequence (green), the Franciscan Assemblage (blue), and the Sierra Nevada Batholith (red). Modified from: Irwin (1990).



Geologic block diagram of California. From: Harden (2004). Not to scale.

2.02 Earth Materials

Our subsurface exploration indicates the soil profile at the project site generally consists of sandy silt extending from the surface to a depth of approximately 5 to 7 feet, underlain by relatively clean sand to the maximum depth explored of 21 feet below the existing ground surface. The consistency of the sandy silt was generally medium stiff to stiff and the underlying sand had a relatively loose consistency. As indicated above, the soils encountered in the test borings are related to alluvial deposits that have been deposited in the central San Joaquin Valley over the past several thousand years.

The subsurface soils encountered in the exploratory borings are described in greater detail on the logs presented in Appendix A. A map showing the locations of our exploratory boring is presented as Figure 2, which was based on the site plan provided.

2.03 Expansive Soil

Our field exploration and laboratory testing program indicate that the near surface soils contain minor to negligible amounts of clay and should have a very low expansion potential. For design purposes, an expansion index of less than 20 can be considered applicable to the upper 5 feet of subgrade. Results of the laboratory tests are presented in Appendix B.

2.04 Surface and Groundwater Conditions

Groundwater was not encountered during our subsurface exploration. No areas of ponding or standing water were observed at the time of our study, and no seepage was observed in the exploratory borings to the maximum depth explored of 21 feet below existing ground surface.

According to groundwater data that is available at the California Department of Water Resource website, recent groundwater data indicates the depth to ground water is approximately 90 feet in the vicinity of the project site. Historical data derived from wells (State Well IDs 17S22E16J001M, 17S22E16H001M, and 17S22E22A001M) located 0.44 miles to the northwest, 0.49 miles to the northwest, and 0.72 miles to the southeast of the project site, respectively, indicates the depth to ground water on average was approximately 20 feet deep throughout the 1950's and then declined to a depth of approximately 39 feet during the 1990's. Over the subsequent years, the data indicates that the groundwater elevation has declined another 51 feet.

2.05 Faults

The subject site is not located within the boundaries of an Earthquake Fault Zone for fault rupture hazard as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no faults are known to pass through the property. The nearest active earthquake fault zones (evidence of displacement within the past 11,000 years) are the Nunez Fault, San Andreas Fault Zone, and the Kern Canyon Fault Zone located approximately 51 miles southwest, 63 miles southwest, and 65 miles east, respectively, of the project site. Seismic design parameters relative to the requirements of the 2016 California Building Code are presented in Section 3.08.

3.00 Conclusions and Recommendations

3.01 General Conclusions

Based on specific data and information contained in this report, our understanding of the project, and our geotechnical engineering experience, it is our professional judgment that the proposed development is geologically and geotechnically feasible. Our review of geological literature and the field exploration performed for this project did not indicate any unusual conditions at the site that would entail special design considerations or construction procedures. The foundation soils (upper 10 feet) at the project site generally consist of sandy silt and relatively clean sand that have a relatively low, and somewhat variable, in-place density. Therefore, it will be important to perform some over-excavation, moisture conditioning, and re-compaction in the areas where the new greenhouse, amphitheatre, and other surface improvements are planned. In addition, the soils within the upper 5 feet may be considered to have a very low expansion potential for design purposes. Specific geotechnical recommendations are presented below to address the soil conditions at the site and provide information for other members of the design team to prepare the project plans and specifications for the planned improvements.

3.02 Earthwork Recommendations

All earthwork should be performed in accordance with Appendix J of the 2016 California Building Code and all applicable governmental agency requirements. In the event of conflicts between this report and Appendix J, this report shall govern. It should be noted that all references to maximum dry density, optimum moisture content, and relative compaction are based on ASTM D 1557 laboratory test procedures.

All vegetation, organic rich soils (soils containing more than 2 percent organics by weight), trash, and debris, should be cleared from the grading area and removed from the site. If allowed by the landscape architect, organic-rich soils can be placed in the upper 12 inches of landscape areas at the site. Based on our field exploration, the site should be stripped to a depth of approximately 3 inches. In addition, the roots related to the existing trees located within the project area will need to be removed or grubbed out and properly disposed of so they are not mixed into over-excavated soils that will be used as engineered fill. Prior to performing the over-excavation recommended below, the stripped/grubbed ground surface should be reviewed and approved by the Project Geotechnical Engineer. After the removal of deleterious materials, the stripping of organic-rich soils, and removal of grape vine roots, the following over-excavation must be done within the area of the planned improvements:

- Within the area of the planned amphitheatre plus at least 2 feet horizontally beyond the perimeter of this improvement, the subgrade must be over-excavated at least 24 inches below the stripped subgrade surface or at least 12 inches below the finished subgrade surface, whichever is lower.
- Within the area of the planned greenhouse plus at least 3 feet horizontally beyond the perimeter of this structure, the subgrade must be over-excavated at least 24 inches below the stripped subgrade surface or at least 12 inches below the bottom of footings, whichever is lower. The bottom of the over-excavation within the building area must be level and at a uniform depth below the finished pad elevation.
- Outside of the amphitheatre and greenhouse areas indicated above, and within the area of planned asphalt or concrete flatwork, the subgrade must be over-excavated at least 12 inches below the stripped surface or at least 12 inches below the finished subgrade surface, whichever is lower.

Following the over-excavation indicated above, a designated representative for the Project Geotechnical Engineer must review the exposed ground surface and determine if any additional over-excavation is required.

The over-excavated ground surface in all areas determined to be satisfactory for the support of fills must be scarified to a minimum depth of 8 inches. Scarification should continue until the soils are broken down and free from lumps or clods and until the scarified zone is uniform. The moisture content of the scarified zone shall be adjusted to at least optimum moisture content. The scarified zone must then be uniformly compacted to at least 90 percent relative compaction except for the upper 8 inches of subgrade below asphalt or concrete pavement sections subject to vehicular traffic, which must be compacted to at least 95 percent.

Removed and/or over-excavated soils free of organics and other deleterious material may be used as engineered fill. Fill material should be placed in nearly horizontal layers, uniformly moisture conditioned to at least optimum moisture content, and then compacted in layers that do not exceed approximately 6 inches in

thickness. Thicker lifts may be placed if testing indicates the compaction procedures are such that the required compaction is being achieved and the geotechnical consultant approves their use. Each layer shall be spread evenly and shall be thoroughly mixed during the spreading to insure uniformity of material in each layer. Engineered fill must be compacted to achieve a relative compaction of at least 90 percent except for the upper 8 inches of subgrade below asphalt or concrete pavement sections subject to vehicular traffic, which must be compacted to at least 95 percent.

The above recommendations are based on the assumption that soils encountered during field exploration are representative of soils throughout the site. However, there can be unforeseen and unanticipated variations in soils between points of subsurface exploration. Hence, over-excavation depths must be verified, and adjusted if necessary, at the time of grading. In addition, any contaminated or expansive soils within three (3) feet of the finished subgrade surface, must be removed and properly disposed of outside the area the planned improvements.

3.03 Rippability and Rock Disposal

Our exploratory borings were advanced without difficulty and no oversize materials were encountered in our subsurface investigation. Accordingly we expect that all earth materials will be rippable with conventional grading equipment and oversized materials are not expected.

3.04 Earthwork Shrinkage

Shrinkage is the decrease in volume of soil upon removal and recompaction, or scarifying and recompacting, expressed as a percentage of the original in-place volume. Based on our observations of the existing field conditions and lab testing data, a shrinkage factor in the range of 15 to 20 percent is considered applicable for this project.

The degree to which fill soils are compacted and variations in the insitu density of existing soils will influence earth volume changes. Consequently, some adjustments in grades near the completion of grading could be required to balance the earthwork.

3.05 Imported Fill Material

Imported fill materials that will be placed within building, pavement, or concrete flatwork areas must be non-hazardous and be obtained from a single, uniform source that meets the following criteria:

Maximum Particle Size:	3 inches
Percent Passing 3/4 inch Sieve:	90% - 100%
Percent Passing #4 Sieve:	65% - 100%
Percent Passing #200 Sieve:	15% - 50%
Maximum Expansion Index:	20
Minimum R-value (in paved areas)	50
Soluble Sulfates < 1,000 mg/kg	

Soluble Chlorides < 200 mg/kg
Minimum Soil Resistivity > 5,000 ohm-cm (unless other requirement established by Design Engineer)
pH in the range of 6.0 to 8.5

3.06 Temporary Slopes and Shoring

Our geotechnical investigation indicates that excavations less than 5 feet in depth may generally be constructed with vertical sidewalls without shoring or shielding. Temporary excavations in existing alluvial soils that are deeper than 5 feet may be safely made at an inclination of 1:1 or flatter. If vertical sidewalls are required in excavations greater than 5 feet in depth, the use of cantilevered or braced shoring is recommended. The following geotechnical parameters can be used to design a shoring system:

Moist Unit Weight of Soils:	110 pcf
Angle of Internal Friction (ø):	30°
Cohesion:	0 psf

Unless vehicles, equipment, materials, etc., are kept a minimum distance equal to the height of the excavation away from the edge of the excavation, a surcharge load equal to a uniform lateral pressure of 72 psf should be assumed to act on the shoring in addition to the earth pressure calculated using the above geotechnical parameters.

Vehicles, equipment, materials, etc. should be set back a minimum distance of 10 feet from the top edge of sloped or vertical excavations. Surface waters should be diverted away from temporary excavations and prevented from draining over the top of the excavation and down the slope face. During periods of heavy rain, the slope face should be protected with sandbags to prevent drainage over the edge of the slope, and a plastic liner placed on the slope face to prevent erosion of the slope face.

Periodic observations of the excavations should be made by the geotechnical consultant to verify that the soil conditions have not varied from those anticipated and to monitor the overall condition of the temporary excavations over time. If at any time during construction conditions are encountered which differ from those anticipated, the geotechnical consultant should be contacted and allowed to analyze the field conditions prior to commencing work within the excavation.

Cal/OSHA construction safety orders should be observed during all underground work.

3.07 Utility Trench Backfill

The upper 5 feet of onsite soils will not be suitable for use as pipe bedding for buried utilities. However, the relative clean sand encountered below a depth of approximately 5.5 feet at Boring B-1 and below a depth of approximately 7 feet at Boring B-2 , could be used as a bedding material. All pipes should be bedded in sand or other suitable material as specified by the Project Civil Engineer and/or as specified by the pipe/conduit manufacturer. We recommend the bedding material have a Sand Equivalent (SE) of at least 30 and have less than 8 percent, by weight, passing the #200 Sieve. Bedding materials should be compacted to at least 90%

relative compaction (ASTM D1557) by mechanical methods. The geotechnical consultant should review and approve proposed bedding materials prior to use.

The on-site soils are expected to be suitable as trench backfill provided they are screened of organic matter and other deleterious material. Trench backfill must be compacted to at least 90% relative compaction (ASTM D1557) and the upper 12 inches of trench backfill beneath pavement sections subject to vehicular traffic should be compacted to at least 95% relative compaction. Trench backfill should be compacted using mechanical methods; no jetting of backfill should be allowed. A minimum trench width of 24 inches or 18 inches plus the diameter of the utility line, whichever is greater, should be provided to permit uniform compaction on both sides of utility line and allow for a technician to perform in-place density tests. If narrower trenches are desired, a sand-cement slurry should be used to backfill the trenches to within 8 inches of the top of trench. The sand-cement slurry should contain at least 2 sacks of cement per yard of mix and have a 4- to 6-inch slump. In addition, slurry should be consolidated using a suitable vibratory or mechanical method.

All utility trench backfill within street right of ways, utility easements, under or adjacent to sidewalks, driveways, or building pads should be observed and tested by the geotechnical consultant to verify proper compaction. Trenches excavated adjacent to foundations should not extend within the footing influence zone defined as the area within a line projected at a 1:1 drawn from the bottom edge of the footing. Trenches crossing perpendicular to foundations should be excavated and backfilled prior to the construction of the foundations. The excavations should be backfilled in the presence of the geotechnical engineer and tested to verify adequate compaction beneath the proposed footing. Where utility crossings are located within 12 inches of bottoms of footings, conduits should be wrapped with polystyrene foam or other suitable material with a minimum thickness of one inch. Conduits extending through footings shall be “sleeved” as determined by the Project Structural Engineer.

3.08 Seismic Design Parameters

Seismic design parameters have been developed for the new greenhouse structure in accordance with Section 1613 of the 2016 California Building Code (CBC) using the online U.S. Geological Survey Seismic Design Maps Calculator (ASCE 7-10 Standard) and a site location based on latitude and longitude. The calculator generates probabilistic and deterministic maximum considered earthquake spectral parameters represented by a 5-percent damped acceleration response spectrum having a 2-percent probability of exceedance in 50 years. The deterministic response accelerations are calculated as 150 percent of the largest median 5-percent damped spectral response acceleration computed on active faults within a region, where the deterministic values govern. The calculator does not, however, produce separate probabilistic and deterministic results. The parameters generated for the subject site are presented below:

2016 California Building Code (CBC) Seismic Parameters

Parameter	Value
Site Location	Latitude = 36.4502 degrees Longitude = -119.5752 degrees
Site Class	Site Class = D Soil Profile Name = Stiff Soil
Mapped Spectral Accelerations	S_s (0.2- second period) = 0.650g S_1 (1-second period) = 0.264g
Site Coefficients (Site Class D)	F_a = 1.280 F_v = 1.871
Maximum Considered Earthquake Spectral Accelerations (Site Class D)	S_{MS} (0.2- second period) = 0.832g S_{M1} (1-second period) = 0.495g
Design Earthquake Spectral Accelerations (Site Class D)	S_{DS} (0.2- second period) = 0.554g S_{D1} (1-second period) = 0.330g

The above table shows that the mapped spectral response acceleration parameter for a 1-second period (S_1) is less than 0.75g and the spectral response acceleration parameters are S_{DS} = 0.554g and S_{D1} = 0.330g. Therefore, the Seismic Design Category has been determined from Tables 1613.3.5(1) and 1613.3.5(2) is D for all Occupancy Categories (CBC Section 1613.5.6). Consequently, as required for Seismic Design Categories C through F by CBC Section 1803.5.11, slope instability, liquefaction, total and differential settlement, and surface displacement by faulting or seismically lateral spreading or lateral flow have been evaluated.

Peak earthquake ground acceleration adjusted for site class effects (PGA_M) has been determined in accordance with ASCE 7-10 Section 11.8.3 as follows: $PGA_M = F_{PGA} \times PGA = 1.316 \times 0.242g = 0.318g$.

3.09 Liquefaction and Secondary Earthquake Hazards

Potential secondary seismic hazards that can affect land development projects include liquefaction, tsunamis, seiches, and seismically induced settlement.

Liquefaction

Liquefaction is a phenomenon where earthquake-induced ground vibrations increase the pore pressure in saturated, granular soils until it is equal to the confining, overburden pressure. When this occurs, the soil can completely lose its shear strength and enter a liquefied state. The possibility of liquefaction is dependent upon grain size, relative density, confining pressure, saturation of the soils, and intensity and duration of ground shaking. In order for liquefaction to occur, three criteria must be met: “low density”, coarse-grained (sandy) soils, a groundwater depth of less than about 50 feet, and a potential for seismic shaking from nearby large-magnitude earthquake. Since the depth to groundwater at the project site is approximately 90 feet, in our opinion there is a negligible risk of liquefaction occurring at the project site during a design level seismic event.

The California Geological Survey has not yet prepared a Seismic Hazard Zone Map of potential liquefaction hazards for the quadrangle in which the site is located. According to the Kings County General Plan, the site is not located within an area of known liquefaction susceptibility.

Tsunamis and Seiches

Tsunamis are sea waves that are generated in response to large-magnitude earthquakes. When these waves reach shorelines, they sometimes produce coastal flooding. Seiches are the oscillation of large bodies of standing water, such as lakes, that can occur in response to ground shaking. Tsunamis and seiches do not pose hazards due to the inland location of the site and lack of nearby bodies of standing water.

Seismically Induced Settlement

Seismically induced settlement occurs most frequently in areas underlain by loose, granular sediments. Damage as a result of seismically induced settlement is most dramatic when differential settlement occurs in areas with large variations in the thickness of underlying sediments. Settlement caused by ground shaking is often non-uniformly distributed, which can result in differential settlement. Taking into account the consistency of the soils in the upper 21 feet, that the (PGA_M) is 0.318g, and the nearest active fault is approximately 51 miles from the project site, it is likely that some seismic settlement will occur at the project site during a design seismic event. However, it is estimated that the seismically induced settlement will be less than one inch total and less than 1/2 inch differential over a distance of 50 feet during a design seismic event.

Seismically Induced Flooding

The site is not located within a low-lying area that would be inundated during the failure of an up gradient water reservoir or dam. Consequently, seismically induced flooding at the site is very unlikely.

3.10 Foundations

The proposed greenhouse may be supported on conventional shallow concrete footings or pole type foundations (see Section 3.12). Building foundations should be embedded at least 12 inches below the lowest adjacent grade and be constructed on compacted subgrade prepared in accordance with Section 3.02 of this report. Continuous and isolated spread footings with a minimum width of 12 and 24 inches, respectively, may be designed using an allowable bearing capacity of 2,000 pounds per square foot (psf). This allowable bearing capacity represents an allowable net increase in soil pressure over existing soil pressure and may be increased by one-third for short-term wind or seismic loads. The maximum expected settlement of footings designed with the recommended allowable bearing capacity is expected to be less than 3/4 of an inch with a differential settlement of approximately 1/4 inch between similarly sized and loaded footings or less than 1/4 inch over a distance of 25 feet for continuous footings. Since the near-surface soils have a very low expansion potential, the reinforcement of building foundations should be based on structural considerations. However, continuous footings should be reinforced with at least two #4 bars, one located near the top and one located near the bottom of the footing.

It will be very important for all footing excavations to be observed by the geotechnical engineer to verify that they have been excavated into the recommended bearing material. Where zones of relatively loose or disturbed soils are present at the bottom of foundation excavations, these soils should be properly compacted to provide a uniform bearing surface that meets the approval of the geotechnical engineer (refer to Section 3.02).

3.11 Lateral Load Resistance

Lateral loads may be resisted by soil friction and the passive resistance of the soil. The following parameters are recommended.

- Allowable Passive Earth Pressure = 175 pcf (equivalent fluid weight, includes a factor of safety = 2.0)
- Allowable Coefficient of Friction (soil to footing) = 0.36 (includes a factor of safety = 1.5)
- Retaining structures should be designed to resist a lateral active earth pressure of 38 pcf (equivalent fluid weight) for a level, non-expansive backfill with drainage provided.

The active earth pressure provided above is only applicable if the retained earth is allowed to strain sufficiently to achieve the active state. The required minimum horizontal strain to achieve the active state is approximately 0.0025H. Retaining structures should be designed to resist an at-rest lateral earth pressure of 58 pcf (equivalent fluid weight) if this horizontal strain cannot be achieved.

3.12 Pole Type Foundations

It is anticipated that the greenhouse and/or light poles, signs, or canopies may be supported on pole-type foundations or drilled piers. This type of foundation should be designed in accordance with Section 1807.3 of the 2016 CBC. However, it is recommended that an allowable lateral soil bearing pressure of 175 psf per foot of embedment be used to develop parameters S1 and S3 rather than one of the values given in Table 1806.2. This value includes a factor of safety of 2 and may be increased as indicated in Section 1806.3.4. In landscape areas, the upper 12 inches of soil should be ignored when calculating the minimum depth of embedment.

An allowable end bearing pressure of 2,000 psf (includes a factor of safety of 3.0) and an allowable average skin friction of 180 psf (includes a factor of safety of 2.0) may be used to support compressive vertical loads applied to pier foundations that are embedded at least 6 feet. The end bearing should be ignored if the drilled pier excavation is not properly cleaned out prior to installing the reinforcing steel and placing concrete. The uplift capacity of drilled piers can be calculated using an allowable skin friction of 120 psf plus the weight of the pier. In landscape areas, the skin friction within the upper 12 inches of embedded length should be ignored for compressive or uplift loads. The total settlement of pier foundations designed in accordance with these recommendations should not exceed one-half inch.

Prior to placing reinforcing steel or concrete, loose or disturbed soils should be removed from drilled pier excavations. A representative of the Geotechnical Engineer should observe the drilling and clean-out associated with the construction of pier foundations in order to assess whether the actual bearing conditions are compatible with the conditions anticipated during the preparation of this report. Test borings indicate that relatively clean sands may be encountered below a depth of approximately 5.5 feet at the project site. If drilled

piers will extend below a depth of 6 feet, the contractor should be prepared to take measures to prevent caving or significant sloughing of drilled pier sidewalls (such as installing temporary casing) from occurring during the drilling and installation of reinforcing steel and concrete. In any case, reinforcing steel and concrete should be installed in an expeditious manner after each drilled hole is cleaned out. The contractor must take responsibility for staging the installation of drilled piers so that significant amounts of sloughing or caving do not occur prior to installing the reinforcing steel and concrete.

3.13 Interior Slabs on Grade

Concrete floors with a minimum thickness of 4 inches are recommended for interior slabs on grade. Existing on-site soils within 5 feet of the ground surface may be considered to have a very low expansion potential for design purposes (E.I. ≤ 20). However, to reduce the potential for excessive cracks as a result of differential movement, consideration should be given to reinforcing concrete slab-on-grade floors with at least #3 bars spaced 24 inches on-center in both directions. If heavy concentrated or moving loads are anticipated, slabs should be designed using a modulus of subgrade reaction (k) of 170 pci. The concrete mix, reinforcement of slabs, and the location of construction and control joints should be specified by the Design Engineer.

A moisture vapor retarder/barrier is recommended beneath all slabs-on-grade that will be covered by moisture-sensitive flooring materials such as vinyl, linoleum, wood, carpet, rubber, rubber-backed carpet, tile, impermeable floor coatings, adhesives, or where moisture-sensitive equipment, products, or environments will exist. We recommend that design and construction of the moisture vapor retarder/barrier conform to Section 1805 of the 2016 California Building Code and pertinent sections of American Concrete Institute (ACI) guidance documents 302.1R-04, 302.2R-06 and 360R-10.

The moisture vapor retarder/barrier should consist of a minimum 10 mils thick polyethylene with a maximum perm rating of 0.3 in accordance with ASTM E 1745. The vapor barrier should be placed directly on a smooth compacted subgrade surface consistent with the recommendations provided in Section 3.02 of this report. Seams in the moisture vapor retarder/barrier should be overlapped no less than 6 inches or in accordance with the manufacturer's recommendations. Joints and penetrations should be sealed with the manufacturer's recommended adhesives, pressure-sensitive tape, or both. The contractor must avoid damaging or puncturing the moisture vapor retarder/barrier and repair any punctures with additional polyethylene properly lapped and sealed.

The moisture vapor retarder/barrier may be placed directly beneath the floor slab with no intermediate granular fill layer. This method of construction will provide improved curing of the slab bottom and will eliminate potential problems caused by water being trapped in a granular fill layer. However, concrete slabs poured directly on a moisture vapor retarder/barrier can experience shrinkage cracking and curling due to differential rates of curing through the thickness of the slab. Therefore, for concrete placed directly on the moisture vapor retarder/barrier, we recommend a maximum water to cement ratio of 0.45 and the use of water-reducing admixtures to increase workability and decrease bleeding.

Alternatively, the slabs may be constructed over 2 inches of sand that is placed on the moisture vapor

retarder/barrier in accordance with ACI 302.1R-04. Granular fill should consist of clean, fine-graded materials with 100% passing the No. 4 sieve, 10% to 30% passing the No. 100 sieve, and less than 5% passing the No. 200 sieve. The granular layer should be moist but not saturated and uniformly compacted by making at least one pass with a vibratory base compactor or some other mechanical method that is approved by the Project Geotechnical Engineer. The granular fill layer should not be left exposed to rain or other sources of water such as wet-grinding, power washing, pipe leaks or other processes, and should be damp but not saturated at the time of concrete placement. Granular fill layers that become saturated should be removed and replaced prior to concrete placement.

3.14 Miscellaneous Concrete Flatwork

Miscellaneous concrete flatwork and walkways may be designed with a minimum thickness of 4 inches. Large slabs (greater than 6 feet in width) should be reinforced with at least #3 bars spaced 24 inches on-center in both directions or as specified by the design engineer. Control joints should be constructed to create squares or rectangles with a maximum spacing of 12 feet. The Project Civil Engineer should provide design details and specifications for all exterior concrete flatwork including the concrete mix design, reinforcement, and the location of construction and control joints. We recommend walkways be separated from foundations with a thick expansion joint filler.

The subgrade soils beneath all miscellaneous concrete flatwork should be compacted to a minimum of 90 percent relative compaction for a minimum depth of 18 inches. As indicated in Section 3.02, the minimum relative compaction of the upper 8 inches of subgrade should be increased to 95 percent in areas where vehicular traffic is anticipated. The geotechnical engineer should monitor the compaction of the subgrade soils and perform testing to verify that proper compaction has been obtained.

3.15 Footing Excavations and Concrete Subgrade

All footing excavations and bottom excavations should be observed by the geotechnical consultant to verify that they have been excavated into the recommended bearing material. The foundation excavations should be observed prior to the placement of forms, reinforcement steel, or concrete. These excavations should be evenly trimmed and level. Prior to concrete placement, any loose or soft soils should be removed. Excavated soils should not be placed on slab or footing areas unless properly compacted.

Prior to the placement of the moisture barrier and sand, the subgrade soils underlying the slab should be observed by the geotechnical consultant to verify that all under-slab utility trenches have been properly backfilled and compacted, that no loose or soft soils are present, and that the slab subgrade has been properly compacted to a minimum of 90 percent relative compaction within the upper 12 inches.

Footings may experience an overall loss in bearing capacity or an increased potential to settle where located in close proximity to existing or future utility trenches. Furthermore, stresses imposed by the footings on the utility lines may cause cracking, collapse and/or a loss of serviceability. To reduce this risk, footings should extend below a 1:1 plane projected upward from the closest bottom of the trench.

The upper 6 inches of subgrade underlying slabs on grade and walkways should have a moisture content at or above optimum prior to the placement of concrete. The geotechnical consultant should perform insitu moisture tests to verify that the appropriate moisture content has been achieved within 72 hours prior to the placement of concrete or moisture barriers.

3.16 Drainage and Moisture Proofing

Surface drainage should be directed away from the proposed improvements into suitable drainage devices (see Section 1804.4 of the 2016 CBC). Neither excess irrigation nor rainwater should be allowed to collect or pond against building foundations or within low-lying or level areas of the property within 10 feet of buildings. Surface waters should be diverted away from the tops of slopes and prevented from draining over the top of slopes and down the slope face.

Walls and portions thereof that retain soil and enclose interior spaces and floors below grade should be waterproofed and damp-proofed in accordance with Section 1805 of the 2016 CBC.

Retaining structures should be drained to prevent the accumulation of subsurface water behind the walls. Backdrains should be installed behind all retaining walls exceeding 3 feet in height. All backdrains should be outlet to suitable drainage devices. Retaining walls less than 3 feet in height should be provided with backdrains or weep holes. Damp-proofing and/or waterproofing should also be provided on all retaining walls exceeding 3 feet in height.

3.17 Cement Type and Corrosion Potential

The results of tests performed on a shallow sample of soil obtained from the project site indicate the soluble sulfate content is 24.0 mg/kg (0.0024 percent by weight). Thus, below-grade concrete at the subject site should have a negligible exposure to water-soluble sulfate in the soil. Our recommendations for concrete exposed to soils containing various concentrations of soluble sulfate are presented in the table below.

Recommendations for Concrete Exposed to Soils Containing Soluble Sulfate

Sulfate Exposure	Water Soluble Sulfate (SO_4) in Soil (% by Weight)	Sulfate (SO_4) in Water (ppm)	Cement Type (ASTM C150)	Maximum Water-Cement Ratio (by Weight)	Minimum Compressive Strength (psi)
Negligible	0.00 - 0.10	0-150	--	--	2,500
Moderate	0.10 - 0.20	150-1,500	II	0.50	4,000
Severe	0.20 - 2.00	1,500-10,000	V	0.45	4,500
Very Severe	Over 2.00	Over 10,000	V plus pozzolan or slag	0.45	4,500

Use of alternate combinations of cementitious materials may be permitted if the combinations meet design recommendations contained in American Concrete Institute guideline ACI 318-11.

Our testing also indicates that there is a low soluble chloride content (33.0 mg/kg) in the onsite soils; therefore, no special protection of reinforcing steel should be required due to soil conditions.

The soils were also tested for soil reactivity (pH) and minimum electrical resistivity (ohm-cm). The test results indicate that the on-site soils have a soil reactivity of 8.5 and exhibit a minimum electrical resistivity of 6,540 ohm-cm. A neutral or non-corrosive soil has a pH value ranging from approximately 6 to 8.5. Generally, soils that could be considered moderately corrosive to ferrous metals have minimum resistivity values of about 3,000 ohm-cm to 10,000 ohm-cm. Soils with minimum resistivity values less than 3,000 ohm-cm can be considered corrosive and soils with minimum resistivity values less than 1,000 ohm-cm can be considered extremely corrosive. In any case, buried metal conduits should have a protective coating in accordance with the manufacturer's specifications. A corrosion specialist should be consulted if more detailed recommendations are required.

3.18 Plan Review

Once formal grading and foundation plans are prepared for the subject project, this office should review the plans from a geotechnical viewpoint, comment on changes from the plan used during preparation of this report and revise the recommendations of this report where necessary.

3.19 Geotechnical Observation and Testing During Grading

The geotechnical engineer should be contacted to provide observation and testing during the following stages of grading:

- During the clearing and grubbing of the site.
- During the demolition of any existing structures, buried utilities or other existing improvements.
- During excavation and over-excavation of existing subgrade.
- During all phases of grading including ground preparation and filling operations.
- When any unusual conditions are encountered during grading.

A grading and compaction report summarizing conditions encountered during grading and the in-place density testing that was performed should be submitted upon completion of the earthwork construction.

3.20 Post-Grading Geotechnical Observation and Testing

After the completion of grading, the geotechnical engineer should be contacted to provide additional observation and testing during the following construction activities:

- During trenching and backfilling operations of buried improvements and utilities to verify proper backfill

and compaction of the utility trenches.

- After excavation and prior to placement of reinforcing steel or concrete within footing excavations to verify that footings are properly founded in competent materials.
- During fine or precise grading involving the placement of any fills underlying driveways, sidewalks, walkways, or other miscellaneous concrete flatwork to verify proper placement, mixing and compaction of fills.
- When any unusual ground or soil conditions are encountered during construction.

4.0 Closure

The findings, conclusions and recommendations in this report were prepared in accordance with generally accepted engineering and geologic principles and practices. No other warranty, either expressed or implied, is made. This report has been prepared for the Burris Park Foundation and the project design team to be used for the design and construction of the improvements described above and at the project site indicated on the attached Figures 1 and 2. Anyone using this report for any other purpose must draw their own conclusions regarding required construction procedures and subsurface conditions.

The geotechnical and geologic consultant should be retained during the earthwork and foundation phases of construction to monitor compliance with the design concepts and recommendations and to provide additional recommendations as needed. Should subsurface conditions be encountered during construction that are different from those described in this report, this office should be notified immediately so that our recommendations may be re-evaluated.

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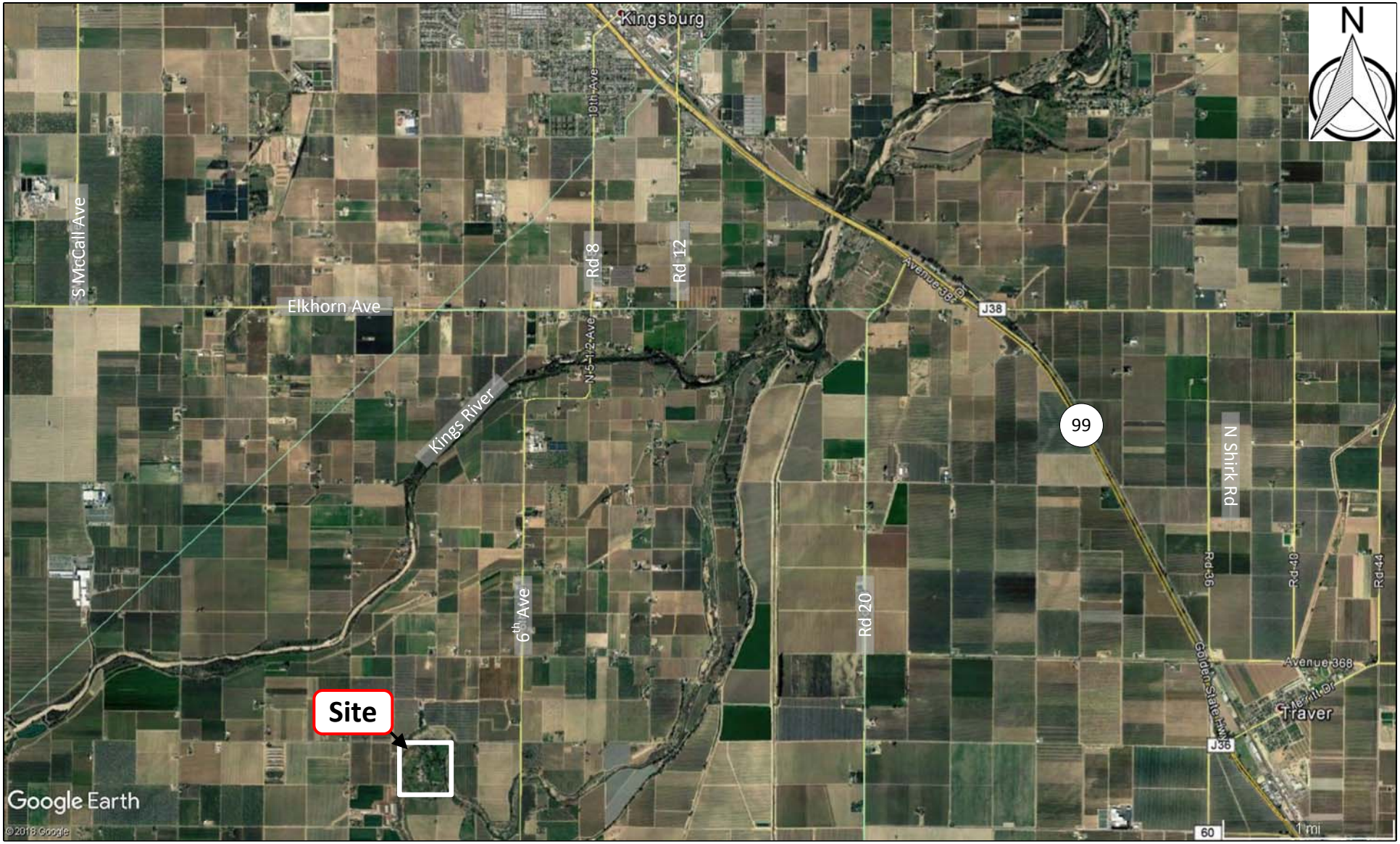
FIGURES



Scale: 1" ≈ 4,225'

FIGURE 1

SITE VICINITY MAP

Burris Park New Amphitheater and Greenhouse
6500 Burris Park Drive
Kingsburg, California 93631
Project #18G-0445-0

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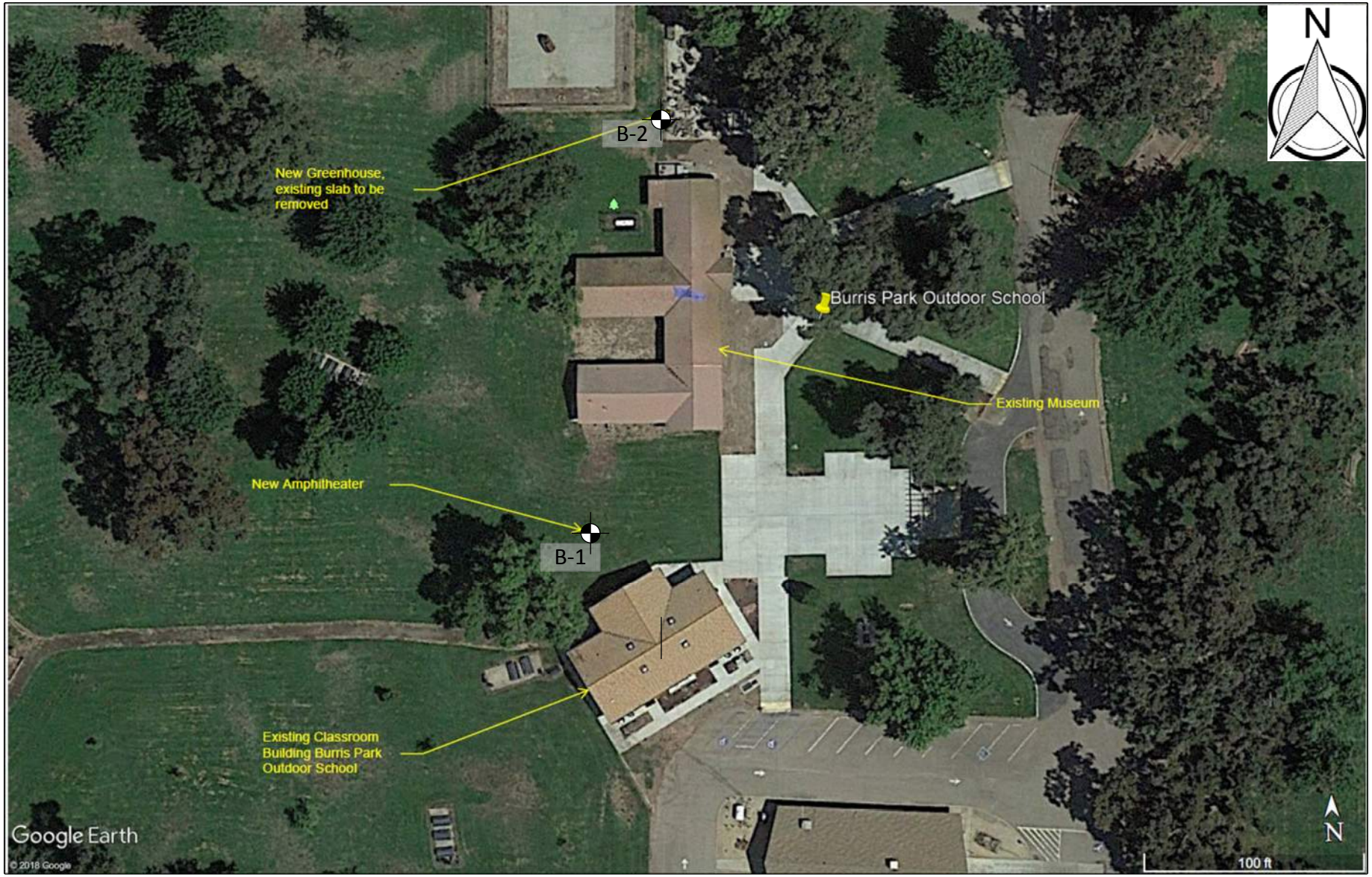

Reference: Google Earth, 2018

Scale: 1" ≈ 55'

FIGURE 2

BORING LOCATION MAP

Burris Park New Amphitheater and Greenhouse
6500 Burris Park Drive
Kingsburg, California 93631
Project #18G-0445-P

B-2 Approximate Boring Location

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APPENDIX A

FIELD INVESTIGATION

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APPENDIX A

FIELD INVESTIGATION

A-1.01 Number of Borings

Our subsurface investigation consisted of excavating two borings with a CME 75 drill rig equipped with 7-inch diameter hollow stem auger to a maximum depth of 21 feet below existing grade on August 8, 2018.

A-1.02 Location of Borings

A Boring Location Map showing the approximate locations of the test borings is presented as Figure 2. GPS coordinates indicated on the logs are based on information provided by Theodolite Version 6.1 run on an iPhone X with iOS Version 11.4.1.

A-1.03 Boring Logging

Logs of the borings were prepared by one of our staff and are attached in this appendix. The logs contain factual information and interpretation of subsurface conditions between samples. The strata indicated on these logs represent the approximate boundary between earth units and the transition may be gradual. The logs show subsurface conditions at the dates and locations indicated, and may not be representative of subsurface conditions at other locations and times.

Identification of the soils encountered during the subsurface exploration was made using the field identification procedure of the Unified Soils Classification System (ASTM D2488). A legend defining the terms used in describing the relative compaction, consistency or firmness of the soil is included in this appendix. Bag or tube samples of the major earth units were obtained for laboratory inspection and testing.

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I. SOIL STRENGTH/DENSITY

BASED ON STANDARD PENETRATION TESTS

Compactness of sand		Consistency of clay	
Penetration Resistance N (blows/Ft)	Compactness	Penetration Resistance N (blows/ft)	Consistency
0-4	Very Loose	<2	Very Soft
4-10	Loose	2-4	Soft
10-30	Medium Dense	4-8	Medium Stiff
30-50	Dense	8-15	Stiff
>50	Very Dense	15-30	Very Stiff
		>30	Hard

N = Number of blows of 140 lb. weight falling 30 in. to drive 2-in OD sampler 1 ft.

BASED ON RELATIVE COMPACTION

Compactness of sand		Consistency of clay	
% Compaction	Compactness	% Compaction	Consistency
<75	Loose	<80	Soft
75-83	Medium Dense	80-85	Medium Stiff
83-90	Dense	85-90	Stiff
>90	Very Dense	>90	Very Stiff

II. SOIL MOISTURE

Moisture of sands		Moisture of clays	
% Moisture	Description	% Moisture	Description
<5%	Dry	<12%	Dry
5-12%	Moist	12-20%	Moist
>12%	Very Moist	>20%	Very Moist, wet

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Exploratory Boring Log

Boring No. B-1
Sheet 1 of 1

Date Drilled:	August 8th, 2018	Drilling Equipment:	CME 75, Hollow Stem Auger
Logged By:	MJS	Borehole Diameter:	7"
Location:	See Boring Location Map	Drive Weights:	140 lbs. (Autohammer)
Geographic Position:	36.449921°, -119.575364°	Drop Height:	30"

Depth (ft)	Sample Type	Blows (blows/ft)	Bulk Sample	Moisture Content (%)	Dry Density (pcf)	USCS	Graphic Symbol	Material Description
								This log contains factual information and interpretation of the subsurface conditions between the samples. The stratum indicated on this log represent the approximate boundary between earth units and the transition may be gradual. The log show subsurface conditions at the date and location indicated, and may not be representative of subsurface conditions at other locations and times.
0	T	7	▨	16.9	93.8	ML		Dark brown, fine to medium SANDY SILT with minor CLAY, moist, medium stiff, with minor roots
5	S	3						. . .increasing SAND content below 4.5 feet, soft, no roots
	S	5				SP		Light yellow brown, fine SAND, dry, loose
10	T	9		2.4	90.9			
15	S	4						. . .fine to coarse
20	S	6						
25								Notes: 1. Boring terminated at 21' 2. No Groundwater Encountered 3. Boring backfilled with soil cuttings
30								
35								

***Note**
All blow counts associated with Modified California Sample are uncorrected. The sampler dimensions are as follows:
ID = 2.5" OD = 3"

Sample Types:
S - SPT Sample
▨ - Bulk Sample
T - Modified California Tube Sample
R - Ring Sample

Symbols:
▽ - Groundwater
◣ - End of Boring

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GEOTECHNICAL CONSULTANTS

Exploratory Boring Log

Boring No. B-2
Sheet 1 of 1

Date Drilled:	August 8th, 2018	Drilling Equipment:	CME 75, Hollow Stem Auger
Logged By:	MJS	Borehole Diameter:	7"
Location:	See Boring Location Map	Drive Weights:	140 lbs. (Autohammer)
Geographic Position:	36.450146°, -119.575265°	Drop Height:	30"

Depth (ft)	Samples: Sample Type	Samples: Blows (blows/ft)	Samples: Bulk Sample	Moisture Content (%)	Dry Density (pcf)	USCS	Graphic Symbol	Material Description
	T	5	▨	9.5	79.8	ML		Brown, fine to medium SANDY SILT with minor CLAY, moist, medium stiff, with roots
5	T	13		3.8	93.7	ML/SM		. . .increasing SAND content below 4.5 feet, stiff, no roots
						SP		Light yellow brown, fine SAND, dry, loose
10	S	4						
15								Notes: 1. Boring terminated at 11' 2. No Groundwater Encountered 3. Boring backfilled with soil cuttings
20								
25								
30								
35								

This log contains factual information and interpretation of the subsurface conditions between the samples. The stratum indicated on this log represent the approximate boundary between earth units and the transition may be gradual. The log show subsurface conditions at the date and location indicated, and may not be representative of subsurface conditions at other locations and times.

***Note**

All blow counts associated with Modified California Sample are uncorrected. The sampler dimensions are as follows:
ID = 2.5" OD = 3"

Sample Types:
S - SPT Sample
▨ - Bulk Sample
T - Modified California Tube Sample
R - Ring Sample

Symbols:
▽ - Groundwater
◣ - End of Boring

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APPENDIX B

LABORATORY TESTS

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APPENDIX B

B-1.00 LABORATORY TESTS

B-1.01 Moisture Determination

The moisture content of tube samples obtained from the test borings was determined in accordance with ASTM D2216, the standard method for determining the water content of soil using a drying oven. The mass of material remaining after oven drying is used as the mass of the solid particles. The results of these tests are provided on the boring logs in Appendix A.

B-1.02 Density of Tube Samples

The densities of tube samples, which were obtained using a split-barrel sampler, were determined in accordance with ASTM D2937. The results of these tests are provided on the boring logs in Appendix A.

B-1.03 Soluble Sulfates and Chlorides

Tests were performed in accordance with California Test Methods 417 and 422 on one near-surface soil sample obtained during the field exploration. These tests were performed by Dellavalle Laboratory, Inc. located in Fresno, California. The test results are provided below in Table B1.

B-1.04 Soil Reactivity (pH) and Minimum Electrical Resistivity

One near-surface soil sample was tested for soil reactivity (pH) and minimum electrical resistivity using California Test Method 643 (see Table B1). The pH measurement determines the degree of acidity or alkalinity in the soils. The minimum electrical resistivity is used as an indicator of how corrosive the soil is relative to buried metallic items.

B-1.05 Particle Size Analysis

A particle size analysis was performed on a representative sample of the on-site, near-surface soils in accordance with the standard test methods of ASTM D422. The results of this test are shown on Figure B1.

B-1.06 Maximum Density

The maximum density - optimum moisture relationship was determined using the standard procedures of ASTM D1557 for a representative soil sample obtained during the field exploration. The results of the tests are shown on Figure B2.

TABLE B1: Summary of pH and Minimum Resistivity Test Results

Sample Location	Soluble Sulfates (mg/kg)	Soluble Chlorides (mg/kg)	pH	Minimum Resistivity (ohm-cm)
B-1 @ 1' – 3'	24.0	33.0	8.5	6,540

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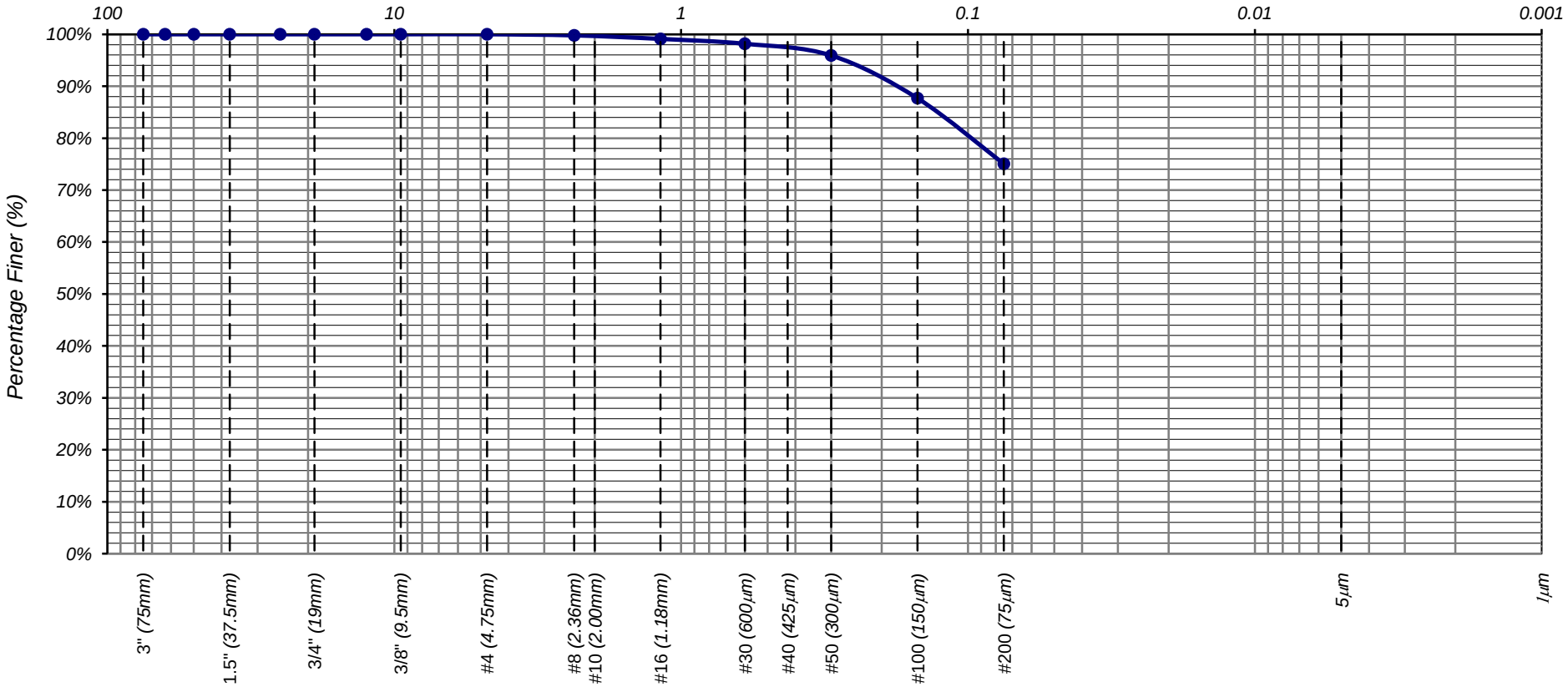
Figure B1

Laboratory Test Form | ASTM D6913 / D7928

Particle Size Distribution Diagram



Clear Square Openings (ASTM C-136)			US Standard Series (ASTM D-422)			Hydrometer Readings (ASTM D-422)
Cobble	Gravel		Sand			Silt (Non-Plastic) to Clay (Plastic)
	Coarse	Fine	Coarse	Medium	Fine	

% Gravel = 0% **% Sand = 25%** **% Fines = 75%**

Project Number:	18G-0445-0/02	**Project Name:**	Burris Park New Ampitheater & Greenhouse		
Date Tested:	8/10/2018	**Lab ID:**	18-0536-M	**Sample location:**	B-2 @ 1' - 3'
Tested By:	Malissa F.	**Description:**	Sandy silt with minor trace of clay and organics, fine grained, non-plastic, dark brown		

3897 N Ann Ave Fresno, CA 93727 559.708.8865 | 559.228.9488 fax

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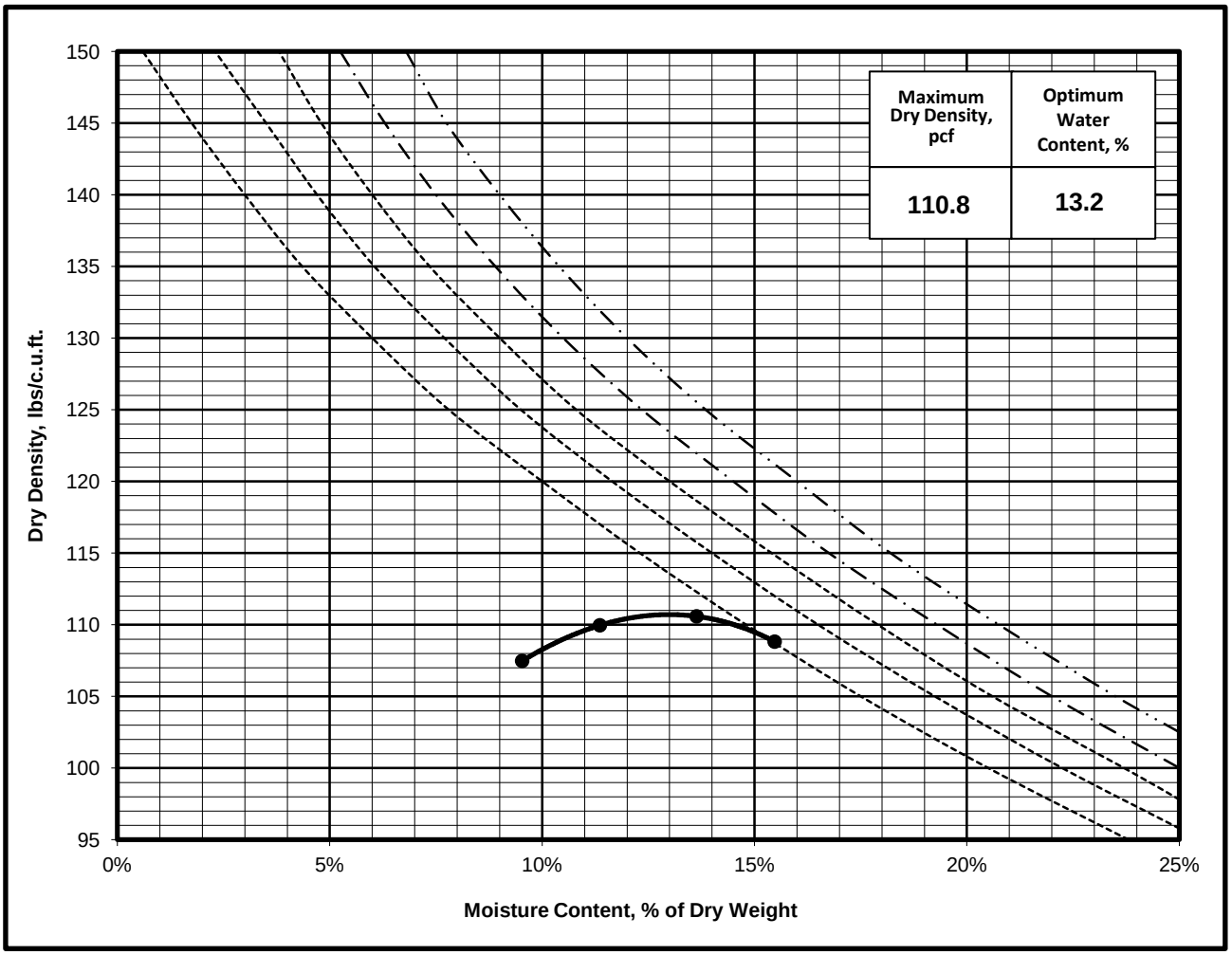
Figure B2
Laboratory Test Form | ASTM D 1557
Test Method A

	1	2	3	4
Weight of Moist Specimen & Mold, gm	3755.4	3827.1	3875.8	3875.7
Weight of Compaction Mold, gm	1971.9	1971.9	1971.9	1971.9
Weight of Moist Specimen, gm	1783.5	1855.2	1903.9	1903.8
Volume of mold, cu. ft.	0.0334	0.0334	0.0334	0.0334
Wet Density, lbs/cu.ft.	117.7	122.5	125.7	125.7
Weight of Wet (Moisture) Sample, gm	100.0	100.0	100.0	100.0
Weight of Dry (Moisture) Sample, gm	91.3	89.8	88.0	86.6
Moisture Content, %	9.5%	11.4%	13.6%	15.5%
Dry Density, lbs/cu.ft.	107.5	110.0	110.6	108.8

Sieve Size	No.4	3/8"	3/4"
Oversize Fraction, %	<1%	<1%	<1%

Method
A: No.4 sieve < 25% oversize. 4" Mold
B: 3/8" sieve < 25% oversize. 4" Mold
C: 3/4" sieve < 30% oversize. 6" Mold

Rammer: Mechanical / ~~Manual~~ Preparation: ~~Dry~~ / Moist
Specimen Prep. Mass: 2500 gm



Project Number: 18G-0445-0/02	**Project Name:** Burris Park New Amphitheater & Greenhouse
Lab ID 18-0536-M	**Sample location:** Composite: B-1 & B-2 @ 1' - 3'
Date Sampled: 8/8/2018	**Description:** Sandy silt, fine to medium grained, dark brown
Date Tested: 8/10/2018	
Tested By: Matt S. Curve No.: 1	--

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APPENDIX C

REFERENCES

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