

STATE OF CALIFORNIA DEPARTMENT OF GENERAL SERVICES



**REAL ESTATE SERVICES DIVISION
PROJECT MANAGEMENT AND DEVELOPMENT BRANCH**

PROJECT MANUAL

INTRODUCTORY INFORMATION
BIDDING REQUIREMENTS
CONTRACTING REQUIREMENTS
SPECIFICATIONS

FOR:

ATS AND ELECTRICAL REPAIRS

**DEPARTMENT OF GENERAL SERVICES
– FACILITIES MANAGEMENT DIVISION**

CENTRAL UTILITY PLANT

**SACRAMENTO, SACRAMENTO COUNTY,
CALIFORNIA**

Jason Sy, Project Director, 279-799-4106
West Sacramento, California

Consultants: Dewberry Architects, Inc.
ECOM Engineering

6/23/25

000000000011757



DOCUMENT 00 01 01

PROJECT TITLE PAGE

Title : ATS and Electrical Repairs

Client Agency : Department of General Services – Facilities Management Division

Location : Central Utility Plant (Building 095)
625 Q Street
Sacramento, Sacramento County, CA 95814

Project Number : 000000000011757

Project Director : Jason Sy
State of California
Department of General Services
Real Estate Services Division
Project Management and Development Branch
707 Third Street, 4th Floor
West Sacramento, California 95605
Telephone Number: (279) 799-4106
Email: Jason.Sy@dgs.ca.gov

Consultant : Dewberry Architects, Inc.
Bob Hoskins
Telephone Number: (916) 239-7252
Email: rhoskins@dewberry.com

CERTIFICATIONS PAGE

PROJECT TITLE : ATS and Electrical Repairs

CLIENT AGENCY : Department of General Services – Facilities Management Division

LOCATION : Central Utility Plant (Building 095)
625 Q Street
Sacramento, Sacramento County, CA 95814

PROJECT NUMBER : 000000000011757

OWNER : STATE OF CALIFORNIA

PROJECT DIRECTOR : Jason Sy
Department of General Services
Project Management and Development Branch
707 Third Street, 4th Floor
West Sacramento, California 95605
Telephone Number: (279) 799-4106
Email : Jason.Sy@dgs.ca.gov

CONSULTANT : Dewberry Architects, Inc.
Bob Hoskins
Telephone Number: (916) 239-7252
Email: rhoskins@dewberry.com

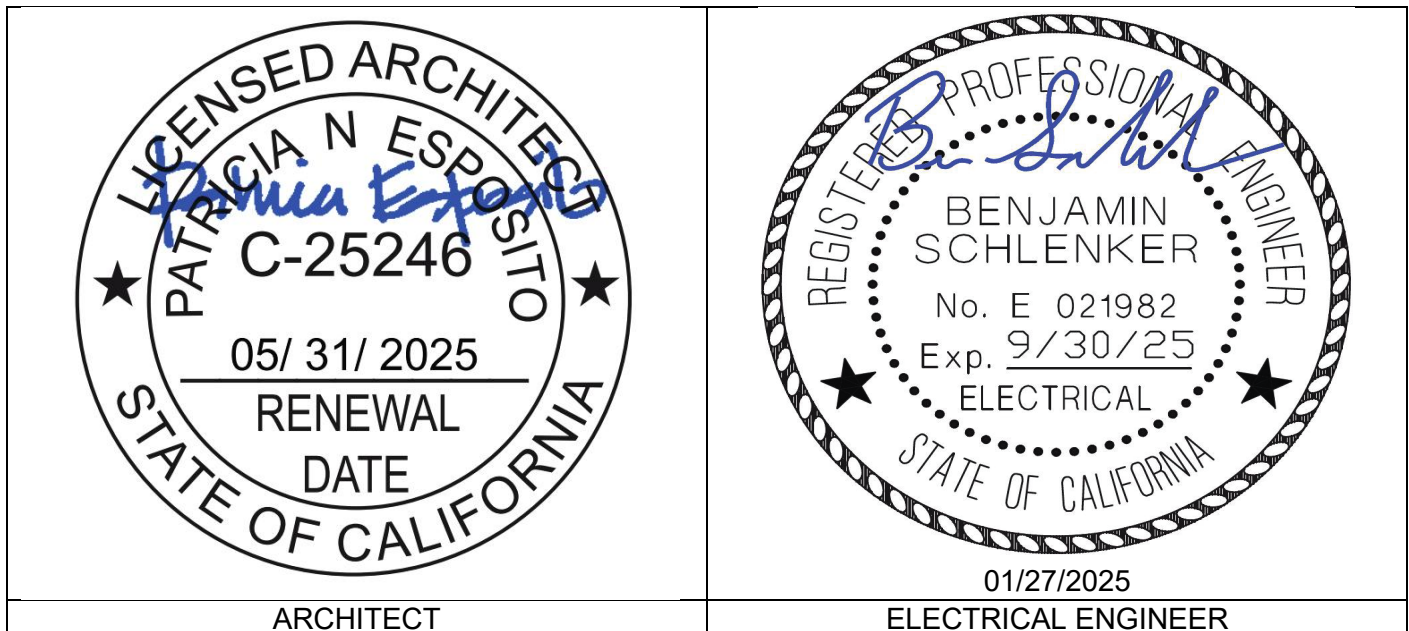


TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP**DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS****INTRODUCTORY INFORMATION**

		Pages
Document	00 01 01	Project Title Page 1 only
	00 01 05	Certifications Page 1 only
	00 01 10	Table of Contents 1 through 2
	00 01 15	List of Drawings 1 only

BIDDING REQUIREMENTS

Document	00 11 00	Invitation for Bids 1 through 3
	00 21 00	Instructions to Bidders 1 through 8
Appendix	00 21 00.01	Request for Bidding Interpretation 1 only
Document	00 22 00	Supplementary Instructions to Bidders 1 only
	00 22 10	DVBE Participation Program Requirements 1 through 3
	00 41 00	Bid Form (Sample) 1 through 9
	00 43 13	Bidder's Bond (Sample) 1 only
	00 43 16	Certified Small Business Subcontractor(s) Summary (Sample) 1 through 2
	00 45 46	Payee Data Record (Sample) 1 through 2

CONTRACTING REQUIREMENTS

Document	00 52 00	Agreement (Sample) 1 only
	00 61 13	Performance Bond (Sample) 1 only
	00 61 14	Payment Bond to Accompany Construction Contract (Sample) 1 only
	00 63 63	Construction Contract Change Order (Sample) 1 only
	00 72 00	General Conditions of the Contract for Construction 1 through 31
	00 73 00	Supplementary Conditions 1 through 12
	00 91 13	Addenda (Sample) 1 through 3

SPECIFICATIONS GROUP**GENERAL REQUIREMENTS SUBGROUP****DIVISION 01 - GENERAL REQUIREMENTS**

Section	01 10 00	Summary 1 through 4
	01 25 00	Substitution Procedures 1 through 2
	01 29 00	Payment Procedures 1 through 3
	01 31 00	Project Management and Coordination 1 through 7
	01 32 00	Construction Progress Documentation 1 through 5
	01 33 00	Submittal Procedures 1 through 7

	01 40 00	Quality Requirements	1 through 6
	01 50 00	Temporary Facilities and Controls	1 through 6
	01 60 00	Product Requirements	1 through 5
	01 73 00	Execution	1 through 6
	01 74 19	Construction Waste Management and Disposal	1 through 5
Form	01 74 19.01	Construction Waste Estimate.....	1 only
	01 74 19.02	Waste Management Report.....	1 through 2
Section	01 74 20	Recycled Content Certification.....	1 through 4
Form	01 74 20.01	Recycled Content Certification Worksheet (Example).....	1 through 2
	01 74 20.02	State Agency Buy Recycled Campaign Procurement Summary (Example)	1 through 2
	01 77 00	Closeout Procedures	1 through 12
Form	STD 817	Prime Contractor's Certifications – DVBE Subcontractor Report ...	1 through 5
	01 77 00.01	Contractor's Certification of Small Business Participation	1 only
	01 77 00.02	Contractor' Certification of Small Business Participation.....	1 only
	01 79 00	Demonstration and Training	1 through 5
	01 91 13	General Commissioning Requirements	1 through 15

FACILITY CONSTRUCTION SUBGROUP

DIVISION 02 – EXISTING CONDITIONS

Section	02 41 26	Selective Demolition	1 through 4
---------	----------	----------------------------	-------------

FACILITY SERVICES SUBGROUP

DIVISION 26 – ELECTRICAL

Section	26 05 00	Electrical Work – General Requirements	1 through 8
	26 05 01	Testing Requirements	1 through 6
	26 05 19	Low-Voltage Electrical Power Conductors and Cables	1 through 6
	26 05 26	Grounding and Bonding for Electrical Systems	1 through 4
	26 05 29	Hangars and Supports for Electrical Systems.....	1 through 7
	26 05 33	Raceway and Boxes for Electrical Systems	1 through 8
	26 05 53	Identification for Electrical Systems	1 through 5
	26 05 73	Short-Circuit/Coordination Study and Arc Flash Hazard Analysis ..	1 through 6
	26 09 43	Network Lighting Controls.....	1 through 9
	26 27 26	Wiring Devices	1 through 4
	26 28 26	Enclosed Transfer Switches	1 through 19
	26 51 00	Interior Lighting.....	1 through 4

END OF DOCUMENT

DOCUMENT 00 01 15

LIST OF DRAWINGS

Sheet Number

Description

GENERAL

G-000	Cover Sheet
G-0001	Index

ARCHITECTURAL

A-100	Site Plan
A-111	First Floor Annotation Plan
A-121	Second Floor Annotation Plan

ELECTRICAL

E-0.00	Symbols List – Notes – Sheet Index
E-0.01	Luminaire Schedule – Lighting Notes
E-0.02	Title 23 Compliance Forms
E-0.03	Title 23 Compliance Forms
E-0.04	Title 23 Compliance Forms
E-1.00	Overall Floor Plan – Level 01 - 02
E-1.11	Level 01 Area A RCP Plan – Demo Lighting
E-1.12	Level 01 Area B RCP Plan – Demo Lighting
E-1.21	Level 02 Area A RCP Plan – Demo Lighting
E-1.22	Level 02 Area B RCP Plan – Demo Lighting
E-2.11	Level 01 Area A RCP Plan – Lighting
E-2.12	Level 01 Area B RCP Plan – Lighting
E-2.21	Level 02 Area A RCP Plan – Lighting
E-2.22	Level 02 Area B RCP Plan – Lighting
E-3.12	Level 01 Area B RCP Floor Plan – Demo New Power
E-5.00	Partial One-Line Diagram
E-5.01	One-Line Diagram for Reference Only
E-5.02	One-Line Diagram for Reference Only
E-5.03	One-Line Diagram for Reference Only
E-5.04	One-Line Diagram for Reference Only
E-6.00	Panel Schedules – Load Calcs
E-7.00	Electrical Details

END OF DOCUMENT

STATE OF CALIFORNIA
DEPARTMENT OF GENERAL SERVICES
FACILITIES MANAGEMENT DIVISION

DOCUMENT 00 11 00

INVITATION FOR BIDS

This project is being bid informally to select prime Contractors in accordance with Public Contract Code § 10122(d). Bid forms will be provided to bidders via email.

SEALED BIDS: DGS will receive sealed bids at 707 Third Street, West Sacramento, California 95605, **before 2:00 P.M., October 8, 2025. Bids received after this date/time will not be considered received on time.**

A public bid opening will be held on **October 9, 2025 at 2:00 P.M.** at 707 Third Street, West Sacramento, CA 95605. Bidders may attend virtually or in person. Bidders attending the bid opening in-person will need to meet and sign in at the security guard station in the lobby at the mailing address below. At the public bid opening, all bids received before **2:00 P.M., October 8, 2025** will be opened and recorded onto a Preliminary Bid Tabulation. Bidders do not need to attend the bid opening as the Preliminary Bid Tabulation will be made available immediately after the bid opening is completed and it will be emailed to invited bidders.

The bid opening may be attended virtually via the following link:

Teams meeting link: [Join the meeting now](#)

Teams meeting ID: 264 309 412 708 8

Teams Passcode: xM7NG3mL

HAND DELIVERED BIDS: Shall be placed in the DGS/OBAS Bid/Proposal Drop Box located in the lobby at 707 3rd Street in West Sacramento. The Drop Box will be opened at 2:00 p.m. Tuesday through Thursday and bids/proposals in the box will be certified as being received before 2:00 p.m. that day.

If mailing bids, ensure the outside of the mailing reads:

ATTENTION: JANNICE CASTRO
ATS AND ELECTRICAL REPAIRS
DEPARTMENT OF GENERAL SERVICES – FACILITIES MANAGEMENT DIVISION
CENTRAL UTILITY PLANT
SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA
PROJECT: 000000000011757
DO NOT OPEN
DEPARTMENT OF GENERAL SERVICES
OFFICE OF BUSINESS AND ACQUISITION SERVICES
707 3RD STREET, MS 508, WEST SACRAMENTO, CA 95605

The bids shall include all Work pursuant to the Drawings and Project Manual, and Addenda as may be issued prior to bid opening date.

Scope of Work: Major components of Project Work consist of automatic transfer switch replacement, switchgear repair, and lighting replacement.

INVITATION FOR BIDS

RESDMSTR: 03/01/2025

00 11 00 - 1

000000000011757

License: Contractors' State License Classification required to bid Project is **C-10**.

Certificate of Reported Compliance (CRC) – Fleet Vehicles: As a condition of Contract award, prior to Contract execution, Contractor shall submit copies of the valid CRCs for any fleet retained by the Contractor or any listed Subcontractor, for which any vehicles subject to the California Air Resources Board In-Use Off-Road Diesel Fueled Fleet Regulations, Section 2449(i), Title 12, California Code of Regulations, are used in the completion of the work included in the Contract.

More information on the In-Use Off-Road Diesel-Fueled Fleets Regulation can be found at the following link: <https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation>

Generative Artificial Intelligence (GenAI): The State of California seeks to realize the potential benefits of GenAI, through the development and deployment of GenAI tools, while balancing the risks of these new technologies.

Bidder must notify the State in writing if it: (1) intends to provide GenAI as a deliverable to the State; or (2), intends to utilize GenAI, including GenAI from third parties, to complete all or a portion of any deliverable that materially impacts: (i) functionality of a State system, (ii) risk to the State, or (iii) Contract performance. For avoidance of doubt, the term “materially impacts” shall have the meaning set forth in State Administrative Manual (SAM) § 4986.2 Definitions for GenAI.

Failure to report GenAI to the State may result in disqualification. The State reserves the right to seek any and all relief to which it may be entitled to as a result of such non-disclosure.

Upon notification by a Bidder of GenAI as required, the State reserves the right to incorporate GenAI Special Provisions into the final contract or reject bids/offers that present an unacceptable level of risk to the State.

Government Code § 11549.64 defines “Generative Artificial Intelligence (GenAI)” as an artificial intelligence system that can generate derived synthetic content, including text, images, video, and audio that emulates the structure and characteristics of the system’s training data.

Availability of Funds: Award of this contract is subject to the availability of funds through the State’s normal budget process and/or transfer of funds to the Department of General Services through the Architecture Revolving Fund.

Pre-bid Site Inspection: Bids will only be accepted from those Contractors having attended the **MANDATORY** pre-bid site inspection tour on **September 17, 2025, at 9:00 A.M.** at which time representatives of the State and prospective bidders shall meet at Central Utility Plant Visitors Entrance, located at 625 Q Street, Sacramento, CA 95814. The State’s requirements for Disabled Veteran Business Enterprise (DVBE) participation and other Contract requirements will be presented. Prime Contractors are encouraged to have their Key Administrator and DVBE office coordinator attend to receive this information and to have their questions answered. **Attendance for the entire inspection is required in order for bidders to be eligible to submit a bid.**

Executive Order N-6-22: The Bidder must be advised of Executive Order N-6-22 Russia Sanctions. On March 4, 2022, Governor Gavin Newsom issued Executive Order (EO) N-6-22 regarding Economic Sanctions against Russia and Russian entities and individuals. “Economic Sanctions” refers to sanctions imposed by the U.S. government in response to Russia’s actions in Ukraine, as well as any sanctions imposed under state law. By submitting a bid, Bidder represents that it is not a target of Economic Sanctions. Should the State determine Bidder is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for rejection of the Bidder’s bid any time prior to contract execution, or, if determined after contract execution, shall be grounds for termination by the State.

Bid: Submit on Lump Sum basis as set forth in Bid Forms.

DVBE: Participation in Disabled Veterans Business Enterprises (DVBE) program **may** be required for this project. Refer to Project Manual Document 00 21 00, Project Manual Document 00 22 10 and Bid Forms for requirements. Bidders are advised to commence the required DVBE procedures immediately upon receipt of drawings and project manual.

DVBE Bid Incentive: The DVBE Incentive program is being applied on this project. Refer to Project Manual Document 00 21 00, Article 18.5.

Small Business Preference: Refer to Project Manual Document 00 21 00, Article 5.5

Non-Small Business Subcontractor Preference: Refer to Project Manual Document 00 21 00, Article 5.6

Bonds: Successful bidder shall furnish payment and performance bonds, each in the amount of 100 percent of the Contract price.

Non-Discrimination Program (Government Code § 12990): Refer to Project Manual Document 00 72 00, General Conditions of the Contract for Construction.

Labor Code: Pursuant to Labor Code § 1774, the Contractor to whom the contract is awarded, and any subcontractor under him, shall pay not less than the specified general prevailing rates of per diem to all workers employed in the execution of the contract. Pursuant to Labor Code § 1770 et seq., the Department of Industrial Relations (DIR) has ascertained general prevailing rate of per diem wages in the locality in which the work is to be performed. Copies of the general prevailing rate of per diem wages are available from the Department of Industrial Relations, Labor Statistics & Research Division, P.O. Box 420603, San Francisco, CA 94142, (415) 703-4780; or general prevailing rate of per diem may be accessed on the internet at Department of Industrial Relations website (<https://www.dir.ca.gov>) for the August 2025 published general prevailing rate of per diem wages for this contract. Copies of the general prevailing rate of per diem wages are on file at DGS' principal office, which shall be made available to any interested party on request. Note that when the general prevailing rate of per diem determination shows an expiration date (noted by a double asterisk**), to expire during the term of the contract, the Contractor must call or write the DIR to obtain the new rates and incorporate them in this contract for submittal of bid. The Contractor is responsible to comply with the Labor Code Sections and general prevailing rate of per diem determinations, including all the guidelines and the fine print in the general prevailing rate of per diem determinations. Refer to Project Manual Document 00 72 00, General Conditions of the Contract for Construction.

Labor Compliance Monitoring and Enforcement: This project is subject to monitoring and enforcement by the Department of Industrial Relations (DIR), Compliance Monitoring Unit. All Contractors and subcontractors, regardless of tier, shall be required to comply with the Monitoring and Enforcement Program, including, but not limited to, contractor registration, submittal of electronic certified payroll reports directly to the DIR as applicable and cooperation with on-site monitoring by DIR personnel. Refer to Labor Code § 1771.4 et seq. and the General Conditions of the Contract for Construction, Document 00 72 00, Article 3.3.3 for more information.

END OF DOCUMENT

STATE OF CALIFORNIA
DEPARTMENT OF GENERAL SERVICES
REAL ESTATE SERVICES DIVISION

DOCUMENT 00 21 00

INSTRUCTIONS TO BIDDERS

Index

Article	Page
1. General	1
2. Competence of Bidders	1
3. Examination of Bid Documents and Site	2
4. Discrepancies or Errors and Addenda	2
5. Bidding Documents	2
6. Submission of Bids	4
7. Withdrawal of Bids	4
8. Public Opening of Bids	4
9. Rejection of Irregular Bids	5
10. Competitive Bidding	5
11. Award of Contract	5
12. Substitution of Alternative Materials, Articles, or Equipment	5
13. Return of Bidder's Security	6
14. Contract Bonds	6
15. Insurance	6
16. Execution of Contract	6
17. Failure to Execute Contract	7
18. Participation in Disabled Veterans Business Enterprises (DVBE) Programs	7
19. Certificate of Reported Compliance – Fleet Vehicles	8

June 2025 Edition

DOCUMENT 00 21 00
INSTRUCTIONS TO BIDDERS

1. GENERAL

- 1.1 Bidder shall examine these instructions carefully and be responsive to conditions with which must be complied with prior to bid.
- 1.2 Bidders shall be aware of the requirements of codes referenced in the Bidding Requirements and in the Contract Documents. Bidders may access codes included in California law through publications or through the Internet. The web site for California law is: <http://leginfo.legislature.ca.gov/faces/codes.xhtml>.

2. COMPETENCE OF BIDDERS

2.1 License:

- .1 Bidder may only bid on work for which Bidder is properly licensed by the Contractors' State License Board.
- .2 Joint venture Bidders must possess a joint venture license. Each party to a joint venture shall be properly licensed for the Work of this Project.

- 2.2 Prior Disqualification: Public Contract Code Section 10162 provides that a bid may be rejected on the basis of a Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, having been disqualified, removed or otherwise prevented from bidding on, or completing a Federal, State or Local project because of a violation of a law or a safety regulation.

If the answer to the questionnaire included in the Bid Form is "yes" the Department will review the circumstances presented and if the Director deems acceptance of the bid is not in the best interest of the State, bid may be rejected.

- 2.3 Employment of Undocumented Aliens: Pursuant to Section 6101 of the Public Contract Code, the State may not award a public works contract to a bidder or contractor, nor shall a bidder or contractor be eligible to bid for or receive a public works contract, who has, in the preceding five years, been convicted of violating a state or federal law respecting the employment of undocumented aliens.

2.4 Contractor Registration:

- .1 Pursuant to Sections 1725.5 and 1771.1 of the Labor Code, all contractors and subcontractors must be currently registered with the Department of Industrial Relations in order to qualify to bid on; be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code; or engage in the performance of any contract for public work.
- .2 Limited exceptions for Joint Venture Bidders and Projects with Federal Funds may apply pursuant to Section 1771.1 of the Labor Code.

- 2.5 Ineligible Subcontractors: Pursuant to Section 1777.1 or 1777.7 of the Labor Code, a contractor is prohibited from bidding on, being awarded or performing work on a public works project with a subcontractor who is ineligible to perform work on the public works project. Refer to the General Conditions of the Contract for Construction, Article 4.1.3.

3. EXAMINATION OF BID DOCUMENTS AND SITE

3.1 Bidder's Responsibility:

- .1 Bidder shall carefully examine the Work site, Drawings, and Specifications (contract documents). This includes reference only documents that will not be part of the agreement, but are provided in addition to documents that will be part of the agreement. See the Office of State Publishing Plan Room <https://www.osplanroom.com/> (Details tab, Documents folder) for reference only documents.
- .2 By submitting a bid, Bidder acknowledges that the Bidder understands the character, quality and quantity of surface, locations of utilities, subsurface materials, or obstacles to be encountered; insofar as this information is reasonably ascertainable from inspection of the Work site, Drawings, and Specifications.
- .3 Bidder's examination shall include all exploratory work done by the State, as well as information presented in the Drawings, Specifications, and other documents as available.

3.2 Refer to Document 00 11 00, Invitation to Bid, for availability of bidding documents.

3.3 Failure by Bidder to acquaint itself with available information will not relieve Bidder from responsibility for estimating properly the difficulty or cost of successfully performing the Work.

3.4 In connection with the foregoing, Bidder's attention is invited to Paragraphs 3.1 and 9.1 of Document 00 72 00, General Conditions of the Contract for Construction.

4. DISCREPANCIES, CONFLICTS, OMISSIONS, OR ERRORS

4.1 If discrepancies, conflicts, omissions or errors are found in the Drawings and the Project Manual prior to the date of bid opening, Bidder shall request clarification from the State's Representative identified in the Project Manual. Bidder shall submit request on Request for Bidding Interpretation Form, Appendix 00 21 00.1.

4.2 Clarifications will be given only in the form of Addenda to all Bidders.

4.3 If no Addenda are issued related to supposed discrepancy, conflict, omissions or errors in figuring the Work, Bidders shall consider that discrepancies, conflicts, or omission between Drawings and Specifications shall be governed by Paragraph 1.5 of Document 00 72 00, General Conditions of the Contract for Construction.

4.4 Omission of an item in either the Specifications or Drawings does not create a discrepancy or conflict.

5. BIDDING DOCUMENTS

5.1 Bid Form: All bids must be on the forms provided by the Department of General Services. Bid not on the forms provided will be considered nonresponsive.

5.2 Completing the Bid Form:

- .1 Bidder's name should be the same as listed on Bidder's license.
- .2 Price(s) shall be in the manner required by the Bid Form.
- .3 Bid Form shall be signed by Bidder or duly authorized representative.

- 1) If Bidder is an individual, name must be shown.
- 2) If Bidder is a partnership, name of the partnership must be shown and one or more partners shall sign the Bid Form.
- 3) If Bidder is a corporation, name of the corporation must be shown, the state of incorporation must be listed, the title of the signor must be shown, and the corporate seal must be used.
- 4) Bidder business and mailing address should be shown.

5.3 Required Listing of Proposed Subcontractors:

- .1 Failure to list kind of Work, Name, or Location shall cause the bid to be rejected as non-responsive.
- .2 Bidders' attention is directed to other provisions of the Subletting and Subcontracting Fair Practices Act, beginning with Public Contract Code Section 4100, related to penalties for failure to comply with the Act by using unauthorized subcontractors or by making unauthorized substitutions. See General Conditions of the Contract for Construction, Paragraph 1.1, for definition of subcontractor, and Article 4 for further reference to subcontractors.
- .3 Bidder's attention is directed to Labor Code Section 1771.1, relating to inadvertent errors in the listing of subcontractors not currently registered with the Department of Industrial Relations.

5.4 Bidders Security:

- .1 All bids shall be accompanied by the following forms of bidder's security: Bidder's Bond, cashier's check, certified check or cash. Bidder's Bond shall be executed by an admitted surety insurer, authorized to issue surety bonds in the State of California. Bond and checks shall be made payable to the director of the Department of General Services. The security shall be in an amount equal to at least 10 percent of the amount bid. A bid shall not be considered responsive unless one of the forms of bidder's security is enclosed with it.
- .2 If Bidder's security is a Bidder's Bond, it must be executed on the form attached to the Bid Form.

5.5 Small Business:

- .1 A five percent (5%) small business preference will be granted to Bidders certified as "Small Business" in accordance with Section 1896 et. Seq., Title 2, California Code of Regulations.
- .2 If the Bidder is not already a Certified Small Business, applications for certification as "Small Business" must be submitted to the Office of Small Business and DVBE Certification (OSDS), 707 3rd Street, First Floor, Suite 1-400, West Sacramento, CA 95605; <https://www.dgs.ca.gov/PD/About/Page-Content/PD-Branch-Intro-Accordion-List/Office-of-Small-Business-and-Disabled-Veteran-Business-Enterprise/Certification-Program>. Firms can apply for small business certification online at <https://www.dgs.ca.gov/PD/Services/Page-Content/Procurement-Division-Services-List-Folder/Certify-or-Re-apply-as-Small-Business-Disabled-Veteran-Business-Enterprise>.
- .3 Submit a copy of your OSDS certification letter with the Bid Form.
- .4 Pursuant to Section 1896.14, in order to receive the small business preference, bidders must have a completed application (including proof of annual receipts) on file with the OSDS. The bidder must have requested a preference from OSDS and meet all applicable requirements under the subchapter and the State Small Business Procurement and Contract Act, (including

but not limited to evidence to rebut presumptions) not later than five o'clock (5:00 p.m.) on the date on which the subject bid is opened.

5.6 Non-Small Business:

- .1 The application of the five percent (5%) small business bidding preference is now extended to a bidder, whose business is not certified as a small business but commits to subcontracting at least twenty-five percent (25%) of its net bid price to businesses that are California certified small businesses and/or microbusinesses.

When applicable this preference will be granted when the non-small business:

- Has been determined to be a responsible bidder and submitted a timely responsive bid.
- Completes Document 00 43 16-2 list of California Certified Small Businesses that he/she commits to subcontract with for a commercially useful function in the performance of the project and submits this document no later than forty-eight (48) hours after the time of receipt of bids. Ascertain that the Bidder's Name and project Work Order number are noted.
If bidder fails to submit a properly completed Document 00 43 16-2 within 48 hours after the time of receipt of bids, the claim for non-small business preference will be denied.

Submit completed Document 00 43 16-2 to Department of General Services, Administration Division, Office of Business and Acquisition Services, Contract Management Section, 707 3rd Street, Suite 2-300, West Sacramento, CA 95605 or by fax to (916) 376-1778.

6. SUBMISSION OF BID FORMS

- 6.1 It is the sole responsibility of the Bidder to see that its bid is received in proper time. Bid received after scheduled closing time for receipt of bids will be returned to Bidder unopened.
- 6.2 Bid Forms shall be submitted under sealed cover, plainly identified as a bid for the work of the Project being bid upon and addressed as directed in the Invitation to Bid and the Bid Form. Failure to do so may result in a premature opening of, or failure to open such bid. Bid Forms improperly marked may be disregarded.

7. WITHDRAWAL OF BID FORMS

- 7.1 Bids may be withdrawn prior to the time fixed in the public notice for opening of bids, provided that a request in writing, executed by Bidder or Bidder's authorized representative, for withdrawal of such bid is filed with the Administration Division, Office of Business and Acquisition Services, Contract Management Section, or the Director of General Services at the location of the bid opening. Oral, facsimile, electronic, telegraphic, or telephonic request to withdraw the Bid Form is not acceptable. Withdrawal of a bid shall not prejudice the right of a Bidder to file a new bid.
- 7.2 This article does not authorize withdrawal of any bid after the time fixed in the Invitation to Bid for opening of bids.

8. PUBLIC OPENING OF BIDS

Bids will be publicly opened and read at time and place indicated in Invitation to Bid. Bidders or their authorized agents are invited to be present.

9. REJECTION OF IRREGULAR BIDS

- 9.1 Bids may be rejected if they show any alterations of form, additions not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. If bid amount is changed after the amount is originally inserted, the change must be initialed.
- 9.2 When Bid Form is signed by an agent, other than the officer or officers of a corporation authorized to sign contracts on its behalf, or are signed by an agent other than a partner of a partnership, or by an agent for an individual, a power of attorney must be on file with the Department of General Services prior to opening bids or shall be submitted with the Bid Form; otherwise the bid will be rejected as irregular and unauthorized.

10. COMPETITIVE BIDDING

- 10.1 If more than one Bid Form is offered by an individual, firm, partnership, corporation, association, or any combination thereof, under the same or different names, all such Bid Forms may be rejected. A party who has quoted prices on materials or work to a Bidder is not thereby disqualified from quoting prices to other Bidders, or from submitting a bid directly for materials or work.
- 10.2 Bidders are put on notice that any collusive agreement fixing the prices to be bid so as to control or affect awarding of the Contract is in violation of competitive bidding requirements of the State Contract Act and may render void any Contract let under such circumstances.

11. AWARD OF CONTRACT

- 11.1 The right is reserved to reject any and all bids and waive any irregularity in any bid received.
- 11.2 Award of the Contract, if awarded, will be to the lowest responsible Bidder whose Bid Form complies with all requirements prescribed.
 - .1 Such award, if made, will be made within 45 days after opening of bids.
 - .2 If lowest responsible Bidder refuses or fails to execute the Contract, the Director of General Services may award the Contract to the second lowest responsible Bidder. Such award, if made, will be made within 60 days after opening of bids.
 - .3 If second lowest responsible Bidder refuses or fails to execute the Contract, the Director of General Services may award the Contract to the third lowest responsible Bidder. Such award if made, will be made within 75 days after opening of bids.
- 11.3 The above time periods within which award of Contract may be made are subject to extension of such further period as may be agreed upon in writing between the Department of General Services and the Bidder concerned.
- 11.4 When Project is segregated into more than one prime Contract, and a Bidder upon one of the prime Contracts fail or refuses to execute the Contract, then the time for award of such Contract will be extended as provided by this Article, and the time for award of each of the other segregated prime Contracts will be extended by an equivalent length of time, if required.

12. SUBSTITUTION OF ALTERNATIVE MATERIALS, ARTICLES, OR EQUIPMENT

- 12.1 Pursuant to Public Contract Code Section 3400, alternative material(s), article(s), or equipment that are of equal quality and of required characteristics for the purpose intended may be proposed during the bidding period; for use in the Work, provided the Bidder complies with the following requirements:

- .1 Proposals for alternative material(s), article(s), or equipment, requested during the bidding period, shall be submitted in writing, not later than the deadline date and time identified on the Request for Bidding Interpretation (RFBI), Appendix 00 21 00.1.
- .2 The proposal will not be considered unless the submittal is accompanied by complete information and descriptive data necessary to determine equality of offered material(s), article(s) or equipment. Samples shall be provided when requested by the State. Burden of proof as to comparative quality, suitability, and performance of offered material(s), article(s), or equipment shall be upon the Bidder submitting the proposal. The State will be the sole judge as to such matters. In the event the State rejects the use of such alternative(s) submitted, then one of the particular products originally specified in the Contract Documents shall be furnished. If the proposal is accepted, all Bidders will be notified by Addendum.
- .3 Refer to the General Conditions of the Contract for Construction, Clauses 2.2.7 and 3.12.10, for substitution requests after Contract Award.

13. RETURN OF BIDDER'S SECURITY

- 13.1 Within 10 days after the award of the Contract, the Department of General Services will return all Bidder's security, other than Bidder's Bonds, accompanying the Bid Forms that are not to be fully considered in making the award.
- 13.2 Retained Bidder's security will be held until the Contract has been fully executed, after which all Bidder's security, except Bidder's Bonds, will be returned.

14. CONTRACT BONDS

Contractor will be required to furnish in duplicate the Performance Bond and Payment Bond required by the State Contract Act, each in the amount of 100 percent of the Contract amount; as set forth in Paragraph 11.3 of Document 00 72 00, General Conditions of the Contract for Construction.

15. INSURANCE

Contractor will be required to furnish to the State, concurrently with execution of the Contract, a certificate of insurance coverage as required by Paragraph 11.1 of Document 00 72 00, General Conditions of the Contract for Construction.

16. EXECUTION OF CONTRACT

- 16.1 Contract shall be signed by successful Bidder and returned within 7 days of receipt. The Contract shall not be binding upon the State until it is executed by the Contractor and the State. Contract Documents required for execution of the Contract consist of the following:
 - .1 Agreement, Document 00 52 00.
 - .2 Contract Bonds.
 - .3 Certificate of Insurance.
 - .4 Signed set of Drawings and Project Manual for filing with the Contract.
- 16.2 Should Contractor begin work in advance of receiving notice that the Contract has been approved, any work performed in advance of the date of approval shall be considered as having been done

at risk as a volunteer. In no event shall Contractor commence work until Contractor has received notification from the State that the certificate of insurance has been approved.

17. FAILURE TO EXECUTE CONTRACT

Failure to execute Contract within 7 days after successful Bidder has received Contract for execution may be cause for forfeiture of Bidder's security. Failure to provide required bonds and insurance constitutes failure to execute Contract.

18. PARTICIPATION IN DISABLED VETERANS BUSINESS ENTERPRISES (DVBE) PROGRAM

18.1 Pursuant to Section 10115 et seq. of the Public Contract Code, and Section 999 et seq. of the Military and Veterans Code, the Department of General Services has established an overall goal of not less than 3% participation by Disabled Veteran Business Enterprises (DVBE). However, these DVBE Participation Requirements may be modified for this project; reference Document 00 22 10 of the Project Manual for the percentage requirements.

18.2 Bids will only be accepted from those Bidders that certify that they have achieved the required participation, as outlined in Document 00 22 10 of the Project Manual, and as set forth in the Bid Form.

18.3 Applicants for DVBE certification may apply online at <https://www.dgs.ca.gov/PD/Services/Page-Content/Procurement-Division-Services-List-Folder/Certify-or-Re-apply-as-Small-Business-Disabled-Veteran-Business-Enterprise>. DVBE applicants must submit specific support documentation to the OSDS.

18.4 Bidder's attention is directed to the requirement that certifications and documentation must be submitted with the bid; otherwise bids will be considered non-responsive.

BIDDERS ARE ADVISED TO COMMENCE THE REQUIRED DVBE PROCEDURES IMMEDIATELY UPON RECEIPT OF DRAWINGS AND SPECIFICATIONS, OR NOT LESS THAN THREE (3) WEEKS PRIOR TO THE BID OPENING, WHICHEVER OCCURS FIRST.

18.5 DVBE INCENTIVE

- .1 A DVBE Incentive will be granted to Bidders in accordance with Section 999.5(a) and (d) of the Military and Veterans Code and California Code of Regulations 1896.98 et seq.
- .2 The DVBE Incentive will be applied during the bid evaluation process and will only be applied to responsive bids from responsible bidders proposing the percentage(s) of DVBE Participation for the DVBE Incentive specified in the solicitation. Any Small Business Preference must be calculated prior to the DVBE Incentive calculation and evaluation.
- .3 The incentive will be applied when a Bidder's DVBE Participation exceeds 3% the DVBE Mandatory participation Requirement, in an attempt to displace the apparent low bidder.

The DVBE Incentive is as follows:

Confirmed DVBE Participation	Incentive
7% and above	5%
6% to 6.99%	4%
5% to 5.99%	3%
4% to 4.99%	2%
3.01% to 3.99%	1%
0% -3%	No incentive – minimum 3% participation required

- .4 The percentage of DVBE Incentive will not exceed 5% and will not exceed \$500,000.00.
- .5 For every bidder qualifying for the DVBE incentive, the amount (dollar value) of the incentive is computed using the qualifying bidder's percentage of DVBE incentive and the lowest responsive and responsible bid price. Calculations to determine adjusted bid price are for consideration only. Bids will be awarded for the actual bid amount as verified by the State.
- .6 A certified Small Business may only be displaced by another certified Small Business with a higher percentage of DVBE participation and a lower adjusted bid price.
- 1) A certified Small Business shall not be displaced by a non-small business.
 - 2) When applying the DVBE Incentive program, bidders claiming the "Non-Certified Small Business preference" are considered a non-small business.

19. CERTIFICATE OF REPORTED COMPLIANCE – FLEET VEHICLES

- 19.1 For any project using vehicles subject to the California Air Resources Board In-Use Off-Road Diesel Fueled Fleets Regulation, Section 2449(i), Title 12, California Code of Regulations, prior to the execution of a contract, Contractor shall be required to submit copies of the valid Certificates of Reported Compliance (CRC), issued by the California Air Resources Board. CRCs shall be provided for any fleet used by the Contractor or any listed Subcontractors.
- 19.2 CRCs are required for any contract involving the operation of self-propelled off-road diesel vehicles 25 horsepower or greater and most two-engine vehicles owned and operated in California, including vehicles that are rented or leased.
- 19.3 Certificates of Reported Compliance must be retained by the Contractor for three years after the completion of the project.
- 19.4 If no vehicles subject to the California Air Resources Board In-Use Off-Road Diesel Fueled Fleets Regulation shall be used on a project by the Contractor or any Subcontractor, Contractor shall provide a certification that no vehicles subject to these regulations will be used on the project.

END OF DOCUMENT

REQUEST FOR BIDDING INTERPRETATION (RFBI)

(Email no later than September, 24, 2025, 5:00 p.m.)

To: Jason Sy, Project Director
Project Management and Development Branch
Real Estate Services Division
Phone: 279-799-4106

Email: Jason.Sy@dgs.ca.gov

PMDB RFBI No.: _____
Requestor RFBI No.: _____
Request Date: _____
From (Bidder): _____

Contact: _____
Phone: _____
Fax: _____
Email: _____

All RFBI's received prior to deadline identified above, and responses from the State will be published on <http://www.caleprocure.ca.gov>. Click on "Start Search." In the event name field, enter the project number and click search. While viewing the Event Details, click on "View Event Package" to view RFBI responses.

Project No.: 000000000011757
Project Name: ATS and Electrical Repairs
Location: Sacramento, CA

Drawing Reference: _____ Project Manual Reference: _____

Question:

Bidder's Authorized Signature: _____

[] Check here if additional pages attached

Page 1 of _____

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

The following requirements supplement Document 00 21 00, Instructions to Bidders:

1. PAYEE DATA RECORD

Add the following to Subarticle 6.2:

Bidders are requested to complete and return the State's Payee Data Record form, Std.204 (and Std. 205 if applicable), included with the Bid Forms. The Payee Data Record form is required in lieu of IRS W-9 when doing business with the State of California, and will be used by the State to prepare tax information returns as stated on the form.

- .1 Completion and submission of the form with the Bid Forms will expedite processing of the Award of Contract.
- .2 Failure to submit the completed form with the Bid will not be cause for rejection of a Bid.
- .3 Forms of all Bidders will be kept on file by the State for use in future awarded Contracts.
- .4 Bidders who have a completed and current Payee Data Record form on file with the Department of General Services, Real Estate Services Division, Contracts Section, may so state on the form and will not be required to submit a duplicate form.
- .5 The form is subject to Section 7(b) of the Privacy Act of 1974 (Public Law 93-5791). Refer to the Privacy Statement on the back of the form.

END OF DOCUMENT

**DISABLED VETERAN BUSINESS ENTERPRISE PARTICIPATION
PROGRAM REQUIREMENTS**

Public Contract Code Section 10115 establishes a contract participation goal of at least three percent (3%) for Disabled Veteran Business Enterprise (DVBE) for State agencies.

DVBE participation is required for this contract. Mandatory participation has been set at 3%. Participation above and beyond the requirement is strongly encouraged. This bid package provides information for the DVBE Participation Program. Bidders must meet DVBE Participation Program requirements to be viewed as a responsive bidder and considered for contract award.

PLEASE READ THESE INSTRUCTIONS CAREFULLY

Bidders must fully comply with DVBE Participation Program requirements. Bidders that do not submit a complete response may find their bid determined to be non-responsive and the bid rejected.

For assistance with meeting the DVBE participation program requirements, please contact:

Department of General Services
Administrative Division
Office of Business and Acquisition Services
Contract Services Section – SB-DVBE Advocate
707 Third Street, MS 508
West Sacramento, CA 95605
Email: OBASAdvocate@dgs.ca.gov

The **Office of Small Business and DVBE Services** (OSDS) offers program information and may be reached at:

Department of General Services
Office of Small Business and DVBE Services (OSDS)
707 3RD Street, 1st Floor, Room 400
West Sacramento, CA 95605-2811

Homepage: [Apply for or Re-Apply for Certification as a Small Business and/or Disabled Veteran Business Enterprise](#)

Receptionist: (916) 375-4940
FAX: (916) 375-4950
Email: OSDSHelp@dgs.ca.gov

Mailing Address:
Office of Small Business and DVBE Services (OSDS)
Room 1-400, MS 210
P.O. Box 989052
West Sacramento, CA 95798-9052

INSTRUCTIONS FOR DVBE PARTICIPATION PROGRAM COMPLIANCE OPTIONS

If for any reason you fail to meet the DVBE Participation Requirement for this bid, your bid will be considered non-responsive.

Meet or exceed the DVBE participation requirements for the proposed contract by one of the following two (2) ways:

1. **DVBE Bidder** - If you are a DVBE bidder, agree to perform the required percentage of the contract bid amount or value with your firm or in combination with other DVBE firms. You **must** write that commitment on Article 9.2 of the Bid Form, Document 00 41 00. Instructions on how to complete this document are on that page.
2. **Non-DVBE Bidder** - If you are a non-DVBE bidder, agree to use other firms for at least the required percentage of the contract bid amount or value. You **must** write that commitment on Article 9.2 of the Bid Form, Document 00 41 00. Instructions on how to complete this document are on that page.

DVBE Certification: OSDS-DVBE certification is the only acceptable certification. To verify if a contractor is certified refer to the Cal eProcure web-site at [The State of California Certifications](#). Bidders must provide certification verification for each participating DVBE bidder, subcontractor, and/or supplier. Applicants for DVBE certification may apply online at [Apply for or Re-Apply for Certification as a Small Business and/or Disabled Veteran Business Enterprise](#). DVBE applicants must submit specific support documentation to the OSDS.

DVBE Bid Incentive: A DVBE Incentive will be granted to Bidders who have achieved DVBE participation exceeding 3% or greater of the value of the bid in accordance with Section 999.5(a) and (d) of the Military and Veterans Code and California Code of Regulations 1896.98 et seq. Refer to Project Manual Document 00 21 00, Article 18.5.

Pursuant to Military and Veterans Code §999.7, the awarding department shall withhold, on a contract entered into on or after January 1, 2021, ten thousand dollars (\$10,000) from the final payment, or the full final payment if less than ten thousand dollars (\$10,000), until a prime contractor complies with the certification requirements of subdivision (d) of Section Military and Veterans Code §999.5. A prime contractor that fails to comply with the certification requirement shall, after notice, be allowed to cure the defect. Notwithstanding any other law, if, after at least 15 calendar days but not more than 30 calendar days from the date of notice, the prime contractor refuses to comply with the certification requirements, the awarding department shall permanently deduct ten thousand dollars (\$10,000) from the final payment, or the full payment if less than ten thousand dollars (\$10,000).

ANSWERS TO FREQUENTLY ASKED QUESTIONS:

The following questions are among the most frequently asked regarding DVBE requirements:

Q: *If I am awarded the contract, am I required to use the subcontractor/supplier proposed in my bid?*

A: Yes, unless you have requested and received approval from the State for substitution. Written requests should include the person's or firm's name to be substituted, the substitution reason, the reason a non-DVBE subcontractor is proposed, if applicable and describe the business to be substituted including its business status as a sole proprietorship, partnership, corporation or other entity and the certification status of the firm, if any. See Title 2, California Code of Regulations, Section 1896.64 (c) & (d) for substitution criteria.

The request and the State's approval or disapproval is not construed as an excuse for non-compliance with any other provision of the law, including but not limited to the Subletting and Subcontracting Fair Practices Act, or any other contract requirements relating to substitution of subcontractors. Failure to adhere to at least the DVBE participation proposed by the successful Contractor may be cause for contract termination and recovery of damages under the rights and remedies due the State for default section of the contract(s) and any other penalties provided for by statute.

Q: *Who notifies the subcontractor when an award is made?*

A: Upon award to a prime Contractor, the Awarding Department notifies listed subcontractors of their contract participation. Primes are encouraged to notify their listed subcontractors immediately after an award is made to formalize their business agreements.

Q: *What happens to bids considered non-responsive to the DVBE Participation Program requirements?*

A: Non-responsive bids are subject to rejection. Many are rejected because of:

- Incomplete documentation
- Documentation not received by bid due date
- Mathematical error related to the percentages

Q: *If I am a disabled veteran business enterprise, can I meet the percentage requirements as a single company?*

A: Yes.

Q: *If my submitted bid meets the contract goal and the State decides to make multiple awards to the bid/contract, could my bid be considered non-responsive?*

A: No. The State's decision to make multiple awards will not jeopardize bid compliance.

END OF DOCUMENT

BID FORM

THE STATE OF CALIFORNIA
DEPARTMENT OF GENERAL SERVICES
REAL ESTATE SERVICES DIVISION
PROJECT MANAGEMENT AND DEVELOPMENT BRANCH

FROM: _____
(Name of Bidding Firm)

DELIVER TO: Office of Business and Acquisition Services
707 Third Street
West Sacramento, CA 95605

BEFORE 2:00 P.M., October 8, 2025

FOR: ATS AND ELECTRICAL REPAIRS
DEPARTMENT OF GENERAL SERVICES – FACILITIES MANAGEMENT DIVISION
SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA
000000000011757

Plainly mark outside of envelope with "Bid For"; followed by the above title and Project Number.

The undersigned hereby proposes and agrees to furnish all labor, materials, and equipment, and to perform all work required for the above-named Project in the manner and time prescribed in the Drawings and Project Manual, dated June 23, 2025 and such addenda thereto as may be issued prior to bid opening date and in accordance with prevailing wage rates ascertained by the Department of Industrial Relations and set forth on the DIR web site ([Prevailing Wage Requirements](#)) for General Prevailing Wage Rates as determined by the August 2025 DIR prevailing wage published rates. The Bid Price, set forth below in clear legible figures, includes the cost of Bonds, insurance, sales tax, and every other item of expense, direct or indirect, incidental to the Bid Price.

COMPLETE WORK

For the Lump Sum of: \$ _____

IMPORTANT - READ BEFORE SIGNING: Bid Form must be executed in same name-style in which the bidder is licensed. Bidder bidding jointly or as a combination of several business organizations is specially cautioned that such bidder must be jointly licensed in the same form and style in which the bid is executed. If making a bid as a joint venture, each person submitting the bid shall provide the information required below with respect to his or her licensure. The undersigned Bidder certifies and agrees to provide the information and comply with the requirements contained in Articles 1 through 10 on the following pages of the Bid Form. By signing, Bidder swears under penalty of perjury that the conditions of Article 2; Article 4, Paragraph 4.2; Article 7 and Article 9, Paragraph 9.2.1 are true.

Legal Name of Bidder: _____ Federal I.D. No.: _____

Contractor's License No.: _____ License Expiration Date: _____ License Classification: _____

Contractor's Public Works Registration No. (Dept. of Industrial Relations): _____

Contractor's DGS Small Business/DVBE Certification Number: _____

Business Address: _____
(Street and/or P.O. Box) (City) (State) (Zip)

E-Mail Address: _____

Business Telephone No.: _____ Facsimile No.: _____

SIGN HERE ----->

Signature of Bidder

Print Name and Title of Bidder

Executed this _____ day of _____, 20____ at _____, California.

ARTICLE 1 – BIDDER'S BUSINESS IDENTIFICATION

THIS BID IS SUBMITTED BY (check one):

☐

Individual

☐

Partnership

☐

Joint Venture

☐

Corporation

State in which Incorporated

NOTE: If Bidder is a corporation, the State in which incorporated shall be inserted above and the legal name of the corporation shall be set forth on Page 1, together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation; if Bidder is a partnership, the true name of the firm shall be set forth on Page 1, together with the signature of a partner authorized to sign contract in behalf of the partnership; and if Bidder is an individual, that person's signature shall be placed on Page 1. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the Department prior to opening bids or submitted with the bid; otherwise, the bid will be regarded as irregular and unauthorized. If bid is submitted by partnership or joint venture, the members are:

ARTICLE 2 – PREFERENCES AND INCENTIVES

2.1 Small Business Preference - By checking "yes" below, Bidder requests preference as a "Small Business" and further certifies under penalty of perjury, that the firm still meets the requirements of Section 1896 et. seq. Title 2, of the California Code of Regulations, and has either: 1) been approved by the Office of Small Business and Disabled Veteran Business Enterprise (DVBE) Services (OSDS) or; 2) submitted a complete application pursuant to Section 1896.14 to the OSDS by 5:00 p.m. on the bid opening date.

The Legal Name of Bidder and the Bidder's OSDS Certification must be executed in the same name-style in which bidder is licensed. A Bidder bidding jointly or as a combination of several business organizations is specially cautioned that such bidder must be jointly licensed in same form and style in which the bid is executed.

Special attention is directed to Section 1896.16 for penalties for furnishing incorrect supporting information in obtaining preference.

2.1.1 Small Business Preference Claimed? ☐ Yes _____ ☐ No
(List date filed if not yet certified)

2.2 Non-Small Business Subcontractor Preference - By checking "yes" below Bidder requests preference as a Non-Small Business and agrees to complete and submit Document 00 43 16-2 attached hereto, no later than forty-eight (48) hours after the time of receipt of bids (or the following business day if a weekend or state holiday). Special attention is directed to Section 1896.16 for penalties for furnishing incorrect supporting information in obtaining preference.

2.2.1 Non-Small Business Subcontractor Preference Claimed? ☐ Yes ☐ No

2.3 Disabled Veteran Business Enterprise Bid Incentive - By checking "yes" below, Bidder certifies and claims credit for achieving 1% or greater of DVBE Participation on this bid as is shown in Article 9 of this bid form and also requests that the corresponding DVBE Incentive be applied to this bid.

2.3.1 DVBE Incentive Claimed? ☐ Yes ☐ No

ARTICLE 3 – BONDING ASSISTANCE

In the event Bidder has received assistance in obtaining bonding for this Project, Bidder shall set forth name and nature of firm providing such assistance. Should that firm be listed as subcontractor, Bidder shall set forth the percentage of contract to be performed by that subcontractor.

Firm Providing Assistance and Nature of Assistance

Subcontractor: ☐ Yes ☐ No Percentage _____

ARTICLE 4 – CERTIFICATIONS - BID DEPOSITORY AND FEDERAL COURT FINDINGS

4.1 By signing this Bid Form, Bidder certifies that in preparation of this Bid Form, no bid was received by the bidder from a bid depository, which depository (as to any portion of the work) prohibits or imposes sanctions for the obtaining by bidder, or the submission to bidder by any subcontractor or vendor or supplier of goods and services, of a bid outside the bid depository. This certification shall constitute a warranty, the falsity of which shall entitle the State to pursue any remedy authorized by law, and shall include the right, at the option of the State, of declaring any contract made as a result thereof to be void.

4.2 By signing this Bid Form, Bidder swears under penalty of perjury that representations of the bid with respect to bidder's license are true and that no more than one final un-appealable finding of contempt of court by a Federal Court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a Federal Court which orders the Contractor to comply with an order of the National Labor Relations Board.

4.3 By signing this Bid Form, Bidder acknowledges that in accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his employees. The Bidder agrees that they are aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and will comply with such provisions before commencing the performance of the work of this contract.

4.4 By signing this Bid Form, Bidder certifies they will not ask an applicant for onsite construction-related employment to disclose orally or in writing information concerning the conviction history of the applicant on or at the time of an initial employment application.

This section shall not apply to a position for which the person or the state is otherwise required by state or federal law to conduct a conviction history background check or to any contract position with a criminal justice agency, as that term is defined in Section 13101 of the Penal Code.

This section shall not apply to a person to the extent that he or she obtains workers from a hiring hall pursuant to a bona fide collective bargaining agreement.

ARTICLE 5 – STATEMENT OF COMPLIANCE - NONDISCRIMINATION

Bidder (hereinafter referred to as "prospective contractor" in this Statement), by signing this Bid Form, hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f), and CCR, Title 2, Division 4.1, Chapter 5 and Subchapter 5, Section 11102, in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program; as set forth in the General Conditions of the Contract for Construction. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicants for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), medical disability (cancer), age (over 40), marital status, and denial of family care leave.

ARTICLE 6 – QUESTIONNAIRE

6.1 In accordance with Public Contract Code, Section 10162, the Bidder shall complete the following questionnaire:

6.1.1 Has the Bidder, any officer of the Bidder, or any employee of the Bidder who has a proprietary interest in the Bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a Federal, State or Local government project because of a violation of law or a safety regulation?

☐ Yes

☐ No

6.1.2 Has the Bidder, any officer of the Bidder, or any employee of the Bidder who has a proprietary interest in the Bidder, ever received a safety violation or failed to file notifications to the Cal-OSHA, Federal OSHA, or EPA Agencies for employee records as required by CCR, Title 8, Section 5208 and CFR 40, Part 61?

☐ Yes

☐ No

If the answer to either 6.1.1 or 6.1.2 above is "Yes", then give the date(s) of the citation(s) or failure to make notifications, and explain the circumstances by attachment to this Bid Form.

6.2 In order to verify compliance with California Air Resources Board In-Use Off-Road Diesel Fueled Fleets Regulation, Section 2449(i), Title 13, California Code of Regulations, the Bidder shall complete the following questionnaire:

6.2.1. Does the work for the above-named Project involve use of vehicles subject to California Air Resources Board In-Use Off-Road Diesel Fueled Fleets Regulation?

☐ Yes

☐ No

If the answer to 6.2.1 above is "Yes", successful low Bidder shall, prior to the execution of a contract, submit copies of the valid Certificates of Reported Compliance, issued by the California Air Resources Board, for the fleet selected for the contract and listed subcontractors.

ARTICLE 7 – NON-COLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

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

ARTICLE 8 – ADDENDA

In submitting this bid, Bidder represents that Bidder has examined copies of all the Contract Documents and acknowledges receipt of the following addenda:

Addendum No.: _____ Date: _____

Addendum No.: _____ Date: _____

Addendum No.: _____ Date: _____

Addendum No.: _____ Date: _____

Addendum No.: _____ Date: _____

Addendum No.: _____ Date: _____

Failure to acknowledge on the Bid Form receipt of an addendum shall not in itself be cause for withdrawal or rejection of bids, if it can be shown that bidder did, in fact, receive such addendum prior to bid opening.

ARTICLE 9 – DVBE COMPLIANCE & PARTICIPATION SUMMARY

9.1 In accordance with Public Contract Code Section 10115, et seq., the Department of General Services has established criteria to implement the DVBE Program Goal as set forth in Document 00 22 10 of the Project Manual. Document 00 22 10, DVBE PARTICIPATION PROGRAM REQUIREMENTS cites the specific percentage of DVBE Participation required for this contract. **Failure to meet this requirement will result in a non-responsive bid.**

If DVBE Participation is a requirement for this bid, Bidder must complete Article 9.2.1 - DVBE PARTICIPATION SUMMARY. Failure to meet the full percentage of required DVBE participation will cause the bid to be deemed non-responsive and the bid will be rejected by the State. Listed DVBE vendor or subcontractor relationships should be first tier.

Any DVBE person, firm, corporation or organization committed by the bidder to fulfill DVBE Participation must: 1) be certified with the OSDS, and; 2) perform or provide a Commercially Useful Function as defined in Military and Veterans Code Section 999. Failure to comply with these requirements will deem the bid non-responsive and the bid will be rejected by the State.

If DVBE participation is set at zero percent, Bidder may still claim DVBE Incentive for voluntary DVBE Participation of 1% or greater. To have DVBE Incentive applied to this bid, Bidder must claim the Incentive in ARTICLE 2.3 - PREFERENCES & INCENTIVES and complete ARTICLE 9.2 - DVBE PARTICIPATION SUMMARY of the Bid Form.

If any DVBE subcontractor will be performing work in excess of 1/2 of 1% of the bid amount, the subcontractor **MUST** be listed under ARTICLE 9.2.1 - DVBE PARTICIPATION SUMMARY.

9.2 DVBE PARTICIPATION SUMMARY

NAME OF BIDDER: _____

Completion Instructions: Capture all required and non-required first tier DVBE Participation in the space below. Identify the proposed work (services, trade or materials) to be completed by the DVBE. List the Company name, contact information, OSDS Certification Number, and the DIR Registration Number. If the Bidder is a DVBE, list only the Bidder's information as 100%; do not list additional subcontractors. Indicate the dollar amount of the work to be performed by each DVBE company and the corresponding percentage of this bid price rounded to two decimals. Add up each Dollar Amount and identify the total on the bottom row marked, TOTAL DVBE PARTICIPATION. Calculate and list the percentage of the bid price this amount represents.

Pursuant to Military and Veterans Code §999.7, the awarding department shall withhold, on a contract entered into on or after January 1, 2021, ten thousand dollars (\$10,000) from the final payment, or the full final payment if less than ten thousand dollars (\$10,000), until a prime contractor complies with the certification requirements of subdivision (d) of Section Military and Veterans Code §999.5. A prime contractor that fails to comply with the certification requirement shall, after notice, be allowed to cure the defect. Notwithstanding any other law, if, after at least 15 calendar days but not more than 30 calendar days from the date of notice, the prime contractor refuses to comply with the certification requirements, the awarding department shall permanently deduct ten thousand dollars (\$10,000) from the final payment, or the full payment if less than ten thousand dollars (\$10,000).

9.2.1 Listed hereinafter is the certified DVBE company(s) proposed to perform work if the contract is awarded to Bidder:

TYPE OF WORK PERFORMED (Service, Trade or Materials)	NAME OF DVBE COMPANY, CONTACT PERSON AND PHONE NUMBER	OSDS CERTIFICATION NUMBER	DIR REGISTRATION NUMBER	DOLLAR AMOUNT OF WORK PERFORMED	PERCENTAGE OF BID PRICE
TOTAL DVBE PARTICIPATION:					

DETERMINATION OF TOTAL DVBE PARTICIPATION: Determination of total DVBE participation will be on the basis of total sum of all listed DVBE above and as verified by the State. When there is a discrepancy between the Dollar Amount and the Percentage of Bid, the higher of the two will prevail.

ARTICLE 10 – LIST OF PROPOSED SUBCONTRACTORS

Listed hereinafter are the **name, location, license number, and number, and registration number** of all subcontractors who will be employed, and the **kind of work** which each will perform if the contract is awarded to the undersigned. I understand that under Public Contract Code Section 4100, et. seq., I must here clearly set forth the name and location of each subcontractor who will perform work or labor or render service to me in or about the construction of the work in an amount in excess of one-half of one percent (1/2 of 1%), of my total bid, and that as to any work in which I fail to do so, I agree to perform that portion myself or be subject to penalty under the act.

(Note: In case more than one subcontractor is named for the same kind of work, state the portion that each will perform.) I also understand that listed subcontractors must be registered with the Department of Industrial Relations in order to be listed for and to engage in the performance of work on Public Works projects.

Notwithstanding General Conditions Paragraph 1.1, the definition of a **SUBCONTRACTOR** for the purposes of the Subletting and Subcontracting law is as follows: A trade Contractor who is licensed with the Contractors' State License Board with an A, B, C or D classification, as defined pursuant to PCC Section 4113.

- Vendors or suppliers of materials only need not be listed.

Failure to list Kind of Work, Name, Location or License Number shall cause the bid to be rejected as non-responsive.

Kind of Work	Name	Location (City)	CSLB License No.	DIR Registration No.

If further space is required below, copy this page and attach hereto to be made a part of the Bid Form. Sub List Page _____ of _____

CALIFORNIA CIVIL RIGHTS LAWS ATTACHMENT

DGSOLS 04 (Rev.01/17)

Pursuant to Public Contract Code section 2010, a person that submits a bid or proposal to, or otherwise proposes to enter into or renew a contract with, a state agency with respect to any contract in the amount of \$100,000 or above shall certify, under penalty of perjury, at the time the bid or proposal is submitted or the contract is renewed, all of the following:

1. **CALIFORNIA CIVIL RIGHTS LAWS:** For contracts executed or renewed after January 1, 2017, the contractor certifies compliance with the Unruh Civil Rights Act (Section 51 of the Civil Code) and the Fair Employment and Housing Act (Section 12960 of the Government Code); and
2. **EMPLOYER DISCRIMINATORY POLICIES:** For contracts executed or renewed after January 1, 2017, if a Contractor has an internal policy against a sovereign nation or peoples recognized by the United States government, the Contractor certifies that such policies are not used in violation of the Unruh Civil Rights Act (Section 51 of the Civil Code) or the Fair Employment and Housing Act (Section 12960 of the Government Code).

CERTIFICATION

I, the official named below, certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Proposer/Bidder Firm Name (Printed)	Federal ID Number
By (Authorized Signature)	
Printed Name and Title of Person Signing	
Executed in the County of	Executed in the State of
Date Executed	

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], at _____ [city], _____ [state]."

Signed

END OF DOCUMENT

BIDDER'S BOND

STATE OF CALIFORNIA
DEPARTMENT OF GENERAL SERVICES

KNOW ALL MEN BY THESE PRESENTS:

That we,

_____, as Principal,
and _____

as Surety, are held and firmly bound unto the State of California, hereinafter called the State, in the penal sum of ten percent (10%) of the total amount of the bid of the Principal above named, submitted by said Principal to the State of California, Department of General Services, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION of this obligation is such that:

WHEREAS, the Principal has submitted the above-mentioned bid to the State of California, Department of General Services, for certain construction specifically described as follows, for which bids are to be opened at _____
(Insert place where bids will be opened) on _____ (Insert date of bid opening)
for _____

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

NOW, THEREFORE, If the aforesaid 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 accordance with the bid, and files the two bonds with the Department, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue.

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

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this _____ day of _____, 20____.

(SEAL)

(SEAL)

(SEAL)

Name of Principal and Address for Service

By _____

Contractor Signature

(SEAL)

(SEAL)

(SEAL)

Name of Surety and Address for Service

By _____

Attorney-in-Fact Signature

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

CERTIFICATE OF ACKNOWLEDGMENT

STATE OF CALIFORNIA

COUNTY OF _____ SS

On this _____ day of _____ in the year of 20____ before me, a notary public in and for the county and state aforesaid, personally appeared, _____ and proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and proved to me on the basis of satisfactory evidence to be 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

DOCUMENT 00 43 16-1

LIST OF CERTIFIED SMALL BUSINESS SUBCONTRACTOR(S)

COMPLETION INSTRUCTIONS
PLEASE READ THESE INSTRUCTION CAREFULLY

IN ORDER TO GRANT A FIVE PERCENT (5%) NON-SMALL BUSINESS SUBCONTRACTOR PREFERENCE TO A NON-SMALL BUSINESS, THE BIDDER MUST COMPLETE THE CERTIFIED SMALL BUSINESS SUBCONTRACTOR SUMMARY (CSBSS) FORM 00 43 16-2. THIS FORM **MUST** BE COMPLETED BY THE NON-SMALL BUSINESS BIDDER AND RETURNED TO THE AWARDING AGENCY NO LATER THAN FORTY-EIGHT (48) HOURS AFTER THE TIME OF RECEIPT OF BIDS. IF THE BIDDER FAILS TO RETURN THE COMPLETED FORM 00 43 16-2 WITHIN 48 HOURS, THE CLAIM FOR SMALL BUSINESS PREFERENCE WILL BE DENIED.

CSBS COMPANY NAME – list the name(s) of the certified small business subcontractor(s) to be used to complete this project.

CSBS COMPANY ADDRESS – list the address(es) of the certified small business subcontractor(s) to be used to complete this project.

CSBS COMPANY TELEPHONE NUMBER – list the telephone number(s) of the certified small business subcontractor(s) to be used to complete this project.

CSBS PERCENTAGE (%) OR DOLLAR (\$) AMOUNT – list the percentage(s) or dollar amount(s) that will be given to the certified small business subcontractor(s) used to complete this project.

DESCRIPTION OF WORK – identify the proposed work including services or materials to be performed by the certified small business subcontractor(s) to complete this project.

TO OBTAIN THE 5% NON-CERTIFIED SMALL BUSINESS PREFERENCE, THE LISTED SUBCONTRACTOR(S) AND/OR SUPPLIER(S) FIRM(S) MUST BE FORMALLY CERTIFIED BY THE OFFICE OF SMALL BUSINESS AND DVBE CERTIFICATION (OSDC) AS A SMALL AND/OR MICROBUSINESS. (Prime contractors should ask Subcontractor/Supplier to provide them with a copy of their OSDC certification letter)

CERTIFIED SMALL BUSINESS SUBCONTRACTOR(S) SUMMARY

BIDDER NAME _____

PROJECT NUMBER _____

STATE OF CALIFORNIA
CERTIFIED SMALL BUSINESS SUBCONTRACTOR(S) SUMMARY

Form date 09/28/2004

Listed hereinafter is the **name of business, address, telephone number, dollar amount or percentage** of all certified subcontractors who will be employed, and the **description of the work** which each will perform if the contract is awarded to this bidder.

Failure to list name of business, address, telephone number, description of work to be performed and dollar amount or percentage of work for each subcontractor may be cause for denial of the non-small business subcontractor preference.

(If further space is required for the List of Proposed Subcontractors, additional sheets showing the required information, as indicated below, shall be attached hereto and made a part of the Bid).

CERTIFIED SMALL BUSINESS SUBCONTRACTOR (Name of Business)	CERTIFIED SMALL BUSINESS SUBCONTRACTOR (Address)	CERTIFIED SMALL BUSINESS SUBCONTRACTOR (Telephone Number)	CERTIFIED SMALL BUSINESS SUBCONTRACTOR (\$ or % Amount)	CERTIFIED SMALL BUSINESS SUBCONTRACTOR (Description of Work) (Service or Materials)

CERTIFIED SMALL BUSINESS SUBCONTRACTOR(S) SUMMARY

DOCUMENT 00 45 46
PAYEE DATA RECORD

STATE OF CALIFORNIA - DEPARTMENT OF FINANCE

PAYEE DATA RECORD

(Required when receiving payment from the State of California in lieu of IRS W-9 or W-7)

STD 204 (Rev. 03/2021)

Section 1 - Payee Information

NAME (This is required. Do not leave this line blank. Must match the payee's federal tax return)

BUSINESS NAME, DBA NAME or DISREGARDED SINGLE MEMBER LLC NAME (if different from above)

MAILING ADDRESS (number, street, apt. or suite no.) (See instructions on Page 2)

CITY, STATE, ZIP CODE

E-MAIL ADDRESS

Section 2 - Entity Type

Check one (1) box only that matches the entity type of the Payee listed in Section 1 above. (See instructions on page 2)

☐ **SOLE PROPRIETOR / INDIVIDUAL**

☐ **SINGLE MEMBER LLC Disregarded Entity owned by an Individual**

☐ **PARTNERSHIP**

☐ **ESTATE OR TRUST**

☐ **CORPORATION** (see instructions on page 2)

☐ **MEDICAL** (e.g., dentistry, chiropractic, etc.)

☐ **LEGAL** (e.g., attorney services)

☐ **EXEMPT** (e.g., nonprofit)

☐ **ALL OTHERS**

Section 3 - Tax Identification Number

Enter your Tax Identification Number (TIN) in the appropriate box. The TIN must match the name given in Section 1 of this form. Do not provide more than one (1) TIN. The TIN is a 9-digit number. **Note:** Payment will not be processed without a TIN.

- For **Individuals**, enter SSN.
- If you are a **Resident Alien**, and you do not have and are not eligible to get an SSN, enter your ITIN.
- Grantor Trusts (such as a Revocable Living Trust while the grantors are alive) may not have a separate FEIN. Those trusts must enter the individual grantor's SSN.
- For **Sole Proprietor or Single Member LLC (disregarded entity)**, in which the sole member is an individual, enter SSN (ITIN if applicable) or FEIN (FTB prefers SSN).
- For **Single Member LLC (disregarded entity)**, in which the sole member is a business entity, enter the owner entity's FEIN. Do not use the disregarded entity's FEIN.
- For all other entities including LLC that is taxed as a corporation or partnership, estates/trusts (with FEINs), enter the entity's FEIN.

Social Security Number (SSN) or Individual Tax Identification Number (ITIN)

_____ - _____ - _____

OR

Federal Employer Identification Number (FEIN)

_____ - _____

Section 4 - Payee Residency Status (See instructions)

☐ **CALIFORNIA RESIDENT** - Qualified to do business in California or maintains a permanent place of business in California.

☐ **CALIFORNIA NONRESIDENT** - Payments to nonresidents for services may be subject to state income tax withholding.

☐ No services performed in California

☐ Copy of Franchise Tax Board waiver of state withholding is attached.

Section 5 - Certification

I hereby certify under penalty of perjury that the information provided on this document is true and correct. Should my residency status change, I will promptly notify the state agency below.

NAME OF AUTHORIZED PAYEE REPRESENTATIVE

TITLE

E-MAIL ADDRESS

SIGNATURE

DATE

TELEPHONE (include area code)

Section 6 - Paying State Agency

Please return completed form to:

STATE AGENCY/DEPARTMENT OFFICE

Department of General Services, Administrative Division

UNIT/SECTION

Office of Business and Acquisition Services, Contract Services Section

MAILING ADDRESS

707 Third Street, MS 508

FAX

n/a

TELEPHONE (include area code)

n/a

CITY

West Sacramento

STATE

CA

ZIP CODE

95805

E-MAIL ADDRESS

n/a

PAYEE DATA RECORD

RESDMSTR: 7.8.2021

00 45 46 - 1

00000000011757

PAYEE DATA RECORD

(Required when receiving payment from the State of California in lieu of IRS W-9 or W-7)

STD 204 (Rev. 03/2021)

GENERAL INSTRUCTIONS

Type or print the information on the Payee Data Record, STD 204 form. Sign, date, and return to the state agency/department office address shown in Section 6. Prompt return of this fully completed form will prevent delays when processing payments.

Information provided in this form will be used by California state agencies/departments to prepare Information Returns (Form 1099).

NOTE: Completion of this form is optional for Government entities, i.e. federal, state, local, and special districts.

A completed Payee Data Record, STD 204 form, is required for all payees (non-governmental entities or individuals) entering into a transaction that may lead to a payment from the state. Each state agency requires a completed, signed, and dated STD 204 on file; therefore, it is possible for you to receive this form from multiple state agencies with which you do business.

Payees who do not wish to complete the STD 204 may elect not to do business with the state. If the payee does not complete the STD 204 and the required payee data is not otherwise provided, payment may be reduced for federal and state backup withholding. Amounts reported on Information Returns (Form 1099) are in accordance with the Internal Revenue Code (IRC) and the California Revenue and Taxation Code (R&TC).

Section 1 – Payee Information

Name – Enter the name that appears on the payee's federal tax return. The name provided shall be the tax liable party and is subject to IRS TIN matching (when applicable).

- Sole Proprietor/Individual/Revocable Trusts – enter the name shown on your federal tax return.
- Single Member Limited Liability Companies (LLCs) that is disregarded as an entity separate from its owner for federal tax purposes - enter the name of the individual or business entity that is tax liable for the business in section 1. Enter the DBA, LLC name, trade, or fictitious name under Business Name.
- Note: for the State of California tax purposes, a Single Member LLC is not disregarded from its owner, even if they may be disregarded at the Federal level.
- Partnerships, Estates/Trusts, or Corporations – enter the entity name as shown on the entity's federal tax return. The name provided in Section 1 must match to the TIN provided in section 3. Enter any DBA, trade, or fictitious business names under Business Name.

Business Name – Enter the business name, DBA name, trade or fictitious name, or disregarded LLC name.

Mailing Address – The mailing address is the address where the payee will receive information returns. Use form STD 205, Payee Data Record Supplement to provide a remittance address if different from the mailing address for information returns, or make subsequent changes to the remittance address.

Section 2 – Entity Type

If the Payee in Section 1 is a(n)...	THEN Select the Box for...
Individual • Sole Proprietorship • Grantor (Revocable Living) Trust disregarded for federal tax purposes	Sole Proprietor/Individual
Limited Liability Company (LLC) owned by an individual and is disregarded for federal tax purposes	Single Member LLC-owned by an individual
Partnerships • Limited Liability Partnerships (LLP) • and, LLC treated as a Partnership	Partnerships
Estate • Trust (other than disregarded Grantor Trust)	Estate or Trust
Corporation that is medical in nature (e.g., medical and healthcare services, physician care, nursery care, dentistry, etc.) • LLC that is to be taxed like a Corporation and is medical in nature	Corporation-Medical
Corporation that is legal in nature (e.g., services of attorneys, arbitrators, notary publics involving legal or law related matters, etc.) • LLC that is to be taxed like a Corporation and is legal in nature	Corporation-Legal
Corporation that qualifies for an Exempt status, including 501(c)(3) and domestic non-profit corporations.	Corporation-Exempt
Corporation that does not meet the qualifications of any of the other corporation types listed above • LLC that is to be taxed as a Corporation and does not meet any of the other corporation types listed above	Corporation-All Other

Section 3 – Tax Identification Number

The State of California requires that all parties entering into business transactions that may lead to payment(s) from the state provide their Taxpayer Identification Number (TIN). The TIN is required by R&TC sections 18646 and 18661 to facilitate tax compliance enforcement activities and preparation of Form 1099 and other information returns as required by the IRC section 6109(a) and R&TC section 18662 and its regulations.

Section 4 – Payee Residency Status

Are you a California resident or nonresident?

- A corporation will be defined as a "resident" if it has a permanent place of business in California or is qualified through the Secretary of State to do business in California.
- A partnership is considered a resident partnership if it has a permanent place of business in California.
- An estate is a resident if the decedent was a California resident at time of death.
- A trust is a resident if at least one trustee is a California resident.
 - For individuals and sole proprietors, the term "resident" includes every individual who is in California for other than a temporary or transitory purpose and any individual domiciled in California who is absent for a temporary or transitory purpose. Generally, an individual who comes to California for a purpose that will extend over a long or indefinite period will be considered a resident. However, an individual who comes to perform a particular contract of short duration will be considered a nonresident.

For information on Nonresident Withholding, contact the Franchise Tax Board at the numbers listed below:

Withholding Services and Compliance Section: 1-888-792-4900

E-mail address: wscs.gen@ftb.ca.gov

For hearing impaired with TDD, call: 1-800-822-6268

Website: www.ftb.ca.gov

Section 5 – Certification

Provide the name, title, email address, signature, and telephone number of individual completing this form and date completed. In the event that a SSN or ITIN is provided, the individual identified as the tax liable party must certify the form. Note: the signer may differ from the tax liable party in this situation if the signer can provide a power of attorney documented for the individual.

Section 6 – Paying State Agency

This section must be completed by the state agency/department requesting the STD 204.

Privacy Statement

Section 7(b) of the Privacy Act of 1974 (Public Law 93-579) requires that any federal, state, or local governmental agency, which requests an individual to disclose their social security account number, shall inform that individual whether that disclosure is mandatory or voluntary, by which statutory or other authority such number is solicited, and what uses will be made of it. It is mandatory to furnish the information requested. Federal law requires that payment for which the requested information is not provided is subject to federal backup withholding and state law imposes noncompliance penalties of up to \$20,000. You have the right to access records containing your personal information, such as your SSN. To exercise that right, please contact the business services unit or the accounts payable unit of the state agency(ies) with which you transact that business.

All questions should be referred to the requesting state agency listed on the bottom front of this form.

STANDARD AGREEMENT

STD 213 (Rev. 03/2019)

AGREEMENT NUMBER

PURCHASING AUTHORITY NUMBER (if applicable)

1. This Agreement is entered into between the Contracting Agency and the Contractor named below:

CONTRACTING AGENCY NAME

Department of General Services, Real Estate Services Division, Project Management and Development Branch

CONTRACTOR NAME

2. The Term of this Agreement is:

START DATE

As Identified in the Notice to Proceed

THROUGH END DATE

XXX Calendar Days, commencing on the Start Date Identified in the Notice to Proceed

3. The maximum amount of this Agreement is: \$X,XXX,XXX.XX

4. The parties agree to comply with the terms and conditions of the following exhibits, which are by this reference made a part of the Agreement.

EXHIBITS	TITLE	PAGES
Project Title	Project Title Client Address City, County, CA Project Number	
Exhibit A	Performance Bond, Payment Bond, Bid Form, and Invitation to Bid	
Exhibit B	Project Manual (except Bidding Requirements), dated XXX including the following Contract Documents: Introductory Information General Conditions of the Contract for Construction Supplementary Conditions Specifications Addenda No.	
Exhibit C	XXX Drawings, dated XXX, as listed in Document 00 01 15 of the Project Manual	

Items shown with an asterisk (*), are here by incorporated by reference and made part of this agreement as if attached hereto.
These documents can be viewed at <https://www.dgs.ca.gov/ols/resources>

IN WITNESS WHEREOF, THIS AGREEMENT HAS BEEN EXECUTED BY THE PARTIES HERETO.

CONTRACTOR

CONTRACTOR NAME (if other than an individual, state whether a corporation, partnership, etc.)

CONTRACTOR BUSINESS ADDRESS	CITY	STATE	ZIP
PRINTED NAME OF PERSON SIGNING	TITLE		
CONTRACTOR AUTHORIZED SIGNATURE	DATE SIGNED		

STATE OF CALIFORNIA

CONTRACTING AGENCY NAME

CONTRACTING AGENCY ADDRESS	CITY	STATE	ZIP
PRINTED NAME OF PERSON SIGNING	TITLE		
CONTRACTOR AUTHORIZED SIGNATURE	DATE SIGNED		
CALIFORNIA DEPARTMENT OF GENERAL SERVICES APPROVAL	EXEMPTION, IF APPLICABLE		

PERFORMANCE BOND TO ACCOMPANY CONSTRUCTION CONTRACT

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, The State of California, acting by and through the Department of General Services has awarded to _____, a _____ existing under and by virtue of the laws of the State of California as Contractor, a contract for the work described as follows:

Project Name
Client Agency
Project Information
Reference Number, Project Number, Contract Number

AND WHEREAS, Said Contractor is required to furnish a bond in connection with said contract, guaranteeing the faithful performance thereof;

NOW, THEREFORE, We the undersigned Contractor and surety are held and firmly bound unto the State of California in the sum of _____ Dollars, (\$000,000) to be paid to the State or its certain attorney, its successors and assigns; for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if the above bounded Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the foregoing contract and any alteration thereof made as therein provided, on his or their part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the State of California, its officers and agents, as therein stipulated, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and virtue.

IN WITNESS WHEREOF, We have hereunto set our hands and seals on this _____ day of _____, 20____

Name of Contractor and Address for Service

By _____
Contractor Signature

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.

Name of Surety and Address for Service (SEAL)

By _____
Attorney-in-Fact Signature

CERTIFICATE OF ACKNOWLEDGMENT

STATE OF CALIFORNIA
COUNTY OF _____ ss

On this _____ day of _____ in the year of 20____ before me, a notary public in and for the county and state aforesaid, personally appeared, _____ proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and proved to me on the basis of satisfactory evidence to be 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

PAYMENT BOND TO ACCOMPANY CONSTRUCTION CONTRACT
(Public Contract Code Sections 7103 and 10221)

BOND NO. _____

The premium on this bond is _____ for the term of _____.

KNOW ALL MEN BY THESE PRESENTS:

That the State of California, acting by and through the _____, has awarded to

_____ whose address for service is _____.

as Principal, a contract for the work described as follows:

Project Title: _____

Project Location: _____

WHEREAS, the provisions of Public Contract Code Sections 7103 and 10221 require that the Principal file a bond in connection with said contract and this bond is executed and tendered in accordance therewith.

NOW THEREFORE, Principal and _____, a Surety Corporation organized under the laws of _____, and authorized to transact a general surety business in the State of California, as Surety, are held and firmly bound to the People of the State of California in the penal sum of _____, for which payment we bind ourselves, our heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

1. That if said Principal or its subcontractors shall fail to pay any of the persons named in Civil Code Section 9100, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal and subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, that the surety herein will pay for the same, otherwise this obligation is to be void. In case suit is brought upon this bond, the Surety will pay a reasonable attorney's fee to be fixed by the court.
2. This bond shall inure to the benefit of any persons named in Civil Code Section 9100 as to give a right of action to such persons or their assigned in any suit brought upon this bond.
3. The aggregate liability of the Surety hereunder, including costs and attorney fees, on all claims whatsoever shall not exceed the penal sum of the bond in accordance with the provisions of Section 996.470(a) of the Code of Civil Procedure.
4. This bond is executed by the Surety, to comply with the provisions of Public Contract Code Sections 7103, 10221 and 10222, of Chapter 5, Title 3, Part 6, Division 4 of the Civil Code and of Chapter 2, Title 14, Part 2 of the Code of Civil Procedure and said bond shall be subject to all of the terms and provisions thereof.
5. This bond may be cancelled by the Surety in accordance with the provisions of Section 996.310 et seq. of the Code of Civil Procedure.
6. This bond to become effective _____.

(NAME OF SURETY)

(ADDRESS FOR SERVICE)

I certify (or declare) under penalty of perjury under the laws of the State of California that I have executed the foregoing bond under an unrevoked power of attorney.

Executed in _____ on _____
(CITY AND STATE) (DATE)

X _____

(SIGNATURE OF ATTORNEY IN FACT)

STATE OF CALIFORNIA
STD 807 (Rev. 10/2019)

(PRINTED OR TYPED NAME OR ATTORNEY IN FACT)

PAYMENT BOND TO ACCOMPANY CONSTRUCTION CONTRACT (SAMPLE)

RESDMSTR: 4/30/2025

00 61 14 - 1

000000000011757

Change Order

Date Issued: (Type Date)

Change Order No: _____

From Division: **Real Estate Services Division**
 Branch: **Project Management and Development Branch**
 Address: **707 Third Street, 4th Floor**
 City, State Zip: **West Sacramento, CA 95605**

ABMS Contract No: _____
 F\$ Contract No.: _____
 Project ID: **DGS000000000011757**
 Activity ID: **CN**
 Resource Type: **CONTR**
 Category: **10000**

Revision No.: _____
 Date Revised: _____

To: (Contractor's Name:) _____
 (Contractor's Address:) _____
 (Contractor's City/State/Zip:) _____

Project: _____
 Client Agency: _____
 Facility Name: _____
 Facility Location: _____

This Change Order is issued pursuant to the provisions of the General Conditions Article 6 of the Contract relating to **Changes in the Work** and shall not be effective until approved by the Department of General Services, REAL ESTATE SERVICES DIVISION. The State will issue the change order after the conditions have been agreed to. The contractor is directed to proceed with construction activities in such manner as to preclude the necessity for later altering the work in order to accomplish this change. This document must be completed in every detail, signed, dated and returned in **DUPLICATE** to the State's representative within **fifteen (15)** calendar days from the date of issue, as provided in the General Conditions of the Contract. Upon approval, a signed copy will be sent to the contractor as authority for proceeding with the changes (or as confirmation of previously issued instructions).

Change Order Description

<u>Item #</u>	<u>Description</u>	<u>Amount</u>
		<i>Total this Change Order</i>
		\$100,000.00

The Undersigned Contractor agrees to make this change in accordance with the printed conditions herein for
 The Additive sum of \$ _____ or deductive sum (\$ _____).

This change is approved for the sum stated above and for a time extension of _____ calendar days.

This Agreement constitutes full and final settlement for all aspects of the work described herein. As part of this agreement, Contractor waives any and all rights to claim for any delay or impact costs associated with the work described herein, including, but not limited to, inefficiency, unabsorbed and extended home office overhead and extended field office overhead.

Authorized Contractor's Signature	Title	Date
Authorized State's Representative Signature	Title	Date

Distribution of Change Order:

Originals to: 1) Contractor 2) RESD Contract Unit
Copies to: 1) Project Manager 2) State Controllers Office 3) DGS Capital Outlay Account 4) State Inspector



Document 00 72 00

General Conditions of the Contract for Construction

October 2011 Edition

Table of Articles

	page
1. GENERAL PROVISIONS	1
1.1 Definitions	
1.2 Execution. Correlation and Intent	
1.3 Use of the State's Drawings, Project Manual and other Documents	
1.4 Capitalization	
1.5 Conflicts in the Contract Documents	
1.6 Requests for Information, Clarifications or Additional Instructions	
2. ADMINISTRATION OF THE CONTRACT	5
2.1 Information and/or Services Required of the State	
2.2 Administration of the Contract	
2.3 Breaches, Defaults and Termination for Cause	
2.4 Termination for the State's Convenience	
2.5 Suspension by the State for Convenience	
3. CONTRACTOR	7
3.1 Review of Contract Documents and Field Conditions by the Contractor	
3.2 Supervision and Construction Procedures	
3.3 Labor and Materials	
3.4 Nondiscrimination Clause	
3.5 Guarantee	
3.6 Taxes	
3.7 Permits, Fees and Notices	
3.8 Allowances	
3.9 Superintendent	
3.10 Contractor's Progress Schedule	
3.11 Documents and Samples at the Project Site	
3.12 Shop Drawings, Product Data and Samples (Submittals)	
3.13 Tests and Inspections	
3.14 Use of Project Site	
3.15 Cutting and Patching	
3.16 Cleaning Up	
3.17 Access to Work	
3.18 Royalties and Patents	
3.19 Indemnification	
3.20 Air Pollution	
3.21 Certification by Contractor of Recycled Content	
3.22 Unfair Business Practices	
3.23 Child Support Compliance Act	
3.24 NOT USED	
3.25 Contractor Required Notification of Changes	

	page
4. SUBCONTRACTORS	16
4.1 Subletting and Subcontracting	
4.2 Subcontractual Relations	
4.3 Disabled Veteran Business Enterprise Program	
4.4 Contract Assignments	
5. CONSTRUCTION BY THE STATE OR BY SEPARATE CONTRACTORS	17
5.1 State's Right to Perform Construction and to Award Separate Contracts	
5.2 Mutual Responsibility	
5.3 State's Right to Clean Up	
6. CHANGES IN THE WORK	18
6.1 General	
6.2 Change Order	
6.3 Acceptance of Change Orders	
6.4 Effect on Sureties	
7. TIME	21
7.1 Notice to Proceed	
7.2 Contract Time	
7.3 Liquidated Damages	
7.4 Time Extensions	
7.5 Delays in Completion of the Work	
7.6 Acceleration	
8. PAYMENTS AND COMPLETION	23
8.1 Schedule of Values	
8.2 Timeliness of Payments	
8.3 Retentions	
8.4 Assignment of Contract Funds	
8.5 Occupancy by the State Prior to Completion of the Work	
8.6 Acceptance of the Work and Final Payment	
8.7 Interest	
9. DISPUTES AND CLAIMS	24
9.1 Dispute and Claim Procedures	
9.2 Audit and Access to Records	

	page
10. PROTECTION OF PERSONS AND PROPERTY	26
10.1 Safety of Persons and Property	
10.2 Emergencies	
10.3 Drug-Free Workplace	
11. INSURANCE AND BONDS	28
11.1 Contractor's Insurance	
11.2 No Personal Liability	
11.3 Performance Bond and Payment Bond	
12. UNCOVERING AND CORRECTION OF WORK	30
12.1 Uncovering and Correction of Work	
12.2 Correction of Work	
12.3 Acceptance of Nonconforming Work	
13. MISCELLANEOUS PROVISIONS	31
13.1 Governing Law	
13.2 Successors and Assigns	
13.3 Written Notice	
13.4 Contractor's Use of Computer Software	
13.5 Independent Contractor	
13.6 Unenforceable Provisions	
13.7 Expatriate Corporations	
13.8 Domestic Partners	
13.9 Air or Water Pollution Violation	
13.10 Certification by Contractor of Disabled Veteran Business Enterprise/Small Business Participation	

DOCUMENT 00 72 00 - GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

ARTICLE 1 - GENERAL PROVISIONS

1.1 **DEFINITIONS:** When the following terms appear in the Contract, they shall have the following meaning:

1.1.1 Acceptance of the Work: Written acceptance of the Work by the Director of the Department of General Services, State of California, or the Director's designee.

1.1.2 Act of God: An Act of God shall include only the following occurrences or conditions and effects:

- .1 Earthquakes in excess of a magnitude of 3.5 on the Richter Scale; or
- .2 Tidal waves.

1.1.3 Addendum (Addenda): A document issued by the State during the bidding period which modifies, supersedes or supplements the Contract Documents.

1.1.4 Alternative: Refer to Approved Equal and Substitution.

1.1.5 Applicable Codes: Include, but are not limited to, applicable laws, statutes, regulations, rules, building and other codes, ordinances, rulings, and lawful orders of all public authorities having jurisdiction over the State, the Contractor, Subcontractors, the Project, the Work, or the execution of the Work.

1.1.6 Approved Equal: Material, equipment, or method approved by the State for use in the Work, as being acceptable as an equivalent in essential attributes to the material, equipment, or method specified in the Contract Documents.

1.1.7 Agreement: The written and executed document known as Document 00 52 00, Agreement.

1.1.8 Architect or Engineer: The State, or the State's consultant listed in the Contract Documents as the designer of record responsible for the preparation and coordination of the Drawings and technical sections of the Project Manual.

1.1.9 Beneficial Occupancy: Occupancy and use by the State of all, or part, or parts, of the Work as selected by the State, prior to Completion.

1.1.10 Bidder: Any individual, partnership, corporation, association, joint venture, or any combination thereof, submitting a Bid Form for the Work.

1.1.11 Change Order: A written order issued by the State used to determine adjustments in the Contract based on:

- .1 a change in the Work,
- .2 the amount of the adjustment in the Contract Sum, and
- .3 the extent of the adjustment in the Contract Time.

1.1.12 Claim: An unresolved Dispute arising under or relating to the performance of the Contract which can only be filed after Acceptance of the Work and the final statement to the Contractor.

1.1.13 Completion: When the entire Work has been performed in accordance with the Contract requirements as delineated in the Contract Documents and Project Manual. Completion of the Work occurs when the State's final inspection has been made and all construction, services and deliverables have been fully executed as determined by the State's Representative, including but not limited to completion of all punch-list items and delivery of as-built drawings, operation & maintenance manuals, guaranties, warranties, spare parts, reports and certifications as noted in the Project Manual, Section 01 77 00.

1.1.14 Contract: The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified by a Change Order. The Contract Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the State and the Contractor.

- 1.1.15 Contract Documents: The Contract Documents consist of the Agreement between the State and Contractor, Payment and Performance Bonds; the Conditions of the Contract, including General, Supplementary and other Conditions; Drawings, Specifications, Addenda and Change Orders.
- 1.1.16 Contract Sum: The Contract Sum is stated in the Agreement and, including authorized adjustments by Change Order, is the total amount payable by the State to the Contractor for performance of the Work under the Contract Documents.
- 1.1.17 Contract Time: The Contract Time is the period of time, from the Start Date to the date of Completion of the Work, including authorized adjustments, allotted in the Contract.
- 1.1.18 Contractor: The individual, partnership, corporation, association, joint venture, or any combination thereof, who has entered into a contract with the State, identified as such in the Agreement, and referred to throughout the Contract as if singular in number. The term "Contractor" means the Contractor or the Contractor's representative.
- 1.1.19 Day: Calendar day, unless otherwise specifically defined.
- 1.1.20 Department: The Department of General Services, State of California.
- 1.1.21 Director: The Director of the Department of General Services, State of California, or the Director's designee.
- 1.1.22 Dispute: A demand during performance of the Work seeking adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. A Dispute is not a Claim.
- 1.1.23 Drawings: The graphic and pictorial portions of the Contract Documents, illustrating the design, location and dimensions of the Work, generally including but not limited to, plans, elevations, sections, details, schedules and diagrams.
- 1.1.24 Emergency: A sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or essential public services.
- 1.1.25 General Notes: The written instructions, provisions, conditions or other requirements appearing on the Drawings, and so identified thereon, which pertain to the performance of the Work.
- 1.1.26 Guarantee: The Contractor's assurance that the Project complies with the requirements of the Contract Documents.
- 1.1.27 Official Progress Schedule: The Contractor's baseline schedule and updates accepted by the State.
- 1.1.28 Or Equal: Refer to Approved Equal.
- 1.1.29 Owner: The State of California.
- 1.1.30 Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- 1.1.31 Project: The total construction of which the Work performed under the Contract may be the whole or a part.
- 1.1.32 Project Manual: The volume(s) assembled for the Work which includes the Introductory Information, Bidding Requirements, Contracting Requirements, Specifications, and other information as may be listed in the Project Manual Table of Contents.
- 1.1.33 Request for Information (RFI): A written request by the Contractor submitted in a State provided format for information regarding Project specific issues.
- 1.1.34 Retention: A percentage of the Contract Sum held back upon completion of the Work, or any portion of the Work, to cover outstanding liabilities, contingencies, and the like, as specified in the Contract Documents.
- 1.1.35 Samples: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

- 1.1.36 **Schedule of Values:** A document furnished by the Contractor to the State reflecting the portions of the Contract sum allotted for the various parts of the Work, and used as the basis for reviewing the Contractor's applications for payment request.
- 1.1.37 **Shop Drawings:** Drawings, diagrams, schedules, and other data specially issued for the Work by the Contractor or a Subcontractor, Sub-subcontractor, and material suppliers to illustrate some portion of the Work.
- 1.1.38 **Specifications:** That portion of the Contract Documents consisting of the written requirements for materials, standards, equipment, construction systems, and standards of workmanship for the Work, and performance of related services.
- 1.1.39 **State:** The State of California acting through the Department of General Services.
- 1.1.40 **State Construction Supervisor/Inspector:** The person(s) authorized by the State to provide inspection services, field coordination and quality control during construction.
- 1.1.41 **State Contract Act:** The act which is set forth in the California Public Contract Code, Section 10100, et seq.
- 1.1.42 **State's Representative:** Person(s) authorized by the State to act on behalf of the State for the Project.
- 1.1.43 **Subcontractor:** An individual, partnership, corporation, association, joint venture, or any combination thereof, who has a direct contract with the Contractor to perform work or labor or render service in or about the Work. The term "Subcontractor" is referred to as if singular in number and means a Subcontractor or a representative of the Subcontractor. The term "Subcontractor" shall not include those who supply materials only or a separate contractor or subcontractors of a separate contractor.
- 1.1.44 **Sub-subcontractor:** A person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the work. The term "Sub-subcontractor" is referred to as if singular in number and means a Sub-subcontractor or a representative of the Sub-subcontractor.
- 1.1.45 **Not Used**
- 1.1.46 **Substitution:** A material and/or process offered by the Contractor in lieu of the specified material and/or process, and accepted by the State in writing as being equivalent (equal) to the specified material and/or process.
- 1.1.47 **Warranty:** A Contractor's, manufacturer's or material supplier's assurance that products and services provided meet the requirements of the Contract Documents.
- 1.1.48 **Work:** Construction, services and deliverables required by the Contract Documents and Project Manual, including labor, materials, equipment, services, and documents provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract, including but not limited to requirements such as; completion of punch-list items, as-built drawings, operation & maintenance manuals, guaranties, warranties, spare parts, reports, and certifications.

1.2 EXECUTION, CORRELATION AND INTENT

- 1.2.1 The Contract will not be binding on the State until appropriately endorsed by the State's legal Representative, in accordance with Public Contract Code, Section 10220.
- 1.2.2 Execution of the Contract by the Contractor is a representation that the Contractor is familiar with the methodology under which the work is to be performed and has correlated personal observations with requirements of the Contract Documents.
- 1.2.3 The intent of the Contract Documents is to include items necessary for completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.
- 1.2.4 Organization of the Specifications into Groups, Divisions, subgroups, Sections and Articles, and arrangement of Drawings shall not be the basis that Contractor utilizes in dividing the Work among Subcontractors, nor in establishing the extent of work to be performed by any trade.

1.2.5 When standards of the Federal Government, trade societies, or trade associations are referred to in the Contract Documents by specific date of issue, these shall be considered as part of the Contract Documents. When such references do not bear date of issue, current published edition at the date of the first Invitation to Bid shall be considered as part of the Contract Documents.

1.2.6 Unless otherwise stated in the Contract Documents, words and terms which have well-known or commonly accepted technical or construction industry meanings shall be used in the Contract Documents in accordance with such recognized meanings.

1.2.7 Every part of the Work shall be accomplished in workmanship-like manner by workers, laborers, or mechanics specially skilled in the class of work required. Any person the State may deem incompetent or disorderly shall be promptly removed from the Project by the Contractor upon written notice from the State, and shall not be re-employed on this Project.

1.3 **USE OF THE STATE'S DRAWINGS, PROJECT MANUAL AND OTHER DOCUMENTS:** The Drawings, Project Manual and other documents issued by the State, and copies furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or material or equipment supplier on other projects, nor for additions to this Project outside the scope of the Work without the specific written consent of the State. The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the Drawings, Project Manual and other documents issued by the State appropriate to, and for use in, the execution of their work under the requirements of the Contract Documents.

1.4 CAPITALIZATION

1.4.1 Terms capitalized in the General Conditions of the Contract for Construction include those which are:

- .1 Specifically defined; or
- .2 Titles of numbered Articles; or
- .3 References to Paragraphs, Subparagraphs and Clauses; or
- .4 Titles of other documents.

1.5 CONFLICTS IN THE CONTRACT DOCUMENTS

1.5.1 In the event of conflict in the Contract Documents, the following priorities shall govern:

- .1 Addenda shall govern over other Sections of the Contract Documents to the extent specifically noted; subsequent Addenda shall govern over prior Addenda only to the extent specified.
- .2 The General Conditions of the Contract for Construction shall govern over Drawings and Specifications except for specific modifications stated in the Supplementary Conditions, and except for Addenda.
- .3 In case of conflict between the Drawings and the Specifications, the Specifications shall govern unless the requirement(s) in the Drawings is/are more stringent and/or of higher quality and/or of higher quantity.
- .4 In the case of conflict within the Drawings, the following shall govern:
 - 1) Schedules, when identified as such, shall govern over all other portions of the Drawings.
 - 2) Specific notes shall govern over other notes and all other portions of the Drawings, except schedules described in the preceding Clause.
 - 3) Larger scale Drawings shall govern over smaller scale Drawings.
 - 4) Detail Drawings shall govern over standard plates bound within the Project Manual.
 - 5) Figured or numerical dimensions shall govern over dimensions obtained by scaling.

1.5.2 Omissions: If the Contract Documents are not complete as to any minor detail or required construction system or with regard to the manner of combining or installing of parts, materials, or equipment, but there exists accepted trade standard for good and workmanlike construction, such detail shall be deemed to have been implied by the requirements of the Contract Documents in accordance with such standard.

- .1 "Minor Detail" shall include the concept of substantially identical components, where price of each such component is small even though aggregate cost or importance is substantial, and shall include a single component which is incidental, even though its cost or importance may be substantial. Quality and quantity of parts or material so supplied shall conform to trade standards and be compatible with type, composition, strength, size and profile of parts or materials otherwise set forth in the Contract Documents.

1.6 REQUESTS FOR INFORMATION, CLARIFICATION OR ADDITIONAL INSTRUCTIONS

1.6.1 Requests for Information (RFI): Should the Contractor discover conflicts, omissions, or errors in the Contract Documents, or have any questions concerning interpretation or clarification of Contract Documents, the Contractor shall immediately submit to the State in writing an RFI that complies with the following requirements:

- .1 All RFIs, whether by the Contractor, a Subcontractor or supplier at any tier, shall be submitted by the Contractor to the State.
- .2 RFIs shall be numbered sequentially and be presented in the format provided by the State.
- .3 The Contractor shall clearly and concisely set forth the single issue for which interpretation or clarification is sought, indicate Specification Section number, article and subarticle numbers, and Contract Drawing number, and detail, or other item involved, and state why a response is required from the State.
- .4 The Contractor shall set forth its own interpretation or understanding of the requirements, along with reasons why it has reached such an understanding in each RFI.
- .5 RFIs shall be submitted in a timely manner in order that they may be adequately researched and answered before the response affects any critical activity of the Work.
- .6 The State will review all RFIs to determine whether they are truly RFIs within the meaning of the term as defined in Paragraphs 1.1.33 and 1.6.1. RFI's which are determined to be not within the meaning of the term and/or RFIs where answers can readily be found in the Drawings and Project Manuals shall be deemed to be superfluous and the cost for reviewing these RFIs will be back-charged to the Contractor.
- .7 Responses to RFIs will be made within 14 days unless the State notifies the Contractor in writing that a response will take longer. The 14 days will begin when the RFI is received and dated by the State. Should the State respond sooner, the Contractor shall not assume that a new timeline has been established. Delays in the progress of the Work due to late submittal of RFIs by the Contractor are solely the responsibility of the Contractor.
- .8 Responses from the State will not change any requirement of the Contract unless so noted by the State in the response to the RFI.
- .9 Should the Contractor believe that a response to an RFI causes a change to the requirements of the Contract, the Contractor shall, before proceeding, give written notice to the State, indicating that the Contractor considers the State's response to the RFI to be a Change Order. An RFI will not be considered to be automatically a notice for a Change Order. The Contractor shall give separate written notice within 7 days of receipt of the State's response to the RFI. If the Contractor fails to give notice within 7 days or prior to commencement of the change, the Contractor shall forfeit the right to seek additional time or cost under Article 6.

1.6.2 Additional Detailed Instructions: The State may furnish additional detailed written and/or graphic instructions to further explain the work, and such instructions shall be a part of the Contract requirements. Should additional detailed instructions, in the opinion of the Contractor, constitute work in excess of the scope of the Work, the Contractor shall submit written notice to the State within 14 days following receipt of such instructions, and in any event prior to commencement of the work thereon. The State will then consider the notice; and, if in the State's judgment it is justified, the State's instructions will be revised or the extra work authorized in accordance with the provisions of Article 6.

ARTICLE 2 - ADMINISTRATION OF THE CONTRACT

2.1 INFORMATION AND/OR SERVICES REQUIRED OF THE STATE

2.1.1 Information and/or services under the State's control shall be furnished by the State within a mutually agreed upon response time so as to avoid delay in the orderly progress of the Work.

2.1.2 The Contractor will be furnished Drawings and Project Manuals as specified in the Contract Documents.

2.2 ADMINISTRATION OF THE CONTRACT

2.2.1 The State will provide administration of the Contract as described in the Contract Documents during construction, until final payment is due and during the correction period described in Paragraph 12.2 and throughout the guarantee period.

2.2.2 The State will visit the Project site appropriate to the stage of construction to become familiar with the progress and quality of the completed work and to determine if the Work is in accordance with the Contract Documents.

2.2.3 Unless so specified in the Contract Documents, the State will not have control over construction means, methods, techniques, sequences or procedures, or safety precautions and programs in connection with the Work. The State will not be responsible for the Contractor's failure to carry out the Work in accordance with the requirements of the Contract Documents. The State will not be responsible for acts, errors, or omissions of the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or of any other persons performing portions of the Work.

2.2.4 Communications Facilitating Contract Administration: Communications by and with the State's consultants shall be through the State. Communications by and with Subcontractors, Sub-subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the State.

2.2.5 If the State observes work that appears to not comply with the requirements of the Contract Documents, the State will have the authority to reject the Work. Whenever the State considers it necessary or advisable for implementation of the intent of the Contract Documents, the State will require additional inspection or testing of the Work, in accordance with Subparagraphs 3.13.2 and 3.13.3, whether or not such work is fabricated, installed or completed.

2.2.6 The State will review and take action upon the Contractor's submitted Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of submittals is not conducted for the purpose of determining the accuracy and completeness of other details, such as dimensions and quantities, nor for substantiating instructions for installation or performance of equipment or systems, which remain the responsibility of the Contractor.

2.2.7 Substitutions and Approved Equals: Alternative material(s), article(s), or equipment that are of equal quality and of required characteristics for the purpose intended may be proposed by the Contractor. The State will examine proposed alternatives for compliance with the Contract Documents. The proposed material(s), article(s), or equipment, will be reviewed for comparative quality, suitability, and performance against the product(s) specified in the Contract Documents. Refer to Subparagraph 3.12.10, for Substitution procedures. If Contractor's substitution is accepted, the Contractor shall be responsible for the costs of any changes resulting from the substitution, including, but not limited to redesign costs of the Project.

2.2.8 The State will conduct inspections to determine the Contractor's compliance with the Contract Documents and the date of Completion; will receive, for review and record, written warranties and related documents required by the Contract Documents and assembled by the Contractor; and will issue a final Payment Authorization upon compliance with the requirements of the Contract Documents and Acceptance of the Work.

2.3 BREACHES, DEFAULTS AND TERMINATION FOR CAUSE

2.3.1 If the Director deems that the Contractor has failed to supply an adequate working force, or material of proper quality, or has failed to comply with Public Contract Code Section 10262, or has failed in any other respect to prosecute the Work with the diligence and force specified by the Contract, the Director may:

- .1 after written notice of at least 5 days to the Contractor, specifying the defaults to be remedied, provide any such labor or materials and deduct the cost from any money due or to become due to the Contractor under the Contract; or
- .2 if the Director considers that the failure is sufficient ground for such action, the Director may give written notice of at least 5 days to the Contractor and the Contractor's sureties, that if the defaults are not remedied, the Contractor's control over the Work will be terminated.

2.3.2 Should the State exercise its rights to terminate as noted in Subparagraph 2.3.1, the State may, without prejudice to any other rights or remedies of the State and subject to any prior rights of the Surety:

- .1 terminate employment of the Contractor;
- .2 take possession of the Project site, materials, equipment, tools, appliances, and construction equipment and machinery owned by the Contractor;
- .3 accept assignment of Subcontractor Agreements pursuant to Paragraph 4.4; and/or
- .4 finish the Work by whatever method(s) the State may deem expeditious and appropriate.

2.3.3 When the State terminates the Contract for reasons provided in Subparagraph 2.3.1, the Contractor shall not be entitled to receive any further payment until Completion of the Work. If the costs incurred by the State because of termination under Subparagraph 2.3.1 exceed the unpaid balance, the Contractor shall pay the difference to the State.

2.4 TERMINATION FOR THE STATE'S CONVENIENCE

2.4.1 The State reserves the right to terminate this Contract or any part thereof, due to an Act of God or for its sole convenience. In the event of such termination, the Contractor shall immediately stop hereunder and shall immediately cause its Subcontractors, Sub-subcontractors and material suppliers at any tier, to immediately stop work, leaving the site in a safe and secured condition. The Contractor shall not be paid for any work performed or costs incurred after the termination date that could have been avoided.

2.4.2 The Contractor shall be paid in accordance with the provisions of Article 8; except that the amount due the Contractor shall be based upon the State's final estimate of the Work completed, or acceptable materials furnished but not used, to the date of suspension of the Work, less any amounts required to be withheld pursuant to Article 8, and less any prior payment(s) made to, or on the account of the Contractor.

2.5 SUSPENSION BY THE STATE FOR CONVENIENCE

2.5.1 The State may, by written notice, order the Contractor to suspend, delay or interrupt the Work, in whole or in part, for such period of time as the State may determine.

2.5.2 An adjustment may be claimed by the Contractor in accordance with Article 6 and Article 7 for changes in the Work, caused by a suspension, delay or interruption. No adjustment will be made to the extent:

- .1 that Contractor's performance of the Work, is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

ARTICLE 3 - CONTRACTOR

3.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY THE CONTRACTOR

3.1.1 The Contractor shall carefully study and compare the Contract Documents with each other and shall report to the State, in writing, any errors, inconsistencies or omissions discovered. If the Contractor performs any work knowing it involves a recognized error, inconsistency or omission in the Contract Documents, without such notice to the State the Contractor shall assume responsibility for such performance and shall bear the cost for correction.

3.1.2 The Contractor shall take field measurements and verify field conditions and shall compare such field measurements, conditions and other related information known to the Contractor with the Contract Documents before proceeding.

3.1.3 The Contractor shall promptly, and before such conditions are disturbed, notify the State in writing of:

- .1 subsurface or latent physical conditions at the site differing materially from those indicated, or
- .2 unknown physical conditions at the site of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract.
- .3 Hazardous materials.

3.1.4 The State will promptly investigate the conditions, and if the State finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work, whether or not changed as a result of such conditions, a Change Order will be issued in accordance with Article 6.

3.2 SUPERVISION AND CONSTRUCTION PROCEDURES

3.2.1 The Contractor shall supervise and direct the Work. The Contractor shall be responsible for, and have control over, construction means, methods, techniques, sequences, procedures, safety precautions and programs in connection with the Work, and for coordinating the Work under the Contract; unless otherwise noted or specified in the Contract Documents.

3.2.2 The Contractor shall be responsible to the State for acts and omissions of the Contractor's employees, Subcontractors, Sub-subcontractors or material suppliers and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor.

- .1 Subcontractor Responsibility: The Contractor shall be responsible for the actions or inaction of Subcontractors, Sub-subcontractors or material suppliers, at all tiers, regardless of whether they are a Disabled Veterans Business Enterprise (DVBE) firm or are stipulated suppliers or sole sourced. No claim, request for equitable adjustment or Change Order request shall be submitted to the State for any action of any Subcontractor, Sub-subcontractor or material supplier, at any tier, unless the Contractor can demonstrate that the State is the proximate cause of the change or delay alleged in such request. The State will not accept any responsibility or liability for any action or inaction of any Subcontractor, Sub-subcontractor or material supplier, at any tier, except to the extent that the State is the proximate cause of the change or delay.

3.2.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents, either by activities or duties of the State, the State's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

3.2.4 The Contractor shall be responsible for inspections of portions of the Work already completed under the Contract to determine that such portions are in proper condition to receive subsequent work. If the Contractor determines that some work performed on the Project does not comply with the requirements of the Contract Documents, the Contractor shall repair or replace such defective work at the Contractor's sole expense.

3.2.5 Until Acceptance of the Work, the Contractor shall have the charge and care thereof, and shall bear risk of injury or damage to any part of the Work by action of the elements (except for an Act of God, or natural disaster as proclaimed by the State or Federal Government), or from any other reason except for such damages as are directly caused by acts of the Federal or State Government and the public enemy, except as provided in Paragraph 8.5.

3.3 LABOR AND MATERIALS

3.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Materials, articles and equipment furnished by the Contractor for incorporation into the Work shall be new unless otherwise specified in the Contract Documents.

3.3.2 Hours of Labor: Workers are limited and restricted to 8 hours during any one calendar day, and 40 hours during any one calendar week except that pursuant to Labor Code Section 1815, any work performed in excess of 8 hours per day and 40 hours during any one week, shall be permitted upon compensation for hours worked in excess of 8 hours per day at not less than 1-1/2 times the basic rate of pay. The Contractor shall pay the State \$25 as a penalty for each worker for each calendar day worked in violation of the above limitations and restrictions.

3.3.3 Prevailing Wage: The Contractor shall comply with Labor Code, Section 1774 and 1775. Pursuant to Section 1774, the Contractor and any subcontractors, regardless of tier, shall pay not less than the specified prevailing wage rates to all workers employed in the execution of the Contract. In accordance with Section 1775, the Contractor and any subcontractor under the Contractor shall forfeit to the State not more than \$50 for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates for the work or craft, in which the worker is employed for any work executed under the Contract by the Contractor or by any subcontractor in violation of the provisions of the Labor Code; and, in particular, Labor Code, Sections 1770 to 1780, inclusive. In addition to such forfeiture, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each day, or portion thereof, shall be paid to each underpaid worker by the Contractor or subcontractor. This provision shall not apply to properly registered apprentices.

- .1 Pursuant to Labor Code, Section 1770, the Director of the Department of Industrial Relations has ascertained the general prevailing rate of per diem wages and a general prevailing rate for legal holiday and overtime work for each craft required for execution of the Contract. The Contractor shall obtain copies of the prevailing rate of per diem wages from the Department of Industrial Relations, Division of Labor Statistics & Research, PO Box 420603, San Francisco, CA 94142-0603, (415) 703-4780; or wage rates may be accessed on the internet at http://www.dir.ca.gov/DLSR/statistics_research.html. The Contractor is responsible to read, understand and comply with all the guidelines, including the fine print in the prevailing wage determinations; and shall post a copy of the prevailing wage rates, specific to the Project, at the Project site.

- .2 Wage rates set forth are the minimum that may be paid by the Contractor. Nothing herein shall be construed as preventing the Contractor from paying more than the minimum rates set. No extra compensation will be allowed by the State due to the inability of the Contractor to hire labor at minimum rates, nor for necessity for payment by the Contractor of subsistence, travel time, overtime, or other added compensations, all of which possibilities are elements to be considered and ascertained to the Contractor's own satisfaction in preparing the Bid Form.
- .3 If it becomes necessary to employ crafts other than those listed in the General Prevailing Wage Rate booklet, the Contractor shall contact the Division of Labor Statistics and Research as noted above. The rates thus determined shall be applicable as minimum for the contract and incorporated in the bid. When the wage determination shows an expiration date (noted by a double asterisk**), to expire during the term of the contract, the Contractor must call or write the DIR to obtain the new rates and incorporate them in the bid to be applicable for the term of the contract.
- .4 The Contractor and each subcontractor, regardless of tier, shall keep an accurate payroll record showing the names, addresses, social security numbers, work classifications, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor and/or subcontractor in connection with the Work. Payroll records shall be certified and shall be on forms provided by the Division of Labor Standards Enforcement, or shall contain the same information as those forms. The Contractor's and subcontractor's certified payroll records for each employee shall be submitted with each payment request, covering the period of the payment request.

3.3.4 Travel and Subsistence Payments: The Contractor shall pay travel and subsistence payments to persons required to execute the Work as such travel and subsistence payments are defined in applicable collective bargaining agreements filed with the Department of Industrial Relations, pursuant to Labor Code, Sections 1773.1 and 1773.9.

3.3.5 Apprentices: Properly registered apprentices may be employed in the execution of the Work. Every apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which the apprentice is employed, and shall be employed only at the work of the craft or trade to which the apprentice is registered. The Contractor and each Subcontractor shall comply with the requirements of Labor Code, Section 1777.5, and any related regulations regarding the employment of registered apprentices.

3.4 NONDISCRIMINATION CLAUSE

3.4.1 Definitions: As they pertain to the Standard California Nondiscrimination Construction Contract Specifications:

- .1 Administrator: The Administrator, Office of Compliance Programs (OCP), California Department of Fair Employment and Housing (DFEH), or any person to whom the Administrator delegates authority.
- .2 Minority includes:
 - 1) Black (all persons having primary origins in any of the Black racial groups of Africa, but not of Hispanic origin); or
 - 2) Hispanic (all persons of primary culture or origin in Mexico, Puerto Rico, Cuba, Central or South America, or other Spanish derived culture or origin regardless of race); or
 - 3) Asian/Pacific Islander (all persons having primary origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent or the Pacific Islands); or
 - 4) American Indian/Alaskan Native (all persons having primary origins in any of the original peoples of North America and who maintain culture identification through tribal affiliation or community recognition).

3.4.2 Whenever the Contractor or any Subcontractor subcontracts a portion of the Work, it shall physically include in each subcontract of \$5,000 or more, the Nondiscrimination Clause in the Contract directly or through incorporation by reference. Any subcontract for work involving a construction trade shall also include the Standard California Construction Contract Specifications, either directly or through incorporation by reference.

3.4.3 The Contractor shall implement the specific nondiscrimination standards provided in Clauses 3.4.6.1 through 3.4.6.5.

3.4.4 Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities and/or women shall excuse the Contractor's obligations under these specifications, Government Code, Section 12990, or the regulations promulgated pursuant thereto.

3.4.5 In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees shall be employed by the Contractor during the training period, and the Contractor shall have made a commitment to employ the apprentices and trainees upon the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.

3.4.6 The Contractor shall take specific actions to implement the Contractor's nondiscrimination program. The evaluation of the Contractor's compliance with these specifications shall be based upon the Contractor's effort to achieve maximum results from the Contractor's actions. The Contractor shall be able to demonstrate fully the Contractor's efforts under Steps .1 through .5 below:

- .1 Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites and at all facilities at which the Contractor's employees are assigned to work. The Contractor, whenever possible, shall assign two or more women to each construction project. The Contractor shall specifically ensure that all leadpersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligations to maintain such a working environment, with specific attention to minority and/or female individuals working at such sites or in such facilities.
- .2 Provide written notification within 7 days to the Director of DFEH when the union(s) with which the Contractor has a collective bargaining agreement(s) has not referred to the Contractor a minority person and/or woman sent by the Contractor, or when the Contractor has other information that the union(s) referral process has impeded the Contractor's efforts to meet the Contractor's obligations.
- .3 Disseminate the Contractor's equal employment opportunity policy by providing notice of the policy to unions and training, recruitment and outreach programs and requesting their cooperation in assisting the Contractor to meet the Contractor's obligations; and by posting the company policy on bulletin boards accessible to all employees at each location where construction work is performed.
- .4 Ensure all personnel making management and employment decisions regarding hiring, assignment, layoff, termination, conditions of work, training, rates of pay or other employment decisions, including all supervisory personnel, superintendents, general leadpersons, on-site leadpersons, etc., are aware of the Contractor's equal employment opportunity policy and obligations, and discharge their responsibilities accordingly.
- .5 Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the equal employment opportunity policy and the Contractor's obligations under these specifications are being carried out.

3.4.7 Contractors are encouraged to participate in voluntary associations which assist in fulfilling their equal employment opportunity obligations. The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of the Contractor's obligations under these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work-force participation, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. It is the Contractor's obligation to comply.

3.4.8 The Contractor is required to provide equal employment opportunity for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of the Fair Employment and Housing Act (Government Code, Section 12990 et seq.) if a particular group is employed in a substantially disparate manner.

3.4.9 Establishment and implementation of a bona fide affirmative action plan pursuant to Section 8104(b) of Title 2, California Code of Regulations (CCR), shall create a rebuttable presumption that the Contractor is in compliance with the requirements of Government Code, Section 12990, and its implementing regulations.

3.4.10 The Contractor shall not use the nondiscrimination standards to discriminate, harass or allow harassment against any person because of race, color, religion, sex, national origin, ancestry, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), marital status, or age over 40, denial of family and denial of family care leave.

3.4.11 The Contractor shall not enter into any subcontract with any person or firm decertified from State contracts pursuant to Government Code, Section 12990.

3.4.12 The Contractor shall carry out such sanctions and penalties for violation of these specifications and the Nondiscrimination Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Government Code, Section 12990 and its implementing regulations by the awarding agency. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Government Code, Section 12990.

3.4.13 The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company's equal employment opportunity policy is being carried out, to submit reports relating to the provisions herein as may be required by OCP, and to keep records. Records shall at least include for each employee the name, address, telephone number, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice

trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work is performed. Records shall be maintained in any easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, the Contractor shall not be required to maintain separate records.

3.5 GUARANTEE

3.5.1 The Contractor unconditionally guarantees the Work will be completed in accordance with the requirements of the Contract Documents, and will remain free of defects in workmanship and materials for a period of 1 year from the date of Completion of the Work of the Project, unless a longer guarantee period is specifically called for in the Contract Documents. The Contractor shall repair or replace work, or adjacent work, or both, that may have been damaged or displaced, which was not in accordance with the requirements of the Contract Documents, or that may be defective in its workmanship or material within the guarantee period specified in the Contract Documents, without any expense whatsoever to the State; ordinary wear and tear and abuse excepted.

3.5.2 The Contractor further agrees, within 14 days after being notified in writing by the State, of work not in accordance with the requirements of the Contract Documents or defects in the Work, that the Contractor shall commence and execute, with due diligence, work necessary to fulfill the terms of the guarantee. If the State finds that the Contractor fails to perform the work under the guarantee, the State will proceed to have the work completed at the Contractor's expense and the Contractor will pay costs of the work upon demand. The State will be entitled to all costs, including attorney's fees necessarily incurred upon the Contractor's refusal to pay the above costs.

3.5.3 Notwithstanding the foregoing Subparagraph, in the event of an emergency constituting an immediate hazard to health or safety of State employees, property, or licensees, the State may undertake, at the Contractor's expense and without prior notice, work necessary to correct such hazardous condition(s) when it is caused by work of the Contractor not being in accordance with the requirements of the Contract Documents.

3.6 **TAXES:** The Contractor shall pay all applicable taxes for the Work, or portions thereof provided by the Contractor, which were legally enacted as of the bid date, whether or not yet effective or merely scheduled to go into effect.

3.7 PERMITS, FEES AND NOTICES

3.7.1 The Contractor shall secure and pay for required permits, governmental fees, licenses and inspections necessary to complete the Work, unless otherwise provided in the Contract Documents.

3.7.2 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and lawful orders of public authorities bearing on the performance of the Work.

3.7.3 If the Contractor observes that portions of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, and rules and regulations, the Contractor shall promptly notify the State in writing. If the Contractor performs work known to be contrary, or should have known to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without prior notice to the State, the Contractor shall assume full responsibility for the Work and shall bear the attributable costs.

3.7.4 The Contractor is not subject to municipal, county, or district laws, rules, or regulations pertaining to building permits or regulating the design or construction of buildings upon State property, except as specified in the Contract Documents.

3.7.5 The Contractor may be subject to federal, state, municipal, county, local or district laws, rules, or regulations pertaining to off-site work, such as utility connections, fire protection systems and encroachment upon federal, state, private, city or county property, including, but not limited to storm water pollution prevention plans.

3.7.6 All construction work shall comply with the California Code of Regulations, Title 24, California Building Standards Code (CBSC), and other Applicable Codes, current edition, as of the bid date or as specified in the Specifications.

3.8 **ALLOWANCES:** The Contractor shall include in the Contract Sum, Allowances in accordance with the requirements of the Specifications, Division 01.

3.9 SUPERINTENDENT

3.9.1 The Contractor shall employ a competent Superintendent and assistants who shall be in attendance at the Project site during performance of the Work. The Superintendent, or the Contractor's duly appointed representative, shall be the person in charge of

the construction of the Work and shall represent the Contractor. Communications given to the Superintendent shall be as binding as if given directly to the Contractor. All communications shall be confirmed in writing by the Contractor. Should the State deem the Superintendent to be incompetent, the State has the authority to request the Contractor to replace this person.

3.9.2 Should the Contractor decide to replace the Superintendent, the Contractor shall notify the State in writing, no fewer than 14 calendar days prior to the replacement. The Contractor shall submit the name and resume of the new Superintendent with the letter.

3.9.3 At any other time when the Superintendent is absent from the Project site because no Work is being performed, the Superintendent shall nevertheless keep the State advised of the Superintendent's whereabouts so that the Superintendent may readily be reached and available for consultation at the Project site at any time.

3.10 CONTRACTOR'S PROGRESS SCHEDULE

3.10.1 Within the time frame specified in the specifications and prior to the first payment request, the Contractor shall submit to the State a Progress Schedule, including submittal schedules, prepared in accordance with the Specifications, Division 01. The Progress Schedule shall show the order in which the Contractor proposes to execute the Work, dates on which the Contractor will start each major subdivision of the Work, and projected dates of completion of each such subdivision in accordance with the requirements of the Contract Documents. The Contractor shall submit adjusted Progress Schedules, including submittal schedules, to reflect changed conditions in accordance with the requirements of the Contract Documents with each payment request.

3.10.2 The Contractor shall, unless otherwise specified in the Contract Documents, or directed by the State in writing, show in the schedule that physical construction of the Work will start within 10 calendar days of the start date stipulated in the Notice to Proceed, and show execution to Completion, in accordance with the specified schedule, subject to adjustment in accordance with the requirements of the Contract Documents.

3.10.3 The Contractor shall provide an adequate work force, materials of proper quality, and equipment to properly execute the Work and to ensure completion of each part in accordance with the Progress Schedule and within the Contract Time specified.

3.10.4 The Contractor shall submit to the State a Schedule of Values consistent with the Progress Schedule and Article 8. The Schedule of Values will be used as a basis for payment in accordance with Article 8.

3.10.5 The State's review and acceptance of the Progress Schedule is for compliance with the requirements of the Contract Documents only. Review and acceptance by the State of the Progress Schedule does not mean approval and does not relieve the Contractor of any of the Contractor's responsibility for the accuracy or feasibility of the Progress Schedule, or of the Contractor's ability to meet the interim Project milestone dates and the date of Completion. The State's review and acceptance does not expressly or impliedly warrant, acknowledge or admit the reasonableness of the logic, durations, manpower or equipment loading of the Progress Schedule.

3.11 DOCUMENTS AND SAMPLES AT THE PROJECT SITE

3.11.1 The Contractor shall maintain at the Project site one record copy of the Drawings, Project Manual, Addenda, Change Orders and other modifications, in good order and marked currently to record changes and selections made during construction; and in addition, Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the State and shall be delivered to the State upon completion of the Work.

3.11.2 Daily Records Clause: The Contractor shall prepare and maintain daily inspection records to document the progress of the Work on a daily basis. Daily Records shall include a daily accounting of labor and equipment on the site for the Contractor and Subcontractors, at any tier. Daily Records shall make a clear distinction between work being performed under Change Order, base scope work, and/or disputed work. Daily Records shall be copied and provided to the State at the end of every week, unless otherwise agreed to in writing.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES (SUBMITTALS)

3.12.1 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate those portions of the work for which submittals are required and the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by the State is subject to the limitations of Subparagraph 2.2.6.

3.12.2 The Contractor shall review, approve and submit to the State Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents within the number of days set forth in the Specifications, Division 01; except finishes which shall be submitted in a sequence so as to cause no delay in the progress of the Work or in the activities of the State or separate

contractors. Submittals that are not required by the Contract Documents may be returned to the Contractor without action.

3.12.3 The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been reviewed by the State. Such work shall be in accordance with reviewed submittals.

3.12.4 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and related field construction criteria, and has checked and coordinated the information contained within the submittal(s) with the requirements of the Contract Documents.

3.12.5 The Contractor shall not be relieved of the responsibility for any deviation from the requirements of the Contract Documents by the State's review of submittals unless the Contractor has specifically informed the State, in writing, or as directed by the State, of such deviation at the time of submittal, and the State has given written consent to the specific deviation. The State's review shall not relieve the Contractor of responsibility for errors or omissions in submittals. Any resulting cost increase due to such a deviation shall be the sole responsibility of the Contractor.

3.12.6 The Contractor shall respond per requirements of the Contract Documents, in writing or on resubmitted submittals, to revisions other than those requested by the State on previous submittals. After the second resubmittal of a specific item, that is still not accepted, the Contractor will be charged all costs of submittal review. The charges will be deducted from the Contract Sum.

3.12.7 Informational submittals on which the State is not expected to take action, may be identified in the Contract Documents.

3.12.8 When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the State will be entitled to rely upon the accuracy and completeness of such calculations and certifications.

3.12.9 When descriptive catalog designations, including manufacturer's name, product brand name, or model number(s) are referred to in the Contract Documents, such designations shall be considered as being those found in industry publications of current issue at date of first Invitation to Bid.

3.12.10 Substitutions and Approved Equals: Alternative material(s), article(s), or equipment that are of equal quality and of required characteristics for the purpose intended may be proposed by the Contractor for use in the Work, provided the Contractor complies with the Specifications, Division 01, and the following requirements:

- .1 The Contractor shall submit a proposal for the alternative material(s), article(s), or equipment, in writing, within 35 days after Contract start date stated in the Notice to Proceed. In exceptional cases where the best interests of the State so require, the State may give written consent to a submittal or resubmittal received after expiration of the time limit designated.
- .2 The proposal will not be considered unless the submittal is accompanied by complete information and descriptive data necessary to determine equality of offered material(s), article(s), or equipment. Samples shall be provided when requested by the State. Burden of proof as to comparative quality, suitability, and performance of offered material(s), article(s), or equipment shall be upon the Contractor. The State will be the sole judge as to such matters. In the event the State rejects the use of such alternative(s) submitted, then one of the particular products originally specified in the Contract Documents shall be furnished.
- .3 If mechanical, electrical, structural, or other changes are required for installation, fit of alternative materials, articles, or equipment, or because of deviations from Contract Drawings and Specifications, such changes shall not be made without consent of the State, and shall be made without additional cost to the State.

3.13 TESTS AND INSPECTIONS

3.13.1 The Contractor shall at all times permit the State, its agents, officers, and employees to visit the Project site and inspect the Work, including shops where work is in preparation. This obligation shall include maintaining proper facilities and safe access for such inspection. Including, but not limited to providing lifts, ladders, scaffolds, platforms and paths of travel. When the Contract Documents require a portion of the Work to be tested, such portion of work shall not be covered up until inspected and approved by the State. The Contractor shall be solely responsible for notifying the State where and when the work is ready for inspection and testing. Should any work be covered without the required testing and approval, such work shall be uncovered and recovered at the Contractor's expense. Whenever the Contractor intends to perform work on Saturday, Sunday, or a legal holiday, the Contractor shall give written notice to the State of such intention at least 48 hours prior to performing the Work, so that the State may make necessary arrangements.

3.13.2 If the State determines that portions of the Work require additional testing, inspection or approval not included in the Contract Documents, the State will instruct the Contractor, in writing, to make arrangements for additional testing, inspection or

approval by an entity acceptable to the State, and the Contractor shall give 48 hours written notice to the State of where and when tests and inspections will be conducted so that the State may observe the procedures. The State will bear the costs except as provided in Subparagraph 3.13.3.

3.13.3 If procedures for testing, inspection or approval under Subparagraphs 3.13.1 and 3.13.2 reveal failure of a portion(s) of the Work to comply with the Contract Documents, the Contractor shall bear all costs made necessary by such failure(s) including those of repeated procedures and compensation for the State's services and expenses.

3.13.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and delivered to the State within 14 days after each test.

3.14 USE OF PROJECT SITE

3.14.1 The Contractor shall confine operations at the Project site to areas permitted by law, ordinances, permits and the Contract Documents.

3.14.2 The Contractor shall perform no operations of any nature on or beyond the limits of Work or premises, except as such operations are authorized in the Contract Documents, or authorized by the State.

3.14.3 The Contractor shall ensure the limits of Work to be free of graffiti or other similar defacements during the time of the Contract; if such defacement occurs, then the Contractor shall properly remove, repair, or correct the affected area(s), or as otherwise directed by the State. The Contractor shall protect exposed surfaces within the limits of Work, with anti-graffiti coatings, and maintain such protection continuously effective during the time of the Contract.

3.14.4 Prohibitions: Pursuant to Subparagraph 3.2.2., the use of alcohol and tobacco products, and the use or possession of weapons, or illegal controlled substances by the Contractor, or others under the Contractor's control, on State property is not allowed. Residing on site in temporary facilities by the Contractor, or others under the Contractor's control, is not allowed unless otherwise specified in the Specifications, Division 01.

3.15 CUTTING AND PATCHING

3.15.1 The Contractor shall be responsible for cutting, fitting or patching as required to complete the Work.

3.15.2 The Contractor shall not damage nor endanger the Work by cutting, patching or otherwise altering the construction, and shall not cut nor otherwise alter the construction without prior written consent of the State.

3.16 CLEANING UP

3.16.1 The Contractor shall keep the Project site and surrounding areas free from waste materials and/or rubbish caused by operations under the Contract and at other times when directed by the State. At all times while finish work is being accomplished, floors shall be kept clean, free of dust, construction debris and trash. Upon completion of the Work, the Contractor shall remove from the Project site the Contractor's tools, construction equipment, machinery, and any waste materials not previously disposed of, leaving the Project site thoroughly clean, and ready for the State's final inspection.

3.16.2 If the Contractor fails to clean up as provided in the Contract Documents, the State may do so and charge the cost thereof to the Contractor.

3.17 **ACCESS TO WORK:** The Contractor shall provide the State continuous and safe access to the Work. Including, but not limited to providing lifts, ladders, scaffolds, platforms and paths of travel.

3.18 **ROYALTIES AND PATENTS:** The Contractor shall pay royalties and license fees. The Contractor shall defend suits or claims for infringement of patent rights and hold the State harmless.

3.19 INDEMNIFICATION

3.19.1 **Duty To Defend:** To the fullest extent permitted by law, the Contractor shall defend the State and any officer or employee of the State from and against suits filed against the State alleging claims, (including costs of attorneys fees) by reason of liability imposed by law and claims, including but not limited to, claims of personal injury, death, damage to property and loss of use thereof, or any claims arising out of the Contractor's performance of the Contract, or damages of other relief based on allegations of the failure of the Contractor, or the Contractor's Subcontractors to properly perform their obligations under the Contract, of the Contractor's violations of any legal duties, even if the allegations of any suit are groundless, false or fraudulent, and the Contractor

may make such investigation and settlement of any suit as the Contractor deems expedient. This duty to defend is separate and independent from the Contractor's duty to indemnify and hold harmless the State from such claims. Any failure to fulfill this obligation shall be a default of the Contractor's performance obligations under the Contract.

3.19.2 Duty to Indemnify: To the fullest extent permitted by the law, the Contractor shall hold harmless and indemnify the State and any officer or employee of the State from and against claims, losses and expenses (including costs of attorneys fees) by reason of liability imposed by law for claims, including but not limited to, claims of personal injury, death, damage to property and loss of use thereof, or any claims arising out of the Contractor's performance of the Contract, or damages or other relief based on allegations of the failure of the Contractor, or the Contractor's Subcontractors to properly perform their obligations under the Contract, or the Contractor's violations of any legal duties. Any failure to fulfill this obligation shall be a default of the Contractor's performance obligations under the Contract.

3.20 AIR POLLUTION: The Contractor and Subcontractors shall comply with State and/or local air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the Contract. If there is a conflict between the State and local air pollution control rules, regulations, ordinances and statutes, the most stringent shall govern.

3.21 CERTIFICATION BY CONTRACTOR OF RECYCLED CONTENT: The Contractor shall certify in writing, under penalty of perjury, to the State, the minimum, if not exact, percentage of recycled content, both postconsumer material and secondary material, as defined in Public Contract Code Sections 12153 and 12200 and 12209, in materials, goods, or supplies offered or products used in the performance of the Contract, regardless of whether the product meets the required recycled percentage as defined in Sections 12153 and 12200 and 12209. The Contractor may certify that the product contains zero recycled content.

3.22 UNFAIR BUSINESS PRACTICES: The Contractor agrees and will require the Subcontractors and suppliers to agree to assign to the State all rights, title, and interest in and to all causes of action they may have under Section 4 of the Clayton Act (15 U.S.C. Section 15), or under the Cartwright Act (commencing with Section 16700 of the Business and Professions Code), arising from the purchase of goods, services or materials, pursuant to the Contract Documents or subcontract thereunder. An assignment made by the Contractor, and additional assignments made by Subcontractors and suppliers, shall be deemed to have been made and will become effective at the time the State tenders final payment to the Contractor, without further acknowledgment of the parties.

3.23 CHILD SUPPORT COMPLIANCE ACT: For any contract in excess of \$100,000, the Contractor acknowledges in accordance with Public Contract Code Section 7110, that: (a) the Contractor recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with Section 5200) of Part 5 of Division 9 of the Family Code; and (b) the Contractor, to the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.

3.24 NOT USED

3.25 CONTRACTOR REQUIRED NOTIFICATION OF CHANGES: The Contractor shall notify the State's Representative in writing of any change to Contractor's name, status, or information including but not limited to:

1. Name
 - a. An amendment is required to change the Contractor's name as listed on this Agreement. Upon receipt of Contractor's notification and legal documentation of the name change, the State will process the amendment. Payment of invoices presented with a new name cannot be paid prior to approval of said amendment.
 - b. The State shall not be liable for penalties or interest on payments which are delayed due to Contractor's change of name and subsequent amendment processing.
2. Address/Location
3. Federal Employer Identification Number (FEIN)
4. Type of Organization or Legal Status – including:
 - a. Corporate
 - b. Partnership
 - c. Individual/Sole-Ownership
 - d. Joint Venture
 - e. Limited Liability Company
 - f. DBA
5. Ownership
6. Officers or Key Personnel
7. License
8. Other (Bankruptcy, Etc.)

Contractor shall immediately provide an updated Standard Form 204 (IRS/FTB form) to the Contracts Management & Procurement Services Section within five (5) calendar days of any such relevant change.

The State shall not be liable for penalties or interest on payments which are delayed do to Contractor's lack of proper or timely notice and documentation of a relevant change in status which impacts the State's ability to pay.

Contractor shall submit the firm's status change in writing including the Contract Number, Project Title and all necessary backup and legal documentation to support the status change to:

The State Department of General Services
Real Estate Services Division
Contracts Management & Procurement Services Section
707 Third Street, Suite 2-350
West Sacramento, CA 95605

ARTICLE 4 - SUBCONTRACTORS

4.1 SUBLETTING AND SUBCONTRACTING

4.1.1 The Contractor shall adhere to the rules governing subcontracting as set forth in the Subletting and Subcontracting Fair Practices Act, commencing with Public Contract Code, Section 4100. Subcontractor substitutions shall be in accordance with provisions of the Subletting and Subcontracting Fair Practices Act, beginning with Public Contract Code, Section 4100. Violations of this Act by the Contractor may subject the Contractor to penalties and disciplinary action as provided by the Subletting and Subcontracting Fair Practices Act.

4.1.2 The Contractor shall be responsible for the Work. Persons engaged in the Work of the Project are the responsibility and under the control of the Contractor. The Contractor shall give personal attention to fulfillment of the Contract and shall keep the Work under the Contractor's control. When any Subcontractor fails to execute a portion of the Work in a manner satisfactory to the State, the Contractor shall remove such Subcontractor immediately upon written request notice from the State, and the Subcontractor shall not again be employed on the Project. Although Specification Sections of the Contract Documents may be arranged according to various trades or general grouping of work, the Contractor is not obligated to sublet work in any manner. The State will not entertain requests to arbitrate disputes among Subcontractors or between the Contractor and Subcontractor(s) concerning responsibility for performing any part of the Work.

4.1.3 The State may not permit a contractor or subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to Sections 1777.1 or 1777.7 of the Labor Code to bid on, be awarded, or perform work as a subcontractor on a public works project.

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

4.2 SUBCONTRACTUAL RELATIONS

4.2.1 The Contractor shall make available to each proposed Subcontractor, prior to the execution of a Subcontractor Agreement, copies of the Contract Documents to which the Subcontractor will be bound. Upon written request of the Subcontractor, the Contractor shall identify to the Subcontractor the terms and conditions of the proposed Subcontractor Agreement which may or may not be at variance with the Contract. Subcontractors shall similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors. The Contractor shall, by Subcontractor Agreement, require each Subcontractor, to the extent of the work to be performed by the Subcontractor:

- .1 To be bound to the Contractor by terms of the Contract.
- .2 To assume toward the Contractor the obligations and responsibilities which the Contractor, by the Contract, assumes toward the State.
- .3 To preserve and protect the rights of the State under the Contract Documents with respect to the work to be performed by the Subcontractor.
- .4 To be allowed, unless specifically provided otherwise in the Subcontractor Agreement, the benefits of rights, remedies and redress against the Contractor that the Contractor, by the Contract, has against the State.
- .5 To enter into similar agreements with Sub-subcontractors.

4.2.2 Subcontractor Payments: The Contractor shall pay the Contractor's Subcontractors for work performed no later than 10 days after receipt of each progress payment. If there is a good faith dispute over all or any portion of the amount due a Subcontractor on a progress payment, the Contractor may withhold no more than 150 percent of the disputed amount. This provision shall apply to Sub-subcontractors also. A violation of these requirements invokes the payment and penalty provisions of Public Contract Code, Section 10262 and Section 10262.5.

4.3 **DISABLED VETERAN BUSINESS ENTERPRISE PROGRAM:** Pursuant to Public Contract Code (PCC) Section 10115 et. seq., the Contractor shall use, employ and utilize Disabled Veteran Business Enterprise (DVBE) subcontractors, sub-subcontractors or material suppliers who were listed in their bid documents for DVBE Program participation, to the full extent of the amount of money and/or percentage of commitment manifested in the bid documents. If the Contractor wishes to substitute any listed DVBE subcontractors, sub-subcontractors or material suppliers for just and legal cause, the Contractor shall follow the dictates of PCC Sections 4107 and 10115.12b, as well as Military and Veterans Code (M&VC) Section 999.5(e) and California Code of Regulations, Title 2, Section 1896.64. The DVBE may only be replaced by another DVBE and shall obtain the written authorization of the State prior to any such substitutions. The Contractor shall not unilaterally substitute a listed DVBE subcontractor, sub-subcontractor or material supplier. Failure of Contractor to seek substitution and adhere to the DVBE participation requirement identified in the bid may be cause for contract termination, recovery of damages under rights and remedies due to the State, and penalties as outlined in M&VC Section 999.9; PCC Sections 4110 and PCC Section 10115.10.

4.4 **CONTRACT ASSIGNMENTS:** Performance of the Contract may not be assigned except upon written consent of the State. Consent will not be given to an assignment which would relieve the Contractor or the Contractor's Surety of their responsibilities under the Contract.

ARTICLE 5 - CONSTRUCTION BY THE STATE OR BY SEPARATE CONTRACTORS

5.1 STATE'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

5.1.1 The State reserves the right to perform work or operations related to the Project with the State's own work force, and to award separate contracts in connection with other portions of the Project, and other construction or operations on the Project site or adjacent to the Project. The Contractor shall at all times conduct the Work so as to impose no hardship on the State or others engaged in work on the Project, nor to cause any unreasonable delay or hindrance to the Project.

5.1.2 When separate contracts are awarded for different portions of the Project, "the Contractor" in the Contract Documents in each case shall mean the contractor who executes each separate contract. Each contractor is the intended third part beneficiary of other contracts for the Project.

5.1.3 The Contractor shall not cause unnecessary hindrance or delay to another contractor working on or near the Project. If the performance of any contract for the Project is likely to be interfered with by the simultaneous execution of some other separate contract or contracts, the State will decide which contractor may proceed.

5.1.4 Costs caused by defective or ill-timed work shall be borne solely by the responsible contractor.

5.2 MUTUAL RESPONSIBILITY

5.2.1 The Contractor shall cooperate fully with the State and separate contractors with regard to the execution of their work as follows:

- .1 The Contractor shall cooperate fully with the State and all separate contractors with regard to introduction and storage of their materials and equipment.
- .2 The Contractor shall coordinate with the State and separate contractors with regard to construction scheduling and sequence of operations, subject to approval of the State.
- .3 Each contractor shall monitor the schedule and progress of each other contractor whose work affects its work, and shall provide timely notice to the State of potential problems of interface so that the State can mitigate the problem.
- .4 The Contractor shall properly connect the Work to the work of the State or the separate contractors.
- .5 The Contractor shall inspect the work of the State or other contractors affecting the Work and promptly report to the State in writing irregularities or defects in the separate work, which renders it unsuitable for reception or connection of the Work.
- .6 Failure of the Contractor to inspect and report shall constitute acceptance of the other work as fit and proper to receive the Work, except as to defects which may develop in the other work after execution of the Contractor's Work.

5.2.2 Claims Between Separate Contractors:

- .1 Should the Contractor cause damage to the work or property of any separate contractor on the Project, the Contractor shall, upon due notice, settle with such other contractor by agreement, mediation or arbitration, if they will so settle.
- .2 If such separate contractor sues the State or initiates an arbitration proceeding on account of any damage alleged to have been so sustained, the State will notify the Contractor who shall defend such proceedings at the Contractor's sole expense.
- .3 The Contractor shall pay or satisfy any judgement or award against the State, arising therefrom. In addition, the Contractor shall pay the State for attorney's fees, court, arbitration or mediation costs and additional administrative, professional, consultant, inspection, testing and other service costs which the State has incurred.

5.2.3 The Contractor shall promptly remedy damage wrongfully caused by the Contractor to any completed or partially completed construction or to any property of the State or separate contractors as provided in Subparagraph 10.1.6.

5.2.4 Cutting and Patching Under Separate Contracts: The Contractor shall be responsible for any cutting, fitting and patching that may be required to complete the Work, except as otherwise specifically provided for in the Contract Documents. The Contractor shall not endanger any work of the State or of any other contractor by cutting, excavating, or otherwise altering any work, except with the written consent of the State.

5.3 **STATE'S RIGHT TO CLEAN UP:** If a dispute arises among the Contractor, separate contractors and/or the State as to the responsibility under their respective contracts for maintaining the Project site and surrounding areas free from waste materials and rubbish as described in Paragraph 3.16, the State may clean up and allocate the costs among those responsible.

ARTICLE 6 - CHANGES IN THE WORK

6.1 GENERAL

6.1.1 The State may order changes, including but not limited to, revisions to the Contract Documents, performance of extra work, and the elimination of work, without invalidating the Contract. Orders for such changes will be in writing. Changes shall not affect the obligations of the sureties on the contract bonds nor require their consent. Contract Time and Contract Sum will be adjusted, by written Change Order for changes which materially increase or decrease the time or cost or performance.

- .1 Proposed Change Order: The Contractor will be issued a written proposed Change Order by the State describing the intended changes to the Work.
- .2 Timeline: Within 14 days the Contractor shall submit to the State the Contractor's proposed cost estimate to be added or deducted from the Contract Sum due to the change, authenticated in full by completely detailed estimates and other authenticators of the cost by the Contractor, Subcontractors, Sub-subcontractors, vendors or material suppliers, and any adjustments of time of Completion of the entire Work that is directly attributable to the State's proposed Change Order.
- .3 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 Time for such Work, then the Contractor shall proceed with the Work at the agreed cost, reserving to the Contractor the right to further pursue the Contractor's claim for adjustment of time in accordance with Paragraphs 7.4 and 9.1.
- .4 Failure to Submit Cost Estimate: If the Contractor fails to submit the cost estimate within the 14 days timeline, or there is failure to agree to the Cost, then the State shall have the right to issue an order in writing to the Contractor to commence Work immediately, and the Contract Sum shall be changed in accordance with the State's estimate of cost, unless, within 14 days following completion of the added Work or with written notice to delete the Work, the Contractor submits to the State written proof that the State's estimate is in error.

6.1.2 The Contractor, when ordered by the State, shall proceed with changes before agreement is reached on adjustment, if any, in compensation or time for performance, and shall furnish to the State records as specified in Clause 6.2.1.3. If the Contractor fails to provide such records, the State's records will be used for the purpose of adjustment, if any, in Contract Time and Contract Sum.

- .1 Contractor may make payment requests for such work.

6.1.3 The Contractor will forfeit compensation for cost and /or time for proceeding with changes to the Work without written authorization from the State. The Contractor shall notify the State, in writing, and request an evaluation whenever it appears a change is necessary. This written notice shall be made within 24 hours of such discovery. If the State concurs with the Contractor's request for a change to the Work, the State will follow the procedures under Article 6. Delays as a result of these requests will be the

responsibility of the Contractor.

6.2 CHANGE ORDER

6.2.1 Methods used in determining adjustments to the Contract Sum shall be based on one of the following methods:

- .1 By mutual acceptance of a lump sum increase or decrease in costs. Upon the State's written request, the Contractor shall furnish a detailed estimate of increase or decrease in costs, together with cost breakdowns and other support data within the time specified in such request. The Contractor shall be responsible for any additional costs caused by the Contractor's failure to provide the estimate within the time specified.
- .2 By the State, on the basis of the State's estimate of increase or decrease in the costs.
- .3 By the State, whether or not negotiations are initiated as provided in Clause 6.2.1.1, by actual and necessary costs, as determined by the State, on the basis of records. Beginning with the first day and at the end of each day, the Contractor shall furnish to the State 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 the State. Such records shall be signed by the Contractor and, when agreed to by the State, will become the basis for compensation for the changed work. Such agreement shall not preclude subsequent adjustment based upon later audit by the State.
- .4 By unit prices stated in the Contract Documents, or subsequently agreed upon.
- .5 By a manner agreed upon by the State and the Contractor.

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

- .1 Labor: Compensation for labor shall include the applicable payroll cost for labor, including first level supervision providing physical construction labor directly engaged in performance of the changes. Others, who may be involved in the preparation of the change order, including, but not limited to supervisors, superintendent, engineers, or estimators, shall be considered as overhead costs under Clause 6.2.2.4. Payroll cost for labor shall be the General Prevailing Wage Rates applicable for this project and in the locality for performance of the changes. In addition to the published rates, only social security, worker compensation, state and federal taxes shall be included in the total payroll cost. Other costs shall be considered as mark-ups under Clause 6.2.2.4. Use of a classification which would increase labor costs will not be permitted.
- .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 the Contractor, they shall be credited to the State. If materials and equipment are obtained from a supply or source owned by, or in part, by the Contractor, payment therefore will not exceed current wholesale prices for such materials and equipment. If, in the opinion of the State, the cost of materials and equipment is excessive, or if the 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 quantities required. The State reserves the right to furnish materials and equipment required for performance of the changes, and the Contractor shall have no claim for costs or mark-ups on such materials and equipment.
- .3 Construction Equipment:
 - .1 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 30 minutes shall be considered one-half 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 the State. 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 \$500 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.
 - .2 Unless otherwise approved by the State, the allowable rate for use of construction equipment shall constitute full compensation to the Contractor for cost of fuel, power, oil, lubrication, supplies, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, labor except for construction equipment operators and any and all costs to the Contractor incidental to the use

of such construction equipment.

- .4 Mark-Ups for Added Work:
 - .1 General: The following allowance for mark-ups for performance of the changes shall constitute full compensation for additional field and home office overhead, profit, insurance, taxes (excluding sales taxes for materials incorporated into the project), and bonds, and other costs not covered under Clauses 6.2.2.1 through 6.2.2.3.
 - .2 Contractor: When work is added, the Contractor may claim mark-up in addition to authorized allowable costs, a reasonable sum as compensation for the items identified in 6.2.2.4.1 above, subject to proof of entitlement based on actual job costs, actual job experience, the Contractor's bidding data, and industry custom and practice. Under no circumstance can this sum exceed the following percentages:
 - .1 Contractor Labor : 21 percent, includes bond cost.
 - .2 Contractor Materials and Equipment : 16 percent, includes bond cost.
 - .3 Subcontractor Work : 6 percent of Subcontractor's costs, includes bond cost.
 - .1 Calculations of the Contractor's allowable 6 percent mark-up of the Subcontractor's Work shall not include the Subcontractor's allowable mark-up. Compounding of mark-up is not allowed.
 - .3 Subcontractors: When work is added, the Subcontractor may claim mark-up in addition to authorized allowable costs, a reasonable sum as compensation for the items identified in 6.2.2.4.1 above, subject to proof of entitlement based on actual job costs, actual job experience, the Subcontractor's bidding data, and industry custom and practice. Under no circumstance can this sum exceed the following percentages:
 - .1 Subcontractor Labor : 20 percent
 - .2 Subcontractor Materials and Equipment : 15 percent
 - .3 The aggregate mark-ups for all Subcontract tiers shall not exceed 20 percent for labor and 15 percent for materials and equipment. Compounding of mark-up is not allowed.
- .5 For Deleted Work: When the State is entitled to a credit for deleted work, the credit shall include direct labor, materials, and supervision plus overhead of the Contractor or Subcontractor, as applicable for the deleted work. Deleted overhead shall be computed as no less than 5 percent of the direct labor, materials, and supervision, and should reflect the actual savings to the Contractor resulting from the deletion based upon actual job prices for the work at issue, actual job experience, the Contractor's bidding data for the project and industry custom and practice. For example, if a \$10,000 item of work is deleted, the credit to the State would be no less than \$10,500.
- .6 For Combination of Added and Deleted Work: For Change Orders that involve both added and deleted work, the Contract Sum will be adjusted based on the following computation: Cost before mark-ups of added and deleted work shall each be separately estimated. If a difference between costs results in an increase to the Contract Sum, a mark-up for added work shall be applied to the difference. If a difference in costs results in a decrease, then the 5 percent credit to the State for deleted overhead set forth above shall be applied to the difference.
- .7 General Limitations: Costs to the Contractor for changes which exceed market values prevailing at the time of the change will not be allowed unless the Contractor establishes that all reasonable means for performance of the changes at prevailing market values have been investigated and the excess cost could not be avoided. Notwithstanding actual charges to the Contractor on work performed or furnished by others, no mark-ups will be allowed in excess of those specified in Clause 6.2.2.4 above.

6.2.3 Cost Disallowance: Costs which will not be allowed or paid in Change Orders or Claim settlements under this Contract 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 or Change Order proposals concerning Change Orders which are not issued by the State; 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 retainage; claims consulting costs; the costs of corporate officers or staff visiting the site or participating in meetings with the State; any compensation due to the fluctuation of foreign currency conversions or exchange rates; or loss of other business.

6.3 **ACCEPTANCE OF CHANGE ORDERS:** The Contractor's written acceptance of a Change Order shall constitute final and binding agreement to the provisions thereof and a waiver of Claims in connection therewith, whether direct, indirect, or consequential in nature.

6.4 **EFFECT ON SURETIES:** Alterations, extensions of time, extra and additional work, and other changes authorized by the Contract Documents may be made without securing consent of Surety(s) on Contract Bonds.

ARTICLE 7 - TIME

7.1 NOTICE TO PROCEED

7.1.1 The Contractor will be notified of the Contract start date as stated in the Notice to Proceed. Notwithstanding other provisions of the Contract, the State will not be obligated to accept or to pay for work furnished by the Contractor prior to the start date stated in the Notice to Proceed whether or not the State has knowledge of the furnishing of such work. The Contractor shall not be allowed on the site of the Work until the Contractor's Contract bonds and certificates of insurance comply with requirements of the Contract.

7.1.2 Work under the Contract shall be conducted in accordance with Paragraph 3.10. The Contractor shall not begin any Work until authorized in writing by the State.

7.2 **CONTRACT TIME:** The Contract Time is the period set forth in Document 00 73 00, Supplementary Conditions. The start and completion dates will be stated in a Notice to Proceed. It is essential that the Project be completed within the time fixed for Completion in Document 00 73 00 or liquidated damages will be assessed for delay. All portions of the Work shall be completed and shall be ready for full use by the State on, or prior to, the date of Completion.

7.2.1 Time is of the essence in this Contract.

7.3 **LIQUIDATED DAMAGES:** For every day that the Work remains unfinished after the time fixed for Completion in the Contract Documents, as modified by any approved extension of time, damage will be sustained by the State. Because of the difficulty in computing actual material loss and disadvantages to the State, it is determined in advance that the Contractor will pay the State the amount of damages set forth in the Agreement, as representing a reasonable forecast of actual damages which the State will suffer by failure of Contractor to complete the Work within the time fixed for Completion in the Contract. Execution of the Agreement shall constitute acknowledgment by the Contractor that the Contractor agrees that the State will actually suffer damages in the amount fixed for every Day during which Completion of the Work is avoidably delayed beyond the time fixed for Completion in the Contract.

7.4 TIME EXTENSIONS

7.4.1 Request for Time Extension: In the event the Contractor requests an extension of Contract Time for unavoidable delay, the Contractor shall furnish such justification and supporting evidence as the State may deem necessary for the determination as to whether the Contractor is entitled to an extension of Contract Time. The Contractor shall submit justification in writing no later than 7 days after the initial occurrence of any delay. The justification shall be based on the Official Progress Schedule as updated at the time of occurrence of the delay or execution of work related to any changes to the scope of the Work. The justification shall include, but is not limited to the following information:

- .1 Duration to perform activity(ies) relating to changes in the Work and resources (manpower, equipment, material, etc.) required to perform these activities within the stated duration.
- .2 Logical ties to the Official Progress Schedule for proposed changes or delay showing activity(ies) in the schedule start or completion dates are affected by the change or delay.

7.4.2 The State, upon receipt of such justification and supporting evidence, shall make its finding of fact. The State's decision shall be final and conclusive and the State will advise the Contractor in writing of such decision. If the State finds that the Contractor is entitled to an extension of Contract Time, the State's determination as to the total number of extension days shall be based upon the latest updated version of the Official Progress Schedule. Such data will be included in the next monthly updating of the schedule.

7.4.3 Time Extensions: For delays that the State agrees are unavoidable, and are Justified in accordance with Subparagraph 7.5.2, the Contractor shall, pursuant to the Contractor's application, be allowed an extension of time beyond the Contract Time. During such extension of time, neither extra compensation for engineering and inspection nor liquidated damages will be charged to the Contractor. Time extensions shall be granted only for delays or changes that extend the Completion date, based on the latest accepted updated version of the Official Progress Schedule. Time extensions for delays and changes shall not exceed one day for each day that the Contract Completion date of the Official Progress Schedule is extended by this change or delay.

7.5 DELAYS IN COMPLETION OF THE WORK

7.5.1 Notice of Delays: Whenever the Contractor foresees delay in the continuance and Completion of the Work, or immediately upon the occurrence of any delay which the Contractor regards as unavoidable, the Contractor shall notify the State in writing, in a separate notice of the delay. The Contractor's notice shall include the probability of the occurrences of such delay and its cause in

order that the State may take immediate steps to prevent the occurrence or continuance of the delay. If the delay cannot be prevented, the State will determine whether the delay is unavoidable and to what extent continuance and Completion of the Work is anticipated to be delayed.

- .1 The Contractor shall make no claim for delay not called to the attention of the State in writing, at the time of its occurrence.
- .2 Delay in the continuance of parts of the Work that does not prevent or delay the continuance of other parts of the Work or the Completion of the whole Work within the Contract Time shall be deemed to constitute neither avoidable delays nor unavoidable delays, within the meaning of the Contract. Such delay will be considered Unjustified and no extension to the Contract Time and/or additional compensation will be granted.

7.5.2 Justified Delay: Justified Delay in the continuance or Completion of the Work shall include delays which result from causes beyond the control of the Contractor and which could not have been avoided by the exercise of due care and diligence on the part of the Contractor or the Contractor's Subcontractors. Delay in Completion of the Work due to Contract modifications ordered by the State and unforeseeable delays in continuance or completion of the work of other contractors employed by the State may be considered Justified Delays insofar as they interfere with the Contractor's Completion of the Work within the Contract Time. Delays due to normal weather conditions which prevent the Contractor from proceeding with the controlling item on the Official Progress Schedule will not be regarded as a Justified Delay.

- .1 Justified Delay will result in an extension beyond the Contract Time in accordance with Paragraph 7.4.
- .2 Justified Delay that includes Contract modifications ordered by the State may entitle the Contractor to extra compensation in accordance with the provisions of Article 6.
- .3 Delay that results from causes beyond the control of the State and is determined by the State to be the Contractor's responsibility shall be considered Unjustified and will result in no extension in the Contract Time or extra compensation. The State's decision shall be final and conclusive.
- .4 The State will determine the net difference between overlapping or concurrent Justified Delays and Unjustified Delays and whether the Contractor is entitled to any extension in the Contract Time and/or extra compensation. The State's decision shall be final and conclusive.

7.5.3 Weather Delays: If weather conditions are the basis for delays in the continuance or completion of the Work, such delay shall be documented by 5 year climatological data obtained by the Contractor, from the nearest nationally recognized reporting station to the Work site, 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 scheduled construction. The State will not be responsible for additional costs of the Contractor caused by weather delays, including, but not limited to, costs of extended overhead.

7.6 ACCELERATION

7.6.1 The State reserves the right to accelerate the Work of the Contract. In the event that the State directs acceleration, such directive will be only in written form. The Contractor shall keep cost and other Project records related to the acceleration directive separately from normal Project costs and records, and shall provide a written record of acceleration cost to the State on a daily basis.

7.6.2 In the event that the Contractor believes that some action or inaction on the part of the State constitutes an acceleration directive, the Contractor shall immediately notify the State in writing that the Contractor considers the actions an acceleration directive. This written notification shall detail the circumstances of the acceleration directive. The Contractor shall not accelerate work efforts until the State responds to the written notification. If acceleration is then directed or required by the State, cost records referred to above shall be maintained by the Contractor and provided to the State on a daily basis.

7.6.3 In order to recover additional costs due to acceleration, the Contractor shall document that additional expenses were incurred and paid by the Contractor. Labor costs recoverable will be only overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will be only the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

ARTICLE 8 - PAYMENTS AND COMPLETION

8.1 SCHEDULE OF VALUES: Before the first payment request, the Contractor shall submit to the State a Schedule of Values allocated to portions of the Work, included with the Contractor's Progress Schedule, and supported by such data to substantiate the accuracy as the State may require. This Schedule of Values, unless objected to by the State, shall be used as a basis for progress payments.

8.2 TIMELINESS OF PAYMENTS

8.2.1 Upon receipt of a payment request by the designated State's Representative with updated Progress Schedule from the Contractor, the State will review same to determine if it is a proper payment request based on the approved Schedule of Values. Any payment request determined by the State not to be suitable for payment shall be modified and processed in accordance with the State's assessment or returned to the Contractor for resubmittal. The reason(s) the payment request was deemed unsuitable shall be stated in writing.

8.2.2 Actual payment request submittal date shall be established by the State. Thereafter, the payment request submittal date will be monthly on the same date.

8.2.3 The State will make progress payments pursuant to Public Contract Code, Section 10261.5.

8.3 RETENTIONS

8.3.1 Upon submittal and receipt of a monthly payment request in accordance with Paragraph 8.2 above, the following shall apply:

- .1 The Contractor's payment request shall include the total amount of Work completed to date, including materials as verified by the State, furnished and delivered on the Project site, not used, or in a secure off-site facility, pursuant to Public Contract Code, Section 10261. All materials included in the Contractor's payment requests furnished and delivered on the Project site, not used, and /or in a secure off-site facility shall be used exclusively for the Project. It shall be the sole responsibility of the Contractor to maintain, protect and secure such materials.
- .2 The State shall retain not less than 5 percent of the estimated value of Work completed.

8.3.2 Securities in Lieu of Retention: At the request and expense of the Contractor, and in accordance with Public Contract Code, Section 10263, the Contractor may provide securities in lieu of retention.

8.4 **ASSIGNMENT OF CONTRACT FUNDS:** The Contractor may assign moneys due or to become due under the Contract, through an amendment to the Contract. Any assignment of moneys earned by the Contractor shall be subject to proper retention in favor of the State and to deductions provided for in the Contract. Moneys withheld, whether assigned or not, are subject to being used by the State to the extent permitted by law, for the Completion of the Work in the event that the Contractor is in default of the Contract.

8.5 OCCUPANCY BY THE STATE PRIOR TO COMPLETION OF THE WORK

8.5.1 The State reserves the right to occupy all or any part of the Project prior to Completion of the Work, upon written notice. Such occupancy or use is herein referred to as Beneficial Occupancy. In this event, the Contractor shall be relieved of responsibility to the State for liability arising out of such occupancy by the State. Nevertheless, the Builder's Risk Coverage must remain in effect, with either a "consent to occupy" endorsement or a waiver of occupancy endorsement, with no right of recovery against the State.

8.5.2 The State's Beneficial Occupancy does not constitute Completion of the Work or Acceptance of the Work by the State, or any portion of the Work, nor will it relieve the Contractor of responsibility for correcting defective Work or materials found at any time before Acceptance of the Work, as set forth in Article 12 or during the Guarantee period as set forth in Paragraph 3.5, or after the State's acceptance, as set forth in Subparagraph 8.6.1. However, when the Project includes separate buildings, and one or more of the buildings is entirely occupied by the State, then upon written request by the Contractor and by written consent from the State, the Guarantee period will commence to run from the date of the State's occupancy of such building or buildings.

8.6 ACCEPTANCE OF THE WORK AND FINAL PAYMENT

8.6.1 When the Contractor considers the Work complete, the Contractor shall request a final inspection in writing to be conducted by the State.

- .1 The Contractor shall request this final inspection only when all Work, including deficient items identified on previous inspections, have been completed and deliverables delivered as noted in the Project Manual, Section 01 77 00.
- .2 The State Representative shall conduct a final inspection within 14 days of receipt of a written request from the Contractor for final inspection.
- .3 If, after the inspection, the State Representative determines that the Work is complete, the State Representative will establish a date for Completion of the Work. The State Representative will then recommend to the Director of the Department of General Services, or the Director's designee, to accept the Work within 60 days from the

date of Completion of the Work.

- .4 Upon Acceptance of the Work by the Director:
 - a) The Retention held by the State will be released, and
 - b) The Contractor will be relieved of the duty of maintaining and protecting the Work.
- .5 If the State determines that the Work is not complete, the Contractor will be notified in writing of deficiencies. After correcting all deficiencies the Contractor shall again initiate the procedures for final inspection as set forth above. If the process of re-inspection and correction of deficiencies goes beyond the Contract Time, the Contractor shall be assessed liquidated damages.
- .6 Determination by the State that the Work is complete or Acceptance of the Work will not bar any Claim against the Contractor pursuant to Paragraph 3.5.

8.6.2 Upon Acceptance of the Work, the State will submit a final statement to the Contractor:

- .1 The final statement shall take into account the Contract Sum as adjusted by any Change Orders, amounts already paid to the Contractor, sums to be withheld for incomplete Work, liquidated damages, stop notices, and for any other cause under the Contract.
- .2 A warrant in the amount of the sum due the Contractor, if any, will be issued.
- .3 If the Contractor owes any amount to the State, the final statement shall serve as an invoice to the Contractor.

8.6.3 The Contractor is required to pay Subcontractors from which a Retention has been withheld within 7 days of receipt from the State of Retention proceeds.

8.6.4 The Contractor has 30 days after receipt of the final statement to file a Claim with the State.

- .1 All Claims shall comply with the requirements of Subparagraph 9.1.2.
- .2 Failure to file a Claim within the 30 day period constitutes a failure to diligently pursue and exhaust the required administrative procedures set forth in the Contract. Such failure shall constitute waiver of additional rights to compensation under the Contract or the right to request Equitable Adjustment.
- .3 If the Contractor does not file a Claim within the 30 day period, the final warrant made by the State will become a complete and final settlement between the State and the Contractor.

8.7 **INTEREST:** Payments due and unpaid under the Contract shall earn interest pursuant to Public Contract Code, Sections 7107 and 10261.5.

ARTICLE 9 - DISPUTES AND CLAIMS

9.1 DISPUTE AND CLAIM PROCEDURES

9.1.1 Dispute as to Contract Requirements: When the Contractor and the State fail to agree whether or not any work is within the scope of Contract requirements, the Contractor shall immediately perform such work upon receipt of a written notice to do so by the State. Within 14 days after receipt of such notice to perform disputed work, the Contractor may submit a written protest to the State, specifying in detail the Contract requirements that were exceeded, and approximate change in cost resulting so that the State will have notice of a potential Claim. Failure to submit a protest within the specified period shall constitute a waiver of any and all rights to an adjustment in Contract Sum and Contract Time due to such work, and the Contractor thereafter shall not be entitled to adjustment of Contract Sum or Contract Time. For any such work that is found to exceed Contract requirements, there shall be an adjustment in Contract Sum and Contract Time on same basis as any other change in the Work.

- .1 The Contractor shall provide supporting data and shall provide and maintain records of costs attributable to Disputes in similar manner as for Change Orders in Article 6.
- .2 The State's Representative and the Contractor's Superintendent will make every reasonable effort to resolve the Dispute prior to proceeding to the next step.
- .3 Either the State or the Contractor may call a special meeting for the purpose of resolving the Dispute. Such a meeting will be held within 7 days of written request thereof.
- .4 If the Dispute as to the Contract Documents has not been resolved, the Contractor shall, within 14 days after the special meeting, take one or more of the following actions:
 - .1 submit additional supporting data requested by the State;
 - .2 modify the initial Dispute; or
 - .3 notify the State that the initial Dispute stands as is.
- .5 If the Dispute has not been resolved within 7 days after the Contractor's action in response to Clause 9.1.1.4, another meeting may be scheduled, at the State's option, with senior management personnel of the State and the Contractor. The purpose of this meeting is to resolve the Dispute prior to proceeding to the action under

Subparagraph 9.1.2.

9.1.2 Claim Submission and Documentation: If a Dispute has not been resolved at the time of the State's final statement, the Contractor shall submit within 30 days a Claim along with detailed documentation required by Subparagraph 9.1.1 for the State's consideration.

- .1 The Contractor shall furnish 3 certified copies of the required Claim documentation. The Claim documentation shall be complete when furnished. The evaluation of the Contractor's Claim will be based upon State records and the Claim documents furnished by the Contractor.
- .2 Claim documentation shall conform to generally accepted accounting principles and shall be in the following format:
 - .1 General Introduction
 - .2 General Background Discussion
 - .3 Issues
 - .1 Index of Issues (listed numerically)
 - .2 For each issue
 - .1 Background
 - .2 Chronology
 - .3 Contractor's position (reason for State's potential liability)
 - .4 Supporting documentation of merit or entitlement
 - .5 Supporting documentation of damages
 - .6 Begin each issue on a new page
 - .4 All critical path method (CPM) schedules, both as-planned, monthly updates, schedule revisions, and as-built along with the computer disks of all schedules related to the Claim.
 - .5 Productivity exhibits (if appropriate)
 - .6 Summary of Issues and Damages
- .3 Supporting documentation of merit for each issue shall be cited by reference, photocopies, or explanation. Supporting documentation may include, but shall not be limited to, General Conditions; General Requirements; technical Specifications; Drawings; correspondence; conference notes; Shop Drawings and submittals; Shop Drawing logs; survey books; inspection reports; delivery schedules; test reports; daily reports; subcontracts; fragmentary critical path method (CPM) schedules or time impact analyses; photographs; technical reports; requests for information; field instructions; and all other related records necessary to support the Contractor's Claim.
- .4 Supporting documentation of damages for each issue shall be cited, photocopied, or explained. Supporting documentation may include, but shall not be limited to, documents related to the preparation and submission of the bid; certified, detailed labor records, including labor distribution reports; material and equipment procurement records; construction equipment ownership costs records or rental records; Subcontractor or vendor files and cost records; service cost records; purchase orders; invoices; Project as-planned and as-built cost records; general ledger records; variance reports; accounting adjustment records; and any other accounting materials necessary to support the Contractor's Claim.
- .5 Each copy of the Claim documentation shall be certified by a responsible officer of the Contractor in accordance with the requirements of the Contract Documents.
- .6 Should the Contractor be unable to support any part of the Claim, and it is determined that such inability is attributable to falsity of such certification or misrepresentation of fact or fraud on the part of the Contractor, the Contractor shall be liable to the State as provided for under California Government Code, Section 12650 et seq., known as the False Claims Act.
- .7 The State will render a written decision to the Contractor relative to the Claim. The State's written decision shall be final and binding on the party(ies) but subject to arbitration. The State may withhold from the final payment an amount not to exceed 150 percent of the disputed amount. If there is a Surety and there appears to be a possibility of a Contractor's default, the State may, but is not obligated to, notify the Surety and request the Surety's assistance in resolving the controversy.
- .8 All issue items to be included in the Complaint in Arbitration shall be a part of the Claim submitted with the required documentation under this Subparagraph 9.1.2. Issues not included in the Claim under Subparagraph 9.1.2 shall not be considered.

9.1.3 Arbitration: Any Claim filed in compliance with Subparagraph 9.1.2 not resolved by the above procedures shall be resolved by arbitration in accordance with the provisions of Public Contract Code Section 10240 et seq., and Title 1, California Code of Regulations, Section 1300 et seq., unless the State and the Contractor agree in writing to waive arbitration and proceed to litigation. Either party may initiate arbitration by filing a Complaint in Arbitration with the Office of Administrative Hearings in

Sacramento, California, in compliance with the requirements of Public Contract Code Section 10240, et seq., and Title 1, California Code of Regulations, Section 1300 et seq. Arbitration shall be conducted in Sacramento, California.

9.2 AUDIT AND ACCESS TO RECORDS

9.2.1 The Contractor shall maintain books, records, documents, and other evidence directly pertinent to the performance of the Work under this Contract, in accordance with generally accepted accounting principles and practices consistently applied. The Contractor shall also maintain all financial information and data used by the Contractor in the preparation or support of any cost submission, including the Contractor's original bid required for this Contract, or any Change Order, Claim, or other request for equitable adjustment, and a copy of the cost summary or information submitted to the State. The State's Representative shall have access upon 24 hours advance written notice, at all times during normal business hours, to such books, records, documents, financial information, and all other evidence for the purpose of inspection, audit, and copying. The Contractor shall, at no cost to the State, provide proper facilities for such access, inspection and copying purposes.

9.2.2 The Contractor agrees to make the provisions of Paragraph 9.2 applicable to this Contract, and Change Orders, Claims, or other requests for Equitable Adjustment affecting the Contract Time or Contract Sum. The Contractor agrees to include the provisions of Paragraph 9.2 in subcontracts and sub-subcontracts or purchase orders, at any tier, and make Paragraph 9.2 applicable to subcontracts, at any tier, in excess of \$10,000, and to make the provisions of Paragraph 9.2 applicable to Change Orders, Claims, and other requests for Equitable Adjustment related to Project performance.

9.2.3 Audits conducted under Paragraph 9.2 shall be in accordance with general accepted auditing standards and established procedures and guidelines of the reviewing or audit agency.

9.2.4 The Contractor agrees to the disclosure of all information and reports resulting from access to records under the provisions of Paragraph 9.2, to the State, and other affected agencies.

9.2.5 Records under the provisions of Paragraph 9.2 shall be maintained and made available during the performance of the Work under this Contract until 3 years past final payment, and until final settlement of all Disputes, Claims, or litigation, whichever occurs later. In addition, those records which relate to any portion of this Contract, to any Change Order, to any Dispute, to any litigation, to the settlement of any Claim arising out of such performance, or to the cost or items to which an audit exception has been taken, shall be maintained and made available until final payment or final resolution of such Dispute, litigation, Claim, or exception, whichever occurs later.

9.2.6 The right of access provisions of Paragraph 9.2 applies to financial records pertaining to this Contract and Change Orders and Claims. In addition, this right of access applies to records pertaining to all contracts, Change Orders, and Contract Amendments:

- .1 To the extent the records pertain directly to Contract performance;
- .2 If there is any indication that fraud, gross abuse, or corrupt practices may be involved;
- .3 If the Contract is terminated for default or convenience.

9.2.7 Access to records is not limited to the required retention periods. The authorized State Representatives shall have access to records at any reasonable time for as long as the records are maintained.

9.2.8 Further, the Contractor agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of this Agreement, in regards to the Disabled Veterans Business Enterprise (DVBE) Program.

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY OF PERSONS AND PROPERTY

10.1.1 The Contractor shall initiate, maintain and supervise -safety precautions and programs in connection with the performance of the Work.

10.1.2 The Contractor shall take precautions for safety and provide protection to prevent damage, injury or loss to:

- .1 Employees working under the Contract and other persons who may be affected thereby;
- .2 The Work and materials and equipment to be incorporated therein, whether in storage on or off the Project site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 Other property at the Project site, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities, except as otherwise noted or specified.

10.1.3 The Contractor shall comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on the safety of persons or property, or their protection from damage, injury or loss.

10.1.4 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying the State, other Owners (other than the State) and users of adjacent sites and utilities.

10.1.5 The Contractor shall comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities regarding the storage and/or use of explosives or other hazardous materials or equipment necessary for execution of Work. The Contractor shall employ properly qualified personnel for supervision of same.

10.1.6 The Contractor shall remedy damage and loss to property referred to in Clauses 10.1.2.2 and 10.1.2.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Clauses 10.1.2.2 and 10.1.2.3. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 3.19.

10.1.7 The Contractor shall not permit any part of the Work or Project site to be loaded so as to endanger its safety.

10.1.8 When conditions of the Work, in the judgment of the State, present risk of injury or death to persons or property damage, the State, may direct the Contractor, at the Contractor's sole expense, to close down the Work and not commence work again until dangerous conditions are eliminated.

10.1.9 The Contractor, at the Contractor's own cost, shall rebuild, repair, restore and make good damages to any portion of the Work affected by such causes before Acceptance of the Work.

10.2 **EMERGENCIES:** In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's sole discretion, to prevent any threatened damage, injury or loss. Additional compensation or extension of Contract Time claimed by the Contractor because of an emergency will be reviewed as provided in Article 6.

10.3 **DRUG-FREE WORKPLACE**

10.3.1 By signing the Agreement, the Contractor certifies, under penalty of perjury under the laws of the State of California, that the Contractor will comply with the requirements of the Drug-Free Workplace Act of 1990 (Government Code, Section 8350 et seq.), and will provide a drug-free workplace by taking the following actions:

- .1 Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations.
- .2 Establish a Drug-Free Awareness Program to inform employees about:
 - .1 The dangers of drug abuse in the workplace;
 - .2 The person's or company's policy of maintaining a drug-free workplace;
 - .3 Any available counseling, rehabilitation, and employee assistance programs; and,
 - .4 penalties that may be imposed upon employees for drug abuse violations.
- .3 Provide, as required by Government Code, Section 8355(c), that every employee who works under the Contract will:
 - .1 receive a copy of the company's drug-free workplace policy statement; and
 - .2 agree to abide by the terms of the company's statement as a condition of employment.

ARTICLE 11 - INSURANCE AND BONDS

11.1 CONTRACTOR'S INSURANCE

11.1.1 General Insurance Requirements:

- .1 Contractor shall procure and maintain insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by the Contractor, its agents, representatives, employees or subcontractors.
 - .1 Contractor shall furnish the State with original certificates and endorsements effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the State before work commences.
 - .2 The State reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.
- .2 Insurance Companies shall be acceptable to Department of General Services (DGS) and Office of Risk and Insurance Management (ORIM). Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-VI. Exception may be made for the State Compensation Insurance Fund. If self-insured, review of financial information may be required.
- .3 Except as otherwise provided for Builders Risk/Installation Floater under Clause 11.1.2.4, all coverage shall be in force until the Acceptance of the Work by the Director of DGS. If the insurance expires, the Contractor shall immediately provide a new current certificate or be declared in breach of Contract. The State reserves the right to withhold all progress and retention payments until the breach is cured to the satisfaction of the State. Renewal insurance certificates must be tendered to the State prior to or exactly at the expiration of the previous insurance certificate. There shall be no gap in insurance coverage. This renewed insurance shall be in accordance with the terms of the Contract.
- .4 Insurance policies shall contain a provision that coverage will not be cancelled without 30 days prior written notice to the State.
- .5 The Contractor shall be responsible for any deductible or self-insured retention contained within the insurance.
- .6 In the event the Contractor fails to keep in effect at all times the specified insurance coverage, the State may, in addition to the remedies noted in Article 11.1.1.3 above and any other remedies it may have, remove the Contractor from the work site and/or may terminate this Contract upon the occurrence of such event, subject to the provisions of this Contract. In the event, the State elects to remove the Contractor from the work site, the Contractor will not be entitled to additional days or compensation.
- .7 Any insurance required to be carried shall be primary.
- .8 Minimum Scope of Insurance - Coverage shall be at least as broad as:
 - .1 Insurance Services Office Commercial General Liability coverage (occurrence Form CG 0001). The insurance Certificate shall show the GL form number.
 - .2 Insurance Services Office Form Number CA 0001 covering Automobile Liability, "any auto", or "scheduled, hired and nonowned".
- .9 The State reserves the right to require the Contractor to provide the subcontractors' insurance certificates and policies, when so directed by the State.

11.1.2 Insurance Requirements: The Contractor shall furnish to the State evidence of the required insurance as follows:

- .1 Commercial General Liability: The Contractor shall maintain commercial general liability with limits of not less than \$5,000,000 per occurrence for bodily injury and property damage liability combined. If Commercial General Liability insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. If the aggregate applies "per project or location", it shall so state on the certificate. The policy shall include coverage for liabilities arising out of premises, operations, independent contractors, products, completed operations, personal and advertising injury, and liability assumed under an insured contract. This insurance shall apply separately to each insured against whom claim is made or suit is brought subject to the Contractor's limit of liability. The policy shall include the Department of General Services and the State of California, its officers, agents, and employees, as additional insureds, but only insofar as the operations under the Contract are concerned.
 - .1 Additional Insured coverage shall be provided in the form of an insured endorsement (CG 20 10 11 85 r equivalent) to the contractor's insurance policy. The endorsement must be attached to the certificate.

- .2 Deductibles and Self-Insured Retentions (for Commercial General Liability): Any deductibles or self-insured retentions must be declared to and approved by the State. At the option of the State, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State of California and the Department of General Services, its officers, agents, employees and servants or the Contractor shall provide a financial guarantee satisfactory to the State guaranteeing payment of losses and related investigations, claim administration, and defense expenses.
- .2 Automobile Liability: The Contractor shall maintain motor vehicle liability with limits of not less than \$1,000,000 per accident for bodily injury and property damage. The State is to be covered as additional insured with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the contractor.
- .3 Workers' Compensation: The Contractor shall maintain statutory workers' compensation and employer's liability coverage for all its employees who will be engaged in the performance of the Contract, including special coverage extensions where applicable as required by the State of California. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the State for all work performed by the contractor, its employees, agents and subcontractors. Except for State Fund, all subrogation waiver endorsements shall be on a separate form attached to the certificate. The Contractor shall maintain Employer's Liability coverage of \$1,000,000 per accident for bodily injury or disease.
- .4 Builders Risk/Installation Floater: The Contractor shall maintain in force, at its own expense, Builders Risk/Installation Floater covering the Contractor's labor, materials, and equipment to be used for completion of the Work performed under this Contract against all risks of direct physical loss, excluding earthquake and flood, for an amount equal to the full amount of the Contract Sum.
 - .1 The Contractor agrees as a provision of the contract to waive all rights of recovery against the State.
 - .2 The State of California, Department of General Services shall be a named insured or additional insured under the policy.
 - .3 The policy shall have a loss payable clause in favor of the State of California, Department of General Services.
 - .4 The requirement for maintaining the Builders Risk/Installation Floater shall be in full force at all times during the entire duration of the Contract Time without any gaps, delays or breaks in coverage. This includes Beneficial Occupancy and authorized adjustment for time extensions. Coverage shall be maintained until Completion of the Work, except for delivery of as-built drawings, operation and maintenance manuals, guarantees, warranties, spare parts, reports and certifications as noted in the Closeout Procedures section of the Project Manual and as determined by the State's Representative in writing.

11.1.3 Neither the State, nor any officer or employee of the State, shall be liable for any loss or damage that may happen to the Work, or any part thereof; nor to any of the materials or other items used or employed in performing the Work; nor for injury to any person or persons, either workers or the public, for damage to property from any cause which might have been prevented by the Contractor, or the Contractor's employees or agents, against all of which injuries or damages the Contractor shall properly guard. The Contractor shall indemnify and hold harmless the State, and all officers and employees of the State, from all suits, actions or claims brought for, or on account of injuries or damages received or sustained by any person or persons, by or from the Contractor, the Contractor's employees or agents, in construction of the Work, or by or in consequence of the Contractor's failure to properly guard the same, or by or as a result of any act or omission of the Contractor, the Contractor's employees or agents. In addition to any remedy authorized by law, moneys due the Contractor under the Contract, as considered necessary by the State, may be retained until disposition has been made of such suits, actions, or claims for damages; however, this provision shall not be construed as precluding the State from enforcing any right of offset the State may have to any such moneys.

11.2 **NO PERSONAL LIABILITY:** Neither the State, nor any other officer or employee of the State will be personally responsible for liabilities arising under the Contract.

11.3 **PERFORMANCE BOND AND PAYMENT BOND**

11.3.1 The Contractor shall furnish bonds, each in the amount of 100 percent of the Contract Sum, covering faithful performance of the Contract and payment of obligations arising thereunder, as stipulated in the bidding requirements or as specifically required in the Contract Documents.

11.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bond(s) or permit a copy to be made.

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

12.1 UNCOVERING AND CORRECTION OF WORK

12.1.1 If a portion of the Work is covered prior to the State's review, it shall, if requested in writing by the State, be uncovered for the State's observation and replaced at the Contractor's expense without change in the Contract Time.

12.1.2 The Contractor shall notify the State 2 working days prior to covering any work.

12.2 CORRECTION OF WORK

12.2.1 The Contractor shall promptly correct work rejected by the State or Work failing to conform to the requirements of the Contract Documents, whether or not fabricated, installed or completed. The Contractor shall bear the costs of correcting such rejected work, including additional testing and inspections required and compensation for the State's services and expenses made necessary thereby.

12.2.2 Notwithstanding Paragraph 3.5, in the event of an emergency constituting an immediate hazard to the health or safety of any persons or property, the State may undertake, at the Contractor's expense and without prior notice, work necessary to correct such hazardous condition(s) arising from work performed by the Contractor that is not in conformance with the requirements of the Contract Documents.

12.2.3 The Contractor shall remove from the Project site portions of the Work that are not in accordance with the requirements of the Contract Documents, and are neither corrected by the Contractor nor accepted by the State.

12.2.4 If the Contractor fails to correct nonconforming work, as per Paragraph 3.5, the State may correct the nonconforming work in accordance with Paragraph 2.3. If the Contractor does not proceed with correction of such nonconforming work, within such time fixed by written notice from the State, the State may remove and store the salvable materials articles and/or equipment at the Contractor's expense. If the Contractor does not pay all costs of such removal and storage within 14 days after written notice, the State may, upon 14 additional calendar days written notice, sell such materials articles and/or equipment at an auction or private sale, and shall account for the proceeds thereof, after deducting costs and damages that would have been borne by the Contractor, including compensation for the State's services and expenses made necessary thereby. If the proceeds of a sale do not cover all costs that the Contractor would have borne, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the State.

12.2.5 The Contractor shall bear the cost of correcting destroyed or damaged Work executed by the State or separate contractors, whether fully completed or partially completed, which is caused by the Contractor's correction or removal of Work that is not in accordance with requirements of the Contract Documents.

12.2.6 Nothing contained in this Paragraph 12.2 shall be construed to establish a period of limitation with respect to other obligations that the Contractor might have in the Contract Documents. Establishment of the time period of 1 year, as described in Subparagraph 3.5.1, relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with requirements of the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

12.3 **ACCEPTANCE OF NONCONFORMING WORK:** If the State prefers to accept any or all of the Work that is not in accordance with requirements of the Contract Documents, the State may do so instead of requiring its correction and/or removal, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment to the Contractor has been made.

ARTICLE 13 - MISCELLANEOUS PROVISIONS

13.1 **GOVERNING LAW:** The Contract shall be governed by the law of the State of California.

13.2 **SUCCESSORS AND ASSIGNS:** The Contract binds the Contractor, the Contractor's partners, successors, assigns and legal representatives to the State in respect to covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations in the Contract Documents.

13.3 **WRITTEN NOTICE:** Written notice shall be deemed to have been duly served if delivered in person to the individual; or a member of the firm or entity; or to an officer of the corporation for which it was intended; or if delivered to or sent by US mail to the last business address known to the party giving notice.

13.4 **CONTRACTOR'S USE OF COMPUTER SOFTWARE:** The Contractor, by signing the Agreement, certifies that it has appropriate systems and controls in place to ensure that State funds will not be used in the performance of the Contract for the acquisition, operation or maintenance of computer software in violation of copyright laws.

13.5 **INDEPENDENT CONTRACTOR:** Contractor, and the agents, subcontractors, and employees of the Contractor, in the performance of this Contract, shall act in an independent capacity and not as officers or employees or agents of the State.

13.6 **UNENFORCEABLE PROVISIONS:** In the event that any provision of this Contract is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Contract have force and effect and shall not be affected thereby.

13.7 **EXPATRIATE CORPORATIONS:** Contractor hereby declares that it is not an expatriate corporation or subsidiary of an expatriate corporation within the meaning of Public Contract Code Section 10286 and 10286.1, and is eligible to contract with the State.

13.8 **DOMESTIC PARTNERS:** For Contracts executed or amended after July 1, 2004, the Contractor may elect to offer domestic partner benefits to the Contractor's employees in accordance with Public Contract Code Section 10295.3. However, the Contractor cannot require an employee to cover the costs of providing any benefits which have otherwise been provided to all employees regardless of marital or domestic partner status.

13.9 **AIR OR WATER POLLUTION VIOLATION:** Under the State laws, the Contractor shall not be: (1) in violation of any order or resolution not subject to review promulgated by the State Air Resources Board or an air pollution control district; (2) subject to cease and desist order not subject to review issued pursuant to Section 13301 of the Water Code for violation of waste discharge requirements or discharge prohibitions; or (3) finally determined to be in violation of provisions of federal law relating to air or water pollution.

13.10 **CERTIFICATION BY CONTRACTOR OF DISABLED VETERAN BUSINESS ENTERPRISE/SMALL BUSINESS PARTICIPATION**

13.10.1 If, for this agreement, the Contractor made a commitment to achieve disabled veteran business enterprise (DVBE) participation, the Contractor must certify in writing to the State, the total amount the Contractor received under the contract, the name and address of the DVBE firms that participated in the performance of the contract, the amount each DVBE received from the Contractor, that all payments have been made to the DVBE and the actual percentage of DVBE participation achieved. Additionally, if for this agreement, the Contractor made a commitment to achieve 25% Small Business participation, the Contractor must certify in writing to the State, the actual percentage of Small Business participation that was achieved. The Contractor is instructed to comply with the procedures stated in CLOSEOUT PROCEDURES, Section 01 77 00. This certification shall be completed pursuant to Section 999.5 of the Military and Veterans Code (M&VC) and Section 14841 of the Government Code. A person or entity that knowingly provides false information shall be subject to a civil penalty for each violation.

END OF DOCUMENT

DOCUMENT 00 73 00
SUPPLEMENTARY CONDITIONS

Requirements included herein supplement DOCUMENT 00 72 00 - GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION.

1. ARTICLE 1 – GENERAL PROVISIONS

Paragraph 1.1, DEFINITIONS

Add the following definition:

Hazardous Materials: These materials include but are not limited to products and materials containing: Asbestos, Lead, PCB's, Petroleum fuels and lubricants (including chemical additives), oxidizers, corrosives, solvents, acids and carcinogens.

2. ARTICLE 2 – ADMINISTRATION OF THE CONTRACT

Paragraph 2.6, RUSSIAN SANCTION ORDERS

Add the following Subparagraph 2.6

2.6 On March 4, 2022, Governor Gavin Newsom issued Executive Order (EO) N-6-22 regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law. The EO directs state agencies to terminate contracts with, and to refrain from entering any new contracts with, individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the State determine Contractor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this agreement. The State shall provide Contractor advance written notice of such termination, allowing Contractor at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the State.

Paragraph 2.7. GENERATIVE ARTIFICIAL INTELLIGENCE (GenAI) REPORTING

Add the following Subparagraph 2.7

2.7.1 Definitions: The following terms are in addition to the defined terms and shall apply to the Contract:

.1 "Generative AI (GenAI)" means an artificial intelligence system that can generate derived synthetic content, including text, images, video, and audio that emulates the structure and characteristics of the system's training data. (Gov. Code § 11549.64.)

2.7.2 Contractor shall immediately notify the State in writing if it: (1) intends to provide GenAI as a deliverable to the State; or (2), intends to utilize GenAI, including GenAI from third parties, to complete all or a portion of any deliverable that materially impacts: (i) functionality of a State system, (ii) risk to the State, or (iii) Contract performance. For avoidance of doubt, the term "materially impacts" shall have the meaning set forth in State Administrative Manual (SAM) § 4986.2 Definitions for GenAI.

2.7.3 Notification shall be provided to the State's Representative identified in this Contract.

2.7.4 At the direction of the State, Contractor shall discontinue the provision to the State of any previously unreported GenAI that results in a material impact to the functionality of the System, risk to

the State, or Contract performance, as determined by the State.

2.7.5 If the use of previously undisclosed GenAI is approved by the State, then Contractor will update the Deliverable description, and the Parties will amend the Contract accordingly, which may include incorporating the GenAI Special Provisions into the Contract, at no additional cost to the State.

2.7.6 The State, at its sole discretion, may consider Contractor's failure to disclose or discontinue the provision or use of GenAI as described above, to constitute a material breach of Contract when such failure results in a material impact to the functionality of the System, risk to the State, or Contract performance. The State is entitled to seek any and all remedies available to it under law as a result of such breach, including but not limited to termination of the contract.

Paragraph 2.8, NEWS RELEASES

Add the following Subparagraph 2.8

2.8 News releases pertaining to award of, or work performed as a result of, contract may not be made without prior written approval from:

The Public Information Officer
707 Third Street, MS 101
West Sacramento, CA 95605
Phone: (916) 376-5037
Email: DGSPublicAffairs@dgs.ca.gov _

3. ARTICLE 3 – CONTRACTOR

Paragraph 3.2, SUPERVISION AND CONSTRUCTION PROCEDURES

Delete Subparagraph 3.2.5 in its entirety and replace it with new Subparagraph 3.2.5 as follows:

3.2.5 Until Acceptance of the Work, the Contractor shall have the charge and care thereof, and shall bear risk of injury or damage to any part of the Work by action on the elements (except for an Act of God, or natural disaster as proclaimed by the State or Federal Government provided that the loss does not involve Contractor negligence and if the Work damaged is built in accordance with the Contract and applicable building standards), or from any other reason except for such damages as are directly caused by acts of the Federal or State Government and the public enemy, except as provided in Paragraph 8.5.

Paragraph 3.3, LABOR AND MATERIALS

Delete Subparagraph 3.3.3 in its entirety and replace it with new Subparagraph 3.3.3 as follows:

3.3.3. Prevailing Wage: The Contractor shall comply with Labor Code Sections 1774 and 1775. Pursuant to Section 1774, the Contractor and every subcontractor, regardless of tier, shall pay not less than the specified prevailing wage rates to all workers employed in the execution of the Contract. In accordance with Section 1775, the Contractor shall forfeit to the State up to \$200 for each day, or portion thereof, for each worker paid less than the prevailing wage rates for the work or craft in which the worker is employed for any work executed under the Contract by the Contractor or by any subcontractor, regardless of tier, in violation of the provisions of the Labor Code; and, in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to such forfeiture, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each day, or portion

thereof, shall be paid to each underpaid worker by the Contractor. This provision shall not apply to properly registered apprentices.

- .1 Pursuant to Labor Code, Section 1770, the Director of the Department of Industrial Relations has ascertained the general prevailing rate of per diem wages and a general prevailing rate for legal holiday and overtime work for each craft required for execution of the Contract. The Contractor shall obtain copies of the prevailing rate of per diem wages from the Department of Industrial Relations, Division of Labor Statistics & Research, PO Box 420603, San Francisco, CA 94142-0603, (415) 703-4780; or wage rates may be accessed on the internet at [Prevailing Wage Requirements](#). The Contractor is responsible to read, understand and comply with all the guidelines, including the fine print in the prevailing wage determinations; and shall post a copy of the prevailing wage rates, specific to the Project, at the Project site.
- .2 Wage rates set forth are the minimum that may be paid by the Contractor. Nothing herein shall be construed as preventing the Contractor from paying more than the minimum rates set. No extra compensation will be allowed by the State due to the inability of the Contractor to hire labor at minimum rates, nor for necessity for payment by the Contractor of subsistence, travel time, overtime, or other added compensations, all of which possibilities are elements to be considered and ascertained to the Contractor's own satisfaction in preparing the Bid Form
- .3 If it becomes necessary to employ crafts other than those listed in the General Prevailing Wage Rate booklet, the Contractor shall contact the Division of Labor Statistics and Research as noted above. The rates thus determined shall be applicable as minimum for the contract and incorporated in the bid. When the wage determination shows an expiration date (noted by a double asterisk**), to expire during the term of the contract, the Contractor must call or write the DIR to obtain the new rates and incorporate them in the bid to be applicable for the term of the contract.
- .4 The Contractor and each subcontractor, regardless of tier, shall keep an accurate payroll record showing the names, addresses, social security numbers, work classifications, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor and/or subcontractor in connection with the Work. Payroll records shall be certified and shall be on forms provided by the Division of Labor Standards Enforcement, or shall contain the same information as those forms. The Contractor's and subcontractor's certified payroll records for each employee shall be submitted with each payment request, covering the period of the payment request unless requested otherwise by the Labor Commissioner of the Department of Industrial Relations pursuant to Labor Code Section 1771.4(c)(2)(b) monthly payrolls should be sent directly to the Department of Industrial Relations in the current prescribed electronic format. Refer to [Certified Payroll Reporting](#) for access to the electronic Certified Payroll (eCRP) Application.
- .5 Labor Compliance Monitoring and Enforcement: This project is subject to monitoring and enforcement by the Department of Industrial Relations (DIR), Compliance Monitoring Unit. All Contractors and subcontractors, regardless of tier, shall be required to comply with the Monitoring and Enforcement Program, including, but not limited to, contractor registration, submittal of electronic certified payroll reports directly to the DIR and cooperation with on-site monitoring by DIR personnel.

Paragraph 3.13, TESTS AND INSPECTIONS

Delete Subparagraph 3.13.1 in its entirety and replace with the following Subparagraph 3.13.1.

3.13.1 The Contractor shall at all times permit the State, its agents, officers, and employees to visit the Project site and inspect the Work, including shops where the work is in preparation. This obligation shall include maintaining proper facilities and safe access for such inspection. Including, but not limited to providing lifts, ladders, scaffolds, platforms and

paths of travel. When the Contract Documents require a portion of the Work to be tested, such portion of the work shall not be covered up until inspected and approved by the State. The Contractor shall be solely responsible for notifying the State where and when the work is ready for inspection and testing and shall give written notice no fewer than two business days prior to the time of inspection. For inspections that require the State Fire Marshal's (SFM) presence, the Contractor shall provide the State's Inspector of Record (IOR) written notice where and when the work is ready for inspection no fewer than three business days prior to the time of inspection.

Should any work be covered without the required testing and approval, such work shall be uncovered and recovered at the Contractor's expense.

Delete Subparagraph 3.13.2 in its entirety and replace with the following Subparagraph 3.13.2.

3.13.2 If the State determines that portions of the Work require additional testing, inspection or approval not included in the Contract Documents, the State will instruct the Contractor, in writing, to make arrangements for additional testing, inspection or approval by an entity acceptable to the State, and the Contractor shall give written notice to the State of where and when tests and inspections will be conducted no fewer than two business days prior to the time of the additional testing, inspection or approval so that the State may observe the procedures. For inspections that require the State Fire Marshal's (SFM) presence, the State's Inspector of Record (IOR) will make the necessary arrangements with the SFM. The Contractor shall provide a written notice no fewer than three business days prior to the time of inspection.

The State will bear the costs except as provided in Subparagraph 3.13.3.

Paragraph 3.25, CONTRACTOR REQUIRED NOTIFICATION OF CHANGES

Delete Paragraph 3.25 in its entirety and replace with the following Paragraph 3.25

3.25 **CONTRACTOR REQUIRED NOTIFICATION OF CHANGES:** The Contractor shall notify the State's Representative in writing of any change to Contractor's name, status, or information including but not limited to:

1. Name
 - a. An amendment is required to change the Contractor's name as listed on this Agreement. Upon receipt of Contractor's notification and legal documentation of the name change, the State will process the amendment. Payment of invoices presented with a new name cannot be paid prior to approval of said amendment.
 - b. The State shall not be liable for penalties or interest on payments which are delayed due to Contractor's change of name and subsequent amendment processing.
2. Address/Location
3. Federal Employer Identification Number (FEIN)
4. Type of Organization or Legal Status – including:
 - a. Corporate
 - b. Partnership
 - c. Individual/Sole-Ownership
 - d. Joint Venture
 - e. Limited Liability Company
 - f. DBA
5. Ownership
6. Officers or Key Personnel
7. License

8. Other (Bankruptcy, Etc.)

Contractor shall immediately provide an updated Standard Form 204 (IRS/FTB form) to the Architectural, Construction and Engineering Contracts Section within five (5) calendar days of any such relevant change.

The State shall not be liable for penalties or interest on payments which are delayed due to Contractor's lack of proper or timely notice and documentation of a relevant change in status which impacts the State's ability to pay.

Contractor shall submit the firm's status change in writing including the Contract Number, Project Title and all necessary backup and legal documentation to support the status change to:

The State Department of General Services, Administration Division
Office of Business and Acquisition Services, Contracts Services Section
707 Third Street, Suite 2-300
West Sacramento, CA 95605-2811

Paragraph 3.4, NONDISCRIMINATION CLAUSE

Delete Paragraph 3.4 in its entirety and replace with the following:

3.4.1. During the performance of this contract, the recipient, contractor, and its subcontractors shall not deny the contract's benefits to any person on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status, nor shall they discriminate unlawfully against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status. Contractor shall insure that the evaluation and treatment of employees and applicants for employment are free of such discrimination.

3.4.2. Contractor shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, § 12900 et seq.), the regulations promulgated thereunder (Cal. Code Regs., tit. 2, § 11000 et seq.), the provisions of Article 9.5, Chapter 1, Part 1, Division 3, Title 2 of the Government Code (Gov. Code, §§ 11135-11139.5), and the regulations or standards adopted by the awarding state agency to implement such article.

3.4.3. Contractor or recipient shall permit access by representatives of the Department of Fair Employment and Housing (DEFH) and the awarding state agency upon reasonable notice at any time during the normal business hours, but in no case less than 24 hours' notice, to such of its books, records, accounts, and all other sources of information and its facilities as said Department or Agency shall require to ascertain compliance with this clause.

3.4.4. Recipient, contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

3.4.5. The contractor shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

3.4.6 STANDARD CALIFORNIA NONDISCRIMINATION CONSTRUCTION CONTRACT SPECIFICATIONS (GOV. CODE SECTION 12990)

These specifications are applicable to all state contractors and subcontractors having a construction contract or subcontract of \$5,000 or more.

- .1 As used in the specifications:
 - a. "Act" means the Fair Employment and Housing Act.
 - b. "Administrator" means Administrator, Office of Compliance Programs, California Department of Fair Employment and Housing, or any person to whom the Administrator delegates authority.
- .2 Whenever the contractor or any subcontractor subcontracts a portion of the work, it shall include in each subcontract of \$5,000 or more the nondiscrimination clause in this contract directly or through incorporation by reference. Any subcontract for work involving a construction trade shall also include the Standard California Construction Contract Specifications, either directly or through incorporation by reference.
- .3 The contractor shall implement the specific nondiscrimination standards provided in paragraphs 6(a) through (e) of these specifications.
- .4 Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer members of any group protected by the Act shall excuse the contractor's obligations under these specifications, Government Code section 12990, or the regulations promulgated pursuant thereto .5. In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
- .5 In order for the nonworking training hours of apprentices and trainees to be counted, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor or the California Department of Industrial Relations.
- .6 The contractor shall take specific actions to implement its nondiscrimination program. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor must be able to demonstrate fully its efforts under steps a. through e. below:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and at all facilities at which the contractor's employees are assigned to work. The contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the contractor's obligations to maintain such a working environment.

- b. Provide written notification within (7) seven days to the director of the DFEH when the referral process of the union or unions with which the contractor has a collective bargaining agreement has impeded the contractor's efforts to meet its obligations.
 - c. Disseminate the contractor's equal employment opportunity policy by providing notice of the policy to unions and training, recruitment and outreach programs and requesting their cooperation in assisting the contractor to meet its obligations; and by posting the company policy on bulletin boards accessible to all employees at each location where construction work is performed.
 - d. Ensure all personnel making management and employment decisions regarding hiring, assignment, layoff, termination, conditions of work, training, rates of pay or other employment decisions, including all supervisory personnel, superintendents, general foremen, on-site foremen, etc., are aware of the contractor's equal employment opportunity policy and obligations, and discharge their responsibilities accordingly.
 - e. Ensure that seniority practices, job classifications, work assignments, and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the equal employment opportunity policy and the contractor's obligations under these specifications are being carried out.
- .7 Contractors are encouraged to participate in voluntary associations that assist in fulfilling their equal employment opportunity obligations. The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on equal employment opportunity in the industry, ensures that the concrete benefits of the program are reflected in the contractor's workforce participation, and can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's.
- .8 The contractor is required to provide equal employment opportunity for all persons. Consequently, the contractor may be in violation of the Fair Employment and Housing Act (Government Code section 12990 et seq.) if a particular group is employed in a substantially disparate manner.
- .9 The contractor shall not use the nondiscrimination standards to discriminate against any person because race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status.
- .10 The contractor shall not enter into any subcontract with any person or firm decertified from state contracts pursuant to Government Code section 12990.
- .11 The contractor shall carry out such sanctions and penalties for violation of these specifications and the nondiscrimination clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Government Code section 12990 and its implementing regulations by the awarding agency. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Government Code section 12990.

SUPPLEMENTARY CONDITIONS

- .12 The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company equal employment opportunity policy is being carried out, to submit reports relating to the provisions hereof as may be required by OCP and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, status, (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in any easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

4. ARTICLE 4 – SUBCONTRACTORS

Paragraph 4.2, SUBCONTRACTUAL RELATIONS

Delete Paragraph 4.2.2 and replace it with the following Paragraph 4.2.2:

4.2.2 Subcontractor Payments: Subcontractors and Sub-subcontractors shall be paid for work performed in accordance with Public Contract Code Sections 10262 and 10262.5.

Delete Paragraph 4.3 and replace it with the following Paragraph 4.3

4.3 DISABLED VETERAN BUSINESS ENTERPRISE PROGRAM: Pursuant to Public Contract Code (PCC) Section 10115 et. seq., the Contractor shall use, employ and utilize Disabled Veteran Business Enterprise (DVBE) subcontractors, sub-subcontractors or material suppliers who were listed in their bid documents for DVBE Program participation, to the full extent of the amount of money and/or percentage of commitment manifested in the bid documents. If the Contractor wishes to substitute any listed DVBE subcontractors, sub-subcontractors or material suppliers for just and legal cause, the Contractor shall follow the dictates of PCC Sections 4107 and 10115.12b, as well as Military and Veterans Code (M&VC) Section 999.5(e) and California Code of Regulations, Title 2, Section 1896.64. The DVBE may only be replaced by another DVBE and shall obtain the written authorization of the State prior to any such substitutions. The Contractor shall not unilaterally substitute a listed DVBE subcontractor, sub-subcontractor or material supplier. Failure of Contractor to seek substitution and adhere to the DVBE participation requirement identified in the bid may be cause for contract termination, recovery of damages under rights and remedies due to the State, and penalties as outlined in M&VC Section 999.9; PCC Sections 4110 and PCC Section 10115.10.

5. ARTICLE 7 – TIME

Paragraph 7.2, CONTRACT TIME

Delete Subparagraph 7.2.1 and replace it with the following Subparagraph 7.2.1:

7.2.1 Time is of the Essence in this Contract. The Contractor shall complete all the Work of the Contract within the Contract Time of:

THREE HUNDRED SIXTY-FIVE (365)

calendar days, starting on the Start Date stipulated in the Notice to Proceed, which the Contractor will receive not less than 5 days in advance.

Paragraph 7.3, LIQUIDATED DAMAGES

Add the following Subparagraphs 7.3.1 and 7.3.2:

- 7.3.1 The Contractor shall pay to the State the sum of \$500 per day for each and every calendar day delay in finishing of Work under this Contract beyond the Contract time.
- 7.3.2 If the Contractor is more than 14 calendar days behind schedule at any point during the Contract Time, based on the latest updated Official Progress Schedule, the State will withhold \$500 per day for each and every day that the Contractor is behind schedule from the monthly payment for that month. If the Contractor recoups all or a portion of the delay during the next pay period, the amount withheld will be reduced accordingly.

6. ARTICLE 8 – PAYMENTS AND COMPLETION

Paragraph 8.2, TIMELINESS OF PAYMENTS

Delete Paragraph 8.2.3 and replace it with following Paragraph 8.2.3:

- 8.2.3 The State will make progress payments pursuant to Public Contract Code, Sections 10261 and 10261.5.

Paragraph 8.3, RETENTIONS

Delete Subparagraph 8.3.1.2 and replace it with the following Subparagraph 8.3.1.2:

- .2 The State shall retain 5 percent of the estimated value of Work completed.

Paragraph 8.5, OCCUPANCY BY THE STATE PRIOR TO COMPLETION OF THE WORK

Delete Paragraph 8.5.1 and replace it with the following:

- 8.5.1 The State reserves the right to occupy all or any part of the Project prior to Completion of the Work, upon written notice. Such occupancy or use is herein referred to as Beneficial Occupancy. In this event, the Contractor shall be relieved of responsibility to the State for liability arising out of such occupancy by the State.

7. ARTICLE 11 – INSURANCE AND BONDS

Paragraph 11.1, CONTRACTOR'S INSURANCE

Delete Paragraph 11.1 and replace it with the following 11.1:

11.1 CONTRACTOR'S INSURANCE

11.1.1 General Insurance Requirements:

- .1 Contractor shall procure and maintain insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by the Contractor, its agents, representatives, employees or subcontractors.
 - .1 Contractor shall furnish the State with certificates and endorsements effecting coverage required by this clause. All certificates and endorsements are to be

SUPPLEMENTARY CONDITIONS

- received and approved by the State before work commences.
- .2 The State reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.
- .2 Insurance Companies shall be acceptable to Department of General Services (DGS) and Office of Risk and Insurance Management (ORIM). Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-VII, unless otherwise acceptable to DGS, Office of Risk and Insurance Management. Exception may be made for the State Compensation Insurance Fund. If self-insured, review of financial information may be required.
- .3 Except as otherwise provided for Builders Risk/Installation Floater under Clause 11.1.2.4, all coverage shall be in force until the Acceptance of the Work by the Director of DGS. If the insurance expires, the Contractor shall immediately provide a new current certificate or be declared in breach of Contract. The State reserves the right to withhold all progress and retention payments until the breach is cured to the satisfaction of the State. Renewal insurance certificates must be tendered to the State prior to or exactly at the expiration of the previous insurance certificate. There shall be no gap in insurance coverage. This renewed insurance shall be in accordance with the terms of the Contract.
- .4 Contractor is responsible to notify the State a minimum of five (5) business days before the effective date of any cancellation, non-renewal or material change that affects required insurance coverage.
- .5 Unless otherwise stated in the contract, the Contractor shall be responsible for any premium deductible or self-insured retention contained within the insurance.
- .6 All insurance policies required by this contract must allow the State to pay and/or act as the contractor's agent in satisfying any self-insured retention (SIR). The choice to pay and/or act as the contractor's agent in satisfying any SIR is at the State's discretion.
- .7 In the event the Contractor fails to keep in effect at all times the specified insurance coverage, the State may, in addition to the remedies noted in Article 11.1.1.3 above and any other remedies it may have, remove the Contractor from the work site and/or may terminate this Contract upon the occurrence of such event, subject to the provisions of this Contract.
- In the event, the State elects to remove the Contractor from the work site, the Contractor will not be entitled to additional days or compensation.
- .8 Any insurance required to be carried shall be primary and not excess or contributory, to any other insurance carried by the State.
- .9 Any required endorsement requested by the State must be submitted with all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.
- .10 Minimum Scope of Insurance - Coverage shall be at least as broad as:
- .1 Insurance Services Office Commercial General Liability coverage (occurrence Form CG 0001). .2 Insurance Services Office Form Number CA 0001 covering Automobile Liability, "any auto", or "all owned, hired and non-owned".
- .11 All coverage and limits available to the contractor shall also be available and applicable to the State.
- .12 Contractor shall procure and maintain insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.
- .13 With the exception of Builders Risk/Installation Floater, Contractor shall require and verify that all subcontractors maintain insurance coverage and limits meeting or exceeding all the requirements stated herein. Contractor shall ensure that the Department of General Services and the State of California, its officers, agents, and employees, as additional insured on insurance required from subcontractors but only insofar as the operations under the Contract are concerned. For Commercial General Liability coverage subcontractors

shall provide coverage with a form at least as broad as CG 20 38 04 13. The State reserves the right to require the Contractor to provide the subcontractors' insurance certificates and policies, when so directed by the State.

11.1.2 Insurance Requirements: The Contractor shall furnish to the State evidence of the required insurance as follows:

- .1 Commercial General Liability: The Contractor shall maintain commercial general liability with limits of not less than \$5,000,000 per occurrence for bodily injury and property damage liability combined. If Commercial General Liability insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. If the aggregate applies "per project or location", it shall so state on the certificate. The policy shall include coverage for liabilities arising out of premises, operations, independent contractors, products, completed operations, personal and advertising injury, and liability assumed under an insured contract. This insurance shall apply separately to each insured against whom claim is made or suit is brought subject to the Contractor's limit of liability. The policy shall include the Department of General Services and the State of California, its officers, agents, and employees, as additional insureds, but only insofar as the operations under the Contract are concerned.
 - .1 Additional Insured coverage shall be provided in the form of an insured endorsement as broad as the (CG 20 10 11 85) to the contractor's insurance policy. All coverage and limits available to the named insured shall be available and applicable to the additional insured. The endorsement must be attached to the certificate.
 - .2 Deductibles and Self-Insured Retentions (for Commercial General Liability): Any deductibles or self-insured retentions must be declared to and approved by the State. At the option of the State, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State of California and the Department of General Services, its officers, agents, employees and servants or the Contractor shall provide a financial guarantee satisfactory to the State guaranteeing payment of losses and related investigations, claim administration, and defense expenses.
- .2 Automobile Liability: The Contractor shall maintain motor vehicle liability with limits of not less than \$1,000,000 per accident for bodily injury and property damage. The State is to be covered as additional insured with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the contractor. The policy shall include the Department of General Services and The State of California, its officers, agents, and employees, as additional insureds, but only insofar as the operations under the Contract are concerned. All coverage and limits available to the named insured shall also be available and applicable to the additional insured.
- .3 Workers' Compensation: The Contractor shall maintain statutory workers' compensation and employer's liability coverage for all its employees who will be engaged in the performance of the Contract, including special coverage extensions where applicable as required by the State of California. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the State for all work performed by the contractor, its employees, agents and subcontractors. Except for State Fund certificates, all subrogation waiver endorsements shall be submitted on a separate form. The Contractor shall maintain Employer's Liability coverage of \$1,000,000 per accident for bodily injury or disease.
- .4 Builders Risk/Installation Floater: The State shall insure all Work while in the course of construction, reconstruction, remodeling or alteration, including materials incorporated in the Work, against physical loss or damage resulting from the perils normally insured under an All Risk Builders Risk/Installation Floater policy, including, but not limited to theft, fire

and vandalism. The State will self-insure against Acts of God and natural disasters proclaimed by the State or Federal Government. The State will issue to the Contractor a "Summary of Coverage" provided under this Clause 11.1.2.4 Summary of Coverage and Certificate of Insurance will be provided to contractor as part of the executed contract.

- .1 Contractor shall be responsible for paying a deductible not to exceed (to be determined on the certificate of insurance following project enrollment) per occurrence in the event of loss.
- .2 The proceeds under the Builder's Risk/Installation Floater Insurance procured by the State will be payable to the State and Contractor as their respective interests, from time to time, may appear.
- .3 State's Builders Risk/Installation Floater Insurance shall provide limited coverage for materials in transit and materials stored off-site, and full coverage for materials at the Project site; however, the Contractor is responsible for reviewing the "Summary of Coverage" and reporting values that exceed the limits provided within the Summary of Coverage. Notification to the State does not provide coverage. Value increases must be approved by the insurance carrier and contractor must have a Certificate of Insurance issued by the insurance carrier showing the increased values. Lacking confirmation from the State's insurance carrier that additional coverage was procured, Contractor will be responsible for damages in excess of the coverage limits provided within the Summary of Coverage.
- .4 Nothing in this Clause 11.1.2.4 shall be construed to relieve the Contractor of Contractor's responsibilities referred to under Clause 11.1.1 and Clause 11.1.2.
- .5 Insurance policies referred to in this Clause 11.1.2.4 shall provide the following:
 - .1 That the policies are primary and do not participate with nor are excess over any other valid collectible insurance carried by the Contractor.
 - .2 That the Insurer waives the right of subrogation against the Contractor.

END OF DOCUMENT

STATE OF CALIFORNIA DEPARTMENT OF GENERAL SERVICES
REAL ESTATE SERVICES DIVISION
PROJECT MANAGEMENT AND DEVELOPMENT BRANCH



Date: August 10, 2025

DOCUMENT 00 91 13

ADDENDUM No. 1 TO THE CONTRACT DOCUMENTS

Bid Due Date – October 8, 2025

**ATS AND ELECTRICAL REPAIRS
DEPARTMENT OF GENERAL SERVICES –
FACILITIES MANAGEMENT DIVISION
CENTRAL UTILITY PLANT
SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA**

PROJECT NO. 000000000011757

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM ON BID FORM AND
REVISE THE CONTRACT DOCUMENTS AS FOLLOWS:

PROJECT MANUAL

INTRODUCTORY INFORMATION

1. **DOCUMENT 00 01 10 - TABLE OF CONTENTS**

SPECIFICATIONS

A. **DIVISION 01 - GENERAL REQUIREMENTS**

DELETE Section 01 45 33 - Asbestos Abatement Observation in its entirety.
Asbestos is not anticipated to be encountered in this Project.

B. **DIVISION 02 – EXISTING CONDITIONS**

ADD the attached Section 02 40 00, Demolition, pages 1 through 3.

C. **DIVISION 13 - SPECIAL CONSTRUCTION**

DELETE Section 13 11 00 – Swimming Pools in its entirety.

2. DOCUMENT 00 01 15 - LIST OF DRAWINGS

A. ARCHITECTURAL

ADD the attached Addendum No. 1 Drawing Sheet A-6, dated 7-21-2025; showing additional areas of alterations.

BIDDING REQUIREMENTS

1. DOCUMENT 00 11 00 - INVITATION TO BID

- A. REMOVE DOCUMENT 00 11 00 INVITATION TO BID AND
ADD DOCUMENT 00 11 00 Addendum 1 dated July 21, 1999 making the following changes:

CHANGE bid due date from August 19, 2025 to September 5, 2025.

CHANGE date of Pre-Bid Site Inspection tour from July 24, 1999, to August 19, 2025.

2. DOCUMENT 00 21 00 - INSTRUCTIONS TO BIDDERS

A. ARTICLE 2., COMPETENCE OF BIDDERS

DELETE Paragraph 2. c., Asbestos Abatement Certification and Registration.

3. DOCUMENT 00 41 00 – BID FORM

- A. CHANGE bid due date from August 14, 1999 to August 21, 1999.

Revised Bid Forms will not be issued to Bidders. Bidders shall change date on originally issued Bid Forms.

CONTRACTING REQUIREMENTS

1. DOCUMENT 00 73 00 – SUPPLEMENTARY CONDITIONS

- A. REMOVE DOCUMENT 00 73 00 SUPPLEMENTARY CONDITIONS AND
ADD DOCUMENT 00 73 00 SUPPLEMENTARY CONDITIONS Addendum 1 dated July 21, 1999 making the following changes:

PARAGRAPH 7.3, LIQUIDATED DAMAGES

CHANGE amount of liquidated damages in Subparagraphs 7.3.1 and 7.3.2
from \$300 to \$500 per calendar day.

SPECIFICATIONS

1. SECTION 05 50 00 – METAL FABRICATIONS

A. ARTICLE 2.01, FERROUS METALS

ADD the following Subarticle 2.01 E:

E. Steel Tubing: Cold formed, ASTM A500; or hot-rolled, ASTM A501.

DRAWINGS

1. **SHEET D-2**

NOTES

DELETE Note 2 as written and **REPLACE** with the following:

2. See Sheet E-1 for removal of electrical equipment.

2. **SHEETS M-2 AND M-3**

REMOVE Sheets M-2 and M-3 from set of Drawings originally issued and **ADD** Addendum No. 2 Drawing Sheets M-2 and M-3, dated 7/21/99; showing revisions indicated by "cloud" outline and triangle symbol No. 1.

3. **SHEET M-4**

ADD the following notes 5 and 6:

5. Extend new vent lines to outside the building.
6. Extend new drain lines to floor drains.

END OF ADDENDUM NO. 1

ATTACHMENTS:

Specifications, Section 02 40 00, Demolition, pages 1 through 3.

Addendum No. 1 Drawing Sheets A-6, M-2 and M-3.

SECTION 01 10 00

SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Work required to be performed by the Contractor comprises:

1. ATS and Electrical Repairs in conformity with the Drawings and Specifications hereinafter identified; including furnishing all material, labor, plant, tools, equipment, and services necessary therefor and incidental thereto, complete and ready for use, except as hereinafter otherwise provided.

1.2 WORK NOT INCLUDED

A. Except for such auxiliary work as is shown or specified or is necessary as a part of the construction, the following work is NOT included in this Contract.

1. Work shown but marked "NIC" (Not in Contract). "BUA" (By Using Agency), or otherwise designated to be done by others.

1.3 PROJECT INFORMATION

A. Project Location: 625 Q Street, Sacramento, CA 95814

B. Project Identification: ATS and Electrical Repairs, #000000000011757

C. Web-Based Project Software: Project software will be used for purposes of managing communication and documents during the construction stage.

1. See Sections 01 31 00 "Project Management and Coordination" and 01 31 25 "Web-based Project Management System" for requirements for using web-based project software.

1.4 SPECIFICATIONS

A. The Specifications are those bound in the Project Manual, and enumerated in the Table of Contents. The General Conditions of the Contract for Construction, Supplementary Conditions, and Division 01 of the Specifications apply to all Work of this Contract.

1.5 DRAWINGS

A. The Drawings consist of Drawing Sheets as listed in Document 00 01 15 of Project Manual.

1.6 CONTRACTOR'S SET OF DRAWINGS AND PROJECT MANUALS

1. Electronic Files in PDF format.

SUMMARY

2. One set of State furnished Drawings shall be used as record prints.

B. Additional Sets shall be the responsibility of the contractor.

1.7 PHASED CONSTRUCTION

A. Work of this Contract shall be executed in phases as needed.

B. Before commencing Work of each phase, submit an updated copy of Contractor's construction schedule, showing the sequence, commencement and completion dates for all phases of the Work.

1.8 SPECIAL SECURITY PROCEDURES

A. Cooperate with the authorities and observe and comply with all regulations presently in force on facility grounds.

B. After award of Contract, there will be a project start meeting, at which time security regulations will be reviewed with the Contractor and subcontractors.

1.9 INTERRUPTION OF SERVICES

A. Make provisions to accomplish the work of this Contract without undue interference with facility operations. Interruptions to services for the purpose of making or breaking connection shall be made only after consultation with the State, minimum of one week in advance of connection break, and shall be at such time and of such duration as may be directed.

1.10 SEQUENCE OF CONSTRUCTION OPERATIONS

A. Before starting construction operations, confer with the State to review sequence of construction operations.

B. Prepare schedules as set forth in Section 01 32 00 "Construction Progress Documentation".

1.11 WORK RESTRICTIONS

A. Comply with restrictions on construction operations.

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

B. On-Site Work Hours: Limit work to between **7:00** a.m. to **3:00** p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by State and authorities having jurisdiction.

C. On-Site Work Day Restrictions: Do not perform work on-site during work black-out days indicated below:

1. State Holidays

- D. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by State or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
 - 1. Notify State's Representative not less than 14 days in advance of proposed utility interruptions.
 - 2. Obtain State's written permission before proceeding with utility interruptions.
- E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.

1.12 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section. Contractor's use of Project site is limited by State's right to perform work or to retain other contractors on portions of Project.
- B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Driveways, Walkways and Entrances: Keep driveways, parking areas, loading areas, and entrances serving premises clear and available to State, State's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - 1) If deliveries will impact State's operations, request State's approval 48 hours prior to delivery.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.13 COORDINATION WITH OCCUPANTS

- A. Partial State Occupancy: State will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with State during construction operations to minimize conflicts and facilitate State usage. Perform the Work so as not to interfere with State's operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from State and authorities having jurisdiction.
 - 2. Provide not less than **48** hours' notice to State of activities that will affect State's operations.
- B. Use only State approved designated areas for work operations or storage.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.

1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Documentation: Show compliance with requirements for substitutions per Article 3.12.10, Document 00 72 00 "General Conditions of the Contract for Construction", and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - h. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

SUBSTITUTION PROCEDURES

1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.5 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.6 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the Schedule of Values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the Schedule of Values to State at earliest possible date, but no later than 14 days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. State's Project number.
 - c. Contractor's name and address.
 - d. Date of submittal.
 - 2. Arrange the Schedule of Values in tabular form, with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or division.
 - b. Description of the Work.
 - c. Change Orders (numbers) that affect value.
 - d. Dollar value, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.
 - 4. Allowances: Provide a separate line item in the schedule of values for each allowance.
 - 5. Overhead Costs, Proportional Distribution: Include total cost and proportionate share of general overhead and profit for each line item.
 - 6. Schedule of Values Revisions: Revise the Schedule of Values when Change Orders result in a change in the Contract Sum. Include at least one separate line item for each Change Order.

PAYMENT PROCEDURES

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments.
- B. Payment Application Times: The date for each progress payment shall be established by the State. The period covered by each Application for Payment is one month.
1. Submit draft copy of Application for Payment three days prior to due date for review by State Construction Supervisor/Inspector.
 2. State Construction Supervisor/Inspector will review the draft with the Contractor to verify requested payment percentages.
 3. Submit Application for Payment upon approval by the State Construction Supervisor/Inspector.
- C. Application for Payment Forms: Submit forms for approval with initial submittal of schedule of values.
- D. Application Preparation: Complete every entry on form. State will return incomplete applications without action.
1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders issued before last day of construction period covered by application.
- E. Partial payment for "mobilization" shall be made in percentages as follows (less retainage):
- | Contract Amount Completed | Payment for Mobilization |
|---------------------------|---|
| 5 % | 50% of amount bid for mobilization, or 5% of original Contract amount, whichever is lesser. |
| 10% | 75% of amount bid for mobilization, or 7.5% of original Contract amount, whichever is lesser. |
| 20% | 95% of amount bid for mobilization, or 9.5% of original Contract amount, whichever is lesser. |
| 50% | 100% of amount bid for mobilization, or 10% of original Contract amount, whichever is lesser. |
1. Upon completion of all Work on the Project, payment of any amount bid for mobilization in excess of 10% of the original Contract amount will be paid.
- F. Project Record Drawings: Prior to each Application for Payment review, update Project Record Documents as required by Section 01 77 00 "Closeout Procedures" and submit for the State's review and approval. Monthly Applications for Payment will not be processed without review and approval of Project Record Drawings by the State.
- G. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored subject to or under the control of the State, but not yet installed. Differentiate between items stored on-site and items stored off-site.
1. Provide certificate of insurance, evidence of transfer of title to State, and consent of surety to payment for stored materials.

PAYMENT PROCEDURES

2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- H. Transmittal: Submit Application for Payment signed by the Contractor and State Construction Supervisor/Inspector to the State.
1. Submit with each Application for Payment such evidence as may be necessary to demonstrate costs incurred or estimated to be incurred in accordance with the Schedule of Values during such month and the percentage of completion of each category of Work.
 2. Submit with each Application for Payment certified payroll records for each Contractor's and Subcontractor's employee per Document 00 72 00 "General Conditions of the Contract for Construction." Copies of the monthly payroll shall be sent directly to the Department of Industrial Relations in the current prescribed electronic format with evidence of such submission provided with each Application for Payment to the State.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. Schedule of values.
 2. Contractor's construction schedule (preliminary if not final).
 3. Key Personnel Names List.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited to, the following:
1. Evidence of completion of Project closeout requirements in accordance with Section 01 77 00 "Closeout Procedures."
 2. Certification of completion of final punch list items.
 3. Warranty certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 4. Evidence that disputes have been settled.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

PAYMENT PROCEDURES

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Requests for Information (RFIs).
 - 3. Digital project management procedures.
 - 4. Web-based Project management software package.
 - 5. Project meetings.

1.2 SUBMITTALS

- A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals, and their duties and responsibilities, list telephone numbers, and e-mail addresses. Provide names, e-mail addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project. Keep list current at all times.

1.3 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Subletting and Subcontracting Responsibilities: Refer to Document 00 72 00 "General Conditions of the Contract for Construction", Article 4.
 - 2. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 3. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 4. Coordinate the Work with related work being done by the State and other contractors operating in the area. This coordination shall include reasonable adjustments of schedule in order to allow other contractors or State to do their work. Make provisions for accommodating items installed by the State or under separate contracts.
 - 5. Make adequate provisions to accommodate items scheduled for later installation.
 - 6. Carefully examine Drawings relating to entire work with actual conditions so that Work will be accommodated in spaces provided. General arrangement and location of elements of various systems is shown on the Drawings or specified. Final locations, levels, etc., shall be governed by actual material size used, by building conditions encountered, and by work of all trades. Space conflicts and interferences shall be resolved before work is installed.

- B. Site Examination: Visit the site prior to commencement of the Work and get familiar with existing conditions. Be prepared to carry out the Work within existing limitations.
 - 1. Inspect and take responsibility for previously prepared or installed work of other contractors before applying subsequent materials or finishes. If work is in unsatisfactory condition, notify the State. Do not proceed until defective work has been corrected.
- C. Work Layout
 - 1. Property lines, location ties, and elevations of components of the Project to be built under this Contract are shown on the Drawings. Grade elevations shown for various parts of the Work are taken from a benchmark shown on the Drawings, or if not shown, will be designated by the State. In case of conflict therein, notify the State in writing before starting work.
 - 2. Layout the Work and furnish surveys required for alignment and elevations of the Work. Furnish necessary lines, levels, locations, measurements and markers for all the Work and be responsible for their accuracy.
 - 3. On building structures, layout on forms, walls, floors, and columns, the exact location of partitions as guide to all trades.
- D. Allowable Entrance: Contractor, subcontractors, their employees, suppliers and delivery persons shall enter and exit property via designated entrance.
- E. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.

1.4 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. State will return without response those RFIs submitted to State by other entities controlled by Contractor.
 - 2. Coordinate and submit RFIs in a prompt manner 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. State's Representative name.
 - 3. State's Project number.
 - 4. Date.

5. Name of Contractor.
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 suggested resolution 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. RFI Forms: Form bound in Project Manual or software-generated form with substantially the same content as indicated above, acceptable to the State.

1. Attachments shall be electronic files in PDF format.

- D. State's Action: State will review each RFI, determine action required, and respond.

1. The following Contractor-generated 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 State's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
2. State's action may include a request for additional information, in which case State's time for response will date from time of receipt by State of additional information.
3. State'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 Document 00 72 00 "General Conditions of the Contract for Construction".

1.5 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of State's Digital Data Files: Upon request and if available, digital data files of State's CAD drawings will be provided by State for Contractor's use during construction.

1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project Record Drawings.
2. State makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
3. Contractor shall execute a data release agreement in the form provided by the State upon request.

- B. Web-Based Project Management Software Package: Use State's web-based Project management software package for purposes of hosting and managing Project communication and documentation until Acceptance of the Work.

1. Web-based project management software includes, at a minimum, the following features:
 - a. Compilation of Project data, including Contractor, subcontractors, State, State's consultants, and other entities involved in Project. Include names of individuals and contact information.
 - b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
 - c. Document workflow planning, allowing customization of workflow between project entities.
 - d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, Requests for Information, Submittals, Additional Detailed Instructions, Potential Changer Orders (PCO's), Inspection requests, and executed Change Orders.
 - e. Track status of each Project communication in real time, and log time and date when responses are provided.
 - f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
 - g. Processing and tracking of payment applications.
 - h. Processing and tracking of contract modifications.
 - i. Creating and distributing meeting minutes.
 - j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
 - k. Management of construction progress photographs.
 - l. Mobile device compatibility, including smartphones and tablets.
2. The web-based project management system is Procore (www.procore.com) and is updated monthly.

1.6 PROJECT MEETINGS

- A. General: State will schedule and conduct, unless otherwise indicated, meetings and conferences at Project site.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify State of scheduled meeting dates and times a minimum of 10 working days prior to meeting.
 2. Agenda: Entity responsible for conducting meeting will prepare the meeting agenda, and distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, within three days of the meeting.
- B. Preconstruction Conference: State will schedule and conduct a preconstruction conference before starting construction, at a time convenient to State, but no later than 15 days after execution of the Agreement.
 1. Attendees: Authorized representatives of State, Architect or Engineer, and their consultants, State Construction Supervisor/Inspector; Contractor and its superintendent; major subcontractors; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including but not limited to the following:

PROJECT MANAGEMENT AND COORDINATION

- a. Responsibilities and personnel assignments.
- b. Tentative construction schedule.
- c. Phasing.
- d. Critical work sequencing and long lead items.
- e. Lines of communications.
- f. Use of web-based Project software.
- g. Procedures for processing field decisions and Change Orders.
- h. Procedures for RFIs.
- i. Procedures for Quality Assurance / Quality Control (testing and inspecting).
- j. Procedures for processing Applications for Payment.
- k. Distribution of the Contract Documents.
- l. Submittal procedures.
- m. Sustainable design requirements including commissioning.
- n. Preparation of Record Documents.
- o. Use of the premises.
- p. Allowable entrance.
- q. Work restrictions.
- r. Working hours.
- s. State's occupancy requirements.
- t. Installation of temporary facilities and controls.
- u. Storm Water Pollution Control.
- v. Procedures for disruptions and shutdowns.
- w. Construction waste management and recycling.
- x. Parking availability.
- y. Office, work, and storage areas.
- z. Equipment deliveries and priorities.
- aa. Safety.
- bb. Security.
- cc. Progress cleaning.

- 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other Sections and when required for coordination with other construction.

- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise State of scheduled meeting dates.
- 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility requirements.
 - k. Time schedules.

PROJECT MANAGEMENT AND COORDINATION

- l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.
 - q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: State will schedule and conduct a project closeout conference no later than 30 days prior to the scheduled date of Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 2. Attendees: Authorized representatives of State, Architect or Engineer, and their consultants; Contractor and its superintendent; major subcontractors; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of Record Documents.
 - b. Procedures required prior to inspection for Completion and for final inspection for acceptance.
 - c. Procedures for completing and archiving web-based Project software site data files.
 - d. Requirements for preparing operations and maintenance data.
 - e. Submittal of written warranties.
 - f. Requirements for completing sustainable design and commissioning documentation.
 - g. Requirements for delivery of material samples, attic stock, and spare parts.
 - h. Requirements for demonstration and training.
 - i. Preparation of Contractor's punch list.
 - j. Procedures for processing Applications for Payment at Completion and for final payment.
 - k. Submittal procedures.
 - l. State's Occupancy requirements.
 - m. Installation of State's furniture, fixtures, and equipment.
 - n. Removing temporary facilities and controls.
 4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

]

E. Progress Meetings: **State will conduct progress meetings at weekly** intervals.

1. Attendees: In addition to representatives of State and Architect or Engineer, each contractor, subcontractor, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting.
 - 1) Review schedule for next period.
 - b. Review present and future needs, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Safety.
 - 4) Status of submittals.
 - 5) Status of sustainable design documentation and commissioning.
 - 6) Deliveries.
 - 7) Off-site fabrication.
 - 8) Access.
 - 9) Site use.
 - 10) Temporary facilities and controls.
 - 11) Storm Water Pollution Control.
 - 12) Progress cleaning.
 - 13) Quality Assurance / Quality Control (testing and inspection).
 - 14) Status of correction of deficient items.
 - 15) Field observations.
 - 16) Status of RFIs.
 - 17) Status of Changes in the Work.
 - 18) Payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Issue revised Contractor's construction schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Startup construction schedule.
 - 2. Construction Schedule.
 - 3. Short Interval Schedule.
 - 4. Recovery Schedule.
 - 5. Construction schedule updating reports.
 - 6. Daily construction reports.
 - 7. Unusual event reports.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.

1.3 SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file in computer scheduling software native file format.
 - 2. PDF file.
 - 3. Three paper copies of sufficient size to display entire period or schedule, as required.
- B. Startup construction schedule.
 - 1. Submittal of cost-loaded startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.
- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 - 1. Submit a working digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals.
- D. Construction Schedule Updating Reports: Submit with Applications for Payment.

CONSTRUCTION PROGRESS DOCUMENTATION

- E. Short Interval Schedule: Submit at weekly intervals.
- F. Daily Construction Reports: Submit at weekly intervals.
- G. Site Condition Reports: Submit at time of discovery of differing conditions.
- H. Unusual Event Reports: Submit at time of unusual event.

1.4 QUALITY ASSURANCE

- A. Scheduling Conference: State may conduct conference at Project site to review methods and procedures related to the Contractor's Construction Schedule, including, but not limited to, the following:
 - 1. Review software limitations and content and format for reports.
 - 2. Verify availability of qualified personnel needed to develop and update schedule.
 - 3. Discuss constraints, including, but not limited to, phasing work, stages, area separations, interim milestones and beneficial occupancy.
 - 4. Review delivery dates for State-furnished products.
 - 5. Review submittal requirements and procedures.
 - 6. Review time required for review of submittals and resubmittals.
 - 7. Review requirements for tests and inspections by independent testing and inspecting agencies.
 - 8. Review time required for Project closeout and State startup procedures, including commissioning activities.
 - 9. Review list of construction activities to be included in schedule.
 - 10. Review procedures for updating schedule.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
 - 1. Use Microsoft Project or Primavera for current Windows operating system.
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Completion of the Work.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 21 days.
 - 2. Indicate start and completion dates for the following as applicable:
 - a. Securing of approvals and permits required for performance of the Work.
 - b. Temporary facilities.
 - c. Construction of mock-ups, prototypes and samples.
 - d. State interfaces and furnishing of items, if any.
 - e. Regulatory agency approvals.
 - f. Punch list.

3. Procurement Activities: Include procurement process activities for the long lead-time items and major items as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
4. Submittal Review Time: Include review and resubmittal times indicated in Section 01 33 00 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
5. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
6. Commissioning Time: Include no fewer than 15 days for commissioning.
7. Punch List and Completion: Include not more than 30 days for completion of punch list items and Completion. No activities other than Startup, Testing and/or Commissioning shall be scheduled during this period.

D. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Completion percentage for each activity.

E. Distribution of Approved Copies:

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made post in the same locations.

1.6 SHORT INTERVAL SCHEDULE

A. Short Interval Scheduling (SIS) shall be used throughout onsite construction activity. Interval shall be a 3-week projection and shall include week submitted and two weeks thereafter. It shall contain sufficient detail to evaluate daily milestones and manpower/equipment loading and shall identify/tie into monthly updated Schedule.

1.7 RECOVERY SCHEDULE

A. When periodic update indicates the Work is **14** or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.

B. Upon acceptance by the State, incorporate Recovery Schedule into Contractor's Construction Schedule.

1.8 STARTUP CONSTRUCTION SCHEDULE

A. Gantt-Chart Schedule: Submit startup, horizontal, Gantt-chart-type construction schedule within 10 days of date established for the Notice to Proceed.

- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

1.9 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed.
 - 1. Base schedule on the startup construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in **10** percent increments within time bar.

1.10 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. Approximate count of personnel at Project site.
 - 3. Equipment at Project site.
 - 4. Material deliveries.
 - 5. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 6. Testing and inspection.
 - 7. Accidents.
 - 8. Meetings and significant decisions.
 - 9. Unusual events.
 - 10. Stoppages, delays, shortages, and losses.
 - 11. Meter readings and similar recordings.
 - 12. Emergency procedures.
 - 13. Orders and requests of authorities having jurisdiction.
 - 14. Services connected and disconnected.
 - 15. Equipment or system tests and startups.
- B. Unusual Event Reports: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise State in advance when these events are known or predictable.
 - 1. Submit unusual event reports directly to State within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

1.11 PAYMENTS WITHHELD

- A. Progress Payments may be withheld in whole or in part should Contractor fail to comply with requirements of this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

- ###### A.
- Submittals: Written and graphic information and physical samples that require State's responsive action. Submittals are those submittals indicated in individual Specification Sections. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL SCHEDULE

- ###### A.
- Submittal Schedule: Submit a list 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 revisions to submittals noted by State and additional time for handling and reviewing submittals required by those corrections.

1. Schedule submissions during the first **90** days after a date established for the Notice to Proceed and at least 21 days before dates reviewed submittals will be needed and within the time periods specified below.
 - a. Items needed in initial stages of Work or requiring long lead-time for ordering: 30 days.
2. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
3. Initial Submittal Schedule: Submit within 10 days of date established for the Notice to Proceed. Include submittals required during the first 90 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.
4. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule as required to reflect changes in current status and timing for submittals.
5. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Description of the Work covered.

SUBMITTAL PROCEDURES

- d. Scheduled date for State's final release or approval.
- e. Scheduled dates for purchasing.
- f. Scheduled dates for installation.

1.4 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
 - 1. Project name.
 - 2. Date.
 - 3. Name of Contractor.
 - 4. Name of firm or entity that prepared submittal.
 - 5. Unique submittal number, including revision identifier.
 - 6. Submittal purpose and description.
 - 7. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 - 8. Drawing number and detail references, as appropriate.
 - 9. Indication of full or partial submittal.
 - 10. Location(s) where product is to be installed, as appropriate.
 - 11. Other necessary identification.
 - 12. Remarks.
 - 13. Signature of transmitter.
- B. Options: Identify options requiring selection by State.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by State on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Email: Prepare submittals as PDF package and transmit to State by sending via email. Include PDF transmittal form. Include information in email subject line as requested by State.
 - a. State will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
- B. 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.

SUBMITTAL PROCEDURES

3. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. State reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on State'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 21 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. State 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 21 days for review of each resubmittal.
- D. 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 State's action stamp.
- E. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from State's action stamp.

1.6 SUBMITTAL REQUIREMENTS

- A. 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 unsuitable 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. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

SUBMITTAL PROCEDURES

5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. 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.
- C. Samples: Submit physical samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
 2. Where size of Samples is not specified, Samples should be of sufficient size and quantity to clearly illustrate functional characteristics of product or material, with integrally related parts and attachment devices.
 3. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 4. Email Transmittal: Provide PDF transmittal to accompany Samples. Include digital image file illustrating Sample characteristics and identification information for record.
 5. Paper Transmittal: Include paper transmittal to accompany Samples, including complete submittal information indicated.
 6. Disposition: Maintain sets of approved 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.
 7. 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 three sets of Samples. State will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.

- 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.
- D. 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 indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- E. 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 architects and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
1. Certificates and Certifications Submittals: Submit 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. Provide a notarized signature where indicated.
 2. 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.
 3. 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.
 4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:
1. 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 substrate preparation and primers required.
 2. Field Test Reports: Submit written 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.

SUBMITTAL PROCEDURES

3. 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.
4. 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.
5. Product Test Reports: Submit written reports indicating that 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.
6. 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:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.7 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational 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 State.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with. Include 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.
 1. State will not review submittals received from Contractor that do not have Contractor's review and approval.

1.8 STATE'S REVIEW

- A. Submittals: State will review each submittal, indicate corrections or revisions required, and return.
 1. PDF Submittals: State will indicate, via markup on each submittal, the appropriate action, as follows:
 - a. No Exception Taken: Where the submittal is marked "No Exception Taken," the Work covered by the submittal may proceed, provided it complies with the Contract Documents. Final acceptance will depend on that compliance.
 - b. Exception, See Comments: Where the submittal is marked "Exception, See Comments," the Work covered by the submittal may proceed, provided it complies both with State's notations and corrections on the submittal and the Contract Documents. Final acceptance will depend on that compliance.
 - c. Revise and Resubmit: Where the submittal is marked "Revise and Resubmit," do not proceed with the Work covered by the submittal, including purchasing, fabrication,

SUBMITTAL PROCEDURES

delivery, or other activity for the product submitted. Revise or prepare a new submittal according to State's notations and corrections.

- d. Rejected: Where the submittal is marked "Rejected," do not proceed with the Work covered by the submittal. Prepare a new submittal for a product that complies with the Contract Documents.
- B. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from State.
- C. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- D. State will return without review submittals received from sources other than Contractor.
- E. Submittals not required by the Contract Documents will be returned by State without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection 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 quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by State, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 DEFINITIONS

- A. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- B. 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, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- 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. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.
- D. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by 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 Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).

QUALITY REQUIREMENTS

- F. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" shall have the same meaning as the term "testing agency."
- G. 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.
- H. 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. Contractor's quality-control services do not include contract administration activities performed by State.

1.3 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the State regarding the conflict. Use the requirement(s) that is/are more stringent and/or of higher quality and/or higher quantity.

1.4 SUBMITTALS

- A. Reports: Prepare and submit certified written reports, products test reports, and documents as required and/or specified.
- B. Permits, Licenses, and Certificates: For State's record, 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.

1.5 REPORTS AND DOCUMENTS

- A. Manufacturer's Technical Representative's or Factory-Authorized Service Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, telephone number, and email address of technical representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement of whether conditions, products, and installation will affect warranty.
 - 7. Other required items indicated in individual Specification Sections.

1.6 QUALITY ASSURANCE

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

QUALITY 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. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- 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, applying, 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 qualified to practice in the State of California or jurisdiction where Project is located, and who has minimum of five years of experience in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar in material, design, and extent to those indicated for this Project.
- F. 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.
- G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- H. Mockups / Field Samples: Before installing portions of the Work requiring mockups / field samples, build mockups / field samples for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups / field samples of size indicated.
 - 2. Build mockups / field samples in location indicated or, if not indicated, as directed by State.
 - 3. Notify State seven days in advance of dates and times when mockups / field samples will be constructed.
 - 4. Employ supervisory personnel who will oversee mockup / field sample construction. Employ workers who will be employed to perform same tasks during the construction at Project.
 - 5. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 6. Obtain State's acceptance of mockups / field samples before starting corresponding Work, fabrication, or construction.
 - a. Allow 21 days for initial review and each re-review of each mockup / field sample.
 - 7. Promptly correct unsatisfactory conditions noted by State's preliminary review, to the satisfaction of the State, before completion of final mockup / field sample.
 - 8. Acceptance of mockups / field samples by the State does not constitute approval of deviations from the Contract Documents contained in mockups / field samples unless State specifically accepts such deviations in writing.
 - 9. Maintain mockups / field samples during construction in an undisturbed condition as a standard for judging the completed Work.
 - 10. Demolish and remove mockups / field samples when directed unless otherwise indicated.

QUALITY REQUIREMENTS

1.7 QUALITY CONTROL

- A. State Responsibilities: Where quality-control services are indicated as State's responsibility, State will engage a qualified testing agency to perform these services.
 - 1. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
 - 2. Tests and inspections shall be performed by State's testing laboratory in conformance with California Code of Regulations, Title 24 as noted in individual specifications sections.
- B. Contractor Responsibilities: Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
 - 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. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor shall not employ same entity engaged by State, unless agreed to in writing by State.
 - b. Testing, Adjusting, and Balancing of Systems: These services shall be provided by approved testing organization in conformance with requirements for services specified in individual sections pertaining to each system.
 - 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 4. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. 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 Section 01 33 00 "Submittal Procedures."
- D. 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.
- E. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives 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:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.

QUALITY REQUIREMENTS

5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 6. Security and protection for samples and for testing and inspection equipment at Project site.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- G. The State shall have the right to reject materials and workmanship which are defective or to require their correction. Rejected workmanship shall be satisfactorily corrected and rejected materials shall be removed from the premises without charge to the State. If Contractor does not correct such rejected work within a reasonable time, fixed by a written notice, the State may correct same and charge the expenses to Contractor.
- H. Should it be considered necessary or advisable by the State at any time before Acceptance of the Work to make examination of work already completed by removing or tearing out same, Contractor shall, on request, promptly furnish necessary facilities, labor and materials. If such work is found to be defective in any respect due to fault of Contractor or subcontractor, Contractor shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet requirements of the Contract, additional cost of labor and material necessarily involved in the examination and replacement will be allowed to the Contractor.

1.8 SPECIAL INSPECTIONS AND TESTS

- A. Special Inspections and Tests: State will engage a qualified testing agency and/or special inspector to conduct special inspections and tests required by authorities having jurisdiction as the responsibility of State.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL

- A. Notify State's Inspector 48 hours in advance of operations to allow for laboratory assignment of personnel and scheduling of tests. When tests or inspections cannot be performed after such notice, reimburse the State for laboratory personnel and travel expenses incurred due to Contractor's negligence.
- B. When additional testing services are needed for Contractor's convenience, employ and pay for services of separate, equally qualified independent testing laboratory; or arrange with State's laboratory and pay for additional samples and tests required for Contractor's convenience.
- C. Prepare each system for testing and balancing. Cooperate with testing agency and provide access to equipment and systems. Operate systems at designated times, and under conditions required for proper testing, adjusting, and balancing.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, 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 Section 01 73 00 "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 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, State, testing agencies, and authorities having jurisdiction.
- B. Sewer, Drainage, Water, Gas, Telecommunication and Electric Power Service: Pay connection and service use charges for usage by all entities for construction operations.

1.3 SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel. Show compliance with requirements of authorities having jurisdiction.
- B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- C. Fire-Safety Program and Site Safety Plan: Show compliance with requirements of NFPA 241, California Fire Code Chapter 33, and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program. Include the following in Site Safety Plan:
 - 1. Name and contact information of site safety director.
 - 2. Documentation of the training of the site safety director and fire watch personnel.
 - 3. Procedures for reporting emergencies.
 - 4. Fire department vehicle access routes.
 - 5. Location of fire protection equipment, including portable fire extinguishers, standpipes, fire department connections and fire hydrants.
 - 6. Smoking and cooking policies, designated areas to be used where approved, and signage locations.
 - 7. Location and safety considerations for temporary heating equipment.
 - 8. Hot work permit plan.
 - 9. Plans for control of combustible waste material.
 - 10. Locations and methods for storage and use of flammable and combustible liquids and other hazardous materials.
 - 11. Provisions for site security.
 - 12. Changes that affect this plan.
 - 13. Other site-specific information required by the authorities having jurisdiction.

TEMPORARY FACILITIES AND CONTROLS

1.4 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.
 - 1. Construct and maintain temporary electrical facilities in accordance with California Electrical Code, California Public Utilities Commission "Rules for Overhead Line Construction" (General Order No. 95), and requirements of utility company providing service. Materials, devices, and equipment used for these facilities shall be in good and safe condition but need not be new.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Temporary Facilities: Obtain required certifications and permits from authorities having jurisdiction. Comply with authorities having jurisdiction requirements for temporary facilities.
- D. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and California Building Code.

1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before State's acceptance, regardless of previously assigned responsibilities.
- B. Construction Equipment: Erect, equip, operate, and maintain construction equipment in strict accordance with applicable statutes, laws, ordinances, rules, and regulations of authorities having jurisdiction.
 - 1. Provide and maintain scaffolding, staging, runways, and similar equipment, as needed.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A. Field Offices for the State Use: Not required.
- B. Field Office for Contractor use: Contractor may provide at their expense field office facilities for Contractor's use as desired.

2.2 EQUIPMENT

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

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. See other Sections for disposition of salvaged materials that are designated as State's property.

3.2 INSTALLATION, GENERAL

- A. Locate facilities 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.
 - 1. Locate facilities to limit site disturbance as specified in Section 01 10 00 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, State, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Connect to State's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to State. At Completion of the Work, restore these facilities to condition existing before initial use.
 - 1. Water is available from existing sources on site and shall be metered, and paid for by Contractor.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- D. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for storage of materials, curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Follow manufacturer's recommendations and industry practice standards for proper protection of stored and installed materials. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- E. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 - 1. Prior to commencing work, isolate the HVAC system in area where work is to be performed according to coordination drawings.

- a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
 - b. Maintain negative air pressure within work area, using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
 - 2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
 - 3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- F. Gas Service: Connect to State's existing gas service. Maintain equipment in a condition acceptable to State.
- G. Electric Power Service: Connect to State's existing electric power service. Maintain equipment in a condition acceptable to State.
- 1. Connect temporary service to State's existing power source, as directed by State.
- H. Lighting: Provide temporary lighting that provides adequate illumination for construction operations, observations, inspections, and traffic conditions or as designated by the State.
- 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- I. Telephone Service: Provide temporary telephone service in common-use facilities for use by all State's construction personnel. Install WiFi cell phone access equipment and one land-based telephone line(s) for each field office.
- 1. At each telephone, post a list of important telephone numbers.
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Contractor's emergency after-hours telephone number.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Comply with the following:
- 1. Utilize designated area within existing building for temporary facilities.
 - a. Spaces used by Contractor and subcontractors for materials storage and/or staging within building, shall be protected and restored before completion of Contract to prior existing or better than prior existing condition.
 - 2. Maintain support facilities until State schedules final inspection. Remove before Completion.
- B. Project Signs: Not required.
- C. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.

TEMPORARY FACILITIES AND CONTROLS

- D. Other Signs or Advertising: Not permitted, except that Contractor's name may be placed on Contractor's field office.
- E. Temporary Use of Existing Elevator: Use of State's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to State.
 - 1. Do not load elevators beyond their rated weight capacity.
 - 2. Existing elevator(s) will be available for use in construction operations. Use of elevator(s) outside of hours specified will require State's approval in advance.
 - 3. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work, so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.
- F. Existing Stair Usage: Use of State's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to State. Prior to Completion, restore stairs to condition existing before initial use.
 - 1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas, so no evidence remains of correction work.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Security: Secure building and grounds at Project site from vandalism or theft, during entire time of Contract.
- C. 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 Section 01 10 00 "Summary."
- D. 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.
- E. Existing Landscaped Areas: Return the grounds back to the State in condition equal to or better than existed upon commencement of Work.
- 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: Provide temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction. Provide signage directing occupants to temporary egress.

- H. Temporary Enclosures: Provide temporary enclosures including insulation for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
- I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Maintain field office toilets and sanitary facilities in a neat, clean, and orderly manner, and refill all consumables minimum once a week.
- B. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Completion.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. State reserves right to take possession of Project identification signs.
 - 2. At Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 "Closeout Procedures."

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a substitution request, if applicable.
- D. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 01 33 00 "Submittal Procedures."
- E. Substitution: Refer to Section 01 25 00 "Substitution Procedures" for definition and limitations on substitutions.

1.3 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

PRODUCT REQUIREMENTS

- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
 - 2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
 - 3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

1.4 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.
- C. Storage:
 - 1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
 - 2. Store products to allow for inspection and measurement of quantity or counting of units.
 - 3. Store materials in a manner that will not endanger Project structure.
 - 4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.

5. Store loose granular materials on solid surfaces in well-drained area; prevent mixing with foreign matter.
6. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
7. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
8. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the State or endorsed by manufacturer to State.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for State and issued in the name of the State or endorsed by manufacturer to State.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Components required to be supplied in quantity within individual Specification Sections shall be the same and shall be interchangeable.
 3. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 4. State reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 5. Where products are accompanied by the term "as selected," State will make selection.
 6. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

PRODUCT REQUIREMENTS

7. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," comply with requirements in Section 01 25 00 "Substitution Procedures" to obtain approval for use of an unnamed product.
 - a. Submit additional documentation required by State in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by the State, whose determination is final.
 - b. Where the words "or equal" are used following trade names, patented products, or proprietary products or methods, they shall be deemed to read "or equal in quality, design, utility and suitability"; as solely determined by the State. Where such trade names, products, or methods are without the use of the words "or equal", they shall be deemed to be followed by the words "or equal in quality, design, utility and suitability" as solely determined by the State.

B. Product Selection Procedures:

1. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.
 - a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of an unnamed product is considered a substitution.
 2. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of products of an unnamed manufacturer is considered a substitution.
 3. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 01 25 00 "Substitution Procedures" for substitutions.
- C. Visual Selection Specification: Where Specifications include the phrase "as selected by State from manufacturer's full range" or a similar phrase, select a product that complies with requirements. State will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.
- D. Sustainable Product Selection: Where Specifications require product to meet sustainable product characteristics, select products complying with indicated requirements. Comply with requirements in Division 01 sustainability requirements Section and individual Specification Sections.
1. Select products for which sustainable design documentation submittals are available from manufacturer.

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 73 00

EXECUTION

PART 1 - GENERAL

1.1 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 and patching.
 - 4. Coordination of State's portion of the Work.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection and repair of installed construction.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural and Other Construction Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify State of locations and details of cutting and await directions from State before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection. Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 - 2. Patching shall achieve security, strength, and weather protection, and shall preserve continuity of existing fire ratings.
 - 3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in State's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner. Patching shall successfully duplicate undisturbed adjacent finishes, colors, textures, and profiles.

EXECUTION

Where there is a dispute as to whether duplication is successful or has been achieved to a reasonable degree, the State's judgment shall be final.

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

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
 - 1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- 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 State for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.
- C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 - 1. Use cleaning products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. 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.
- B. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. 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.

- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to State in accordance with requirements in Section 01 31 00 "Project Management and Coordination."

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 and existing conditions. If discrepancies are discovered, notify State promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, 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.

3.4 INSTALLATION

- A. 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. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with the manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure satisfactory results as judged by State. Maintain conditions required for product performance until 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 of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

- G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by State.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by State. Fit exposed connections together to form hairline joints.
- I. Repair or remove and replace damaged, defective, or nonconforming Work.
 - 1. Comply with Section 01 77 00 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.5 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching 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 in accordance with requirements in Section 01 10 00 "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.

- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by State. Provide materials and comply with installation requirements specified in other Sections, where applicable.
- I. Paint over complete surface plane, unless otherwise indicated. Over patched wall or ceiling surfaces, paint to nearest cutoff line for entire surface, such as intersection with adjacent wall or ceiling, beam, pilasters, or to nearest opening frame, unless otherwise indicated. Painted surfaces shall not present a spotty, touched-up appearance.
- J. 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 COORDINATION OF STATE'S PORTION OF THE WORK

- A. Site Access: Provide access to Project site for State's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by State's construction personnel.
 - 1. Construction Schedule: Inform State of Contractor's preferred construction schedule for State's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify State if changes to schedule are required due to differences in actual construction progress.
 - 2. Preinstallation Conferences: Include State's construction personnel at preinstallation conferences covering portions of the Work that are to receive State's work. Attend preinstallation conferences conducted by State's construction personnel if portions of the Work depend on State's construction.

3.7 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 01 91 13 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace them with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 01 40 00 "Quality Requirements."

3.9 PROTECTION AND REPAIR OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Completion.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- D. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the construction waste management and disposal.
- B. Waste Management Objective for the Project:
 - 1. Project shall minimize the generation of construction and demolition waste at the site.
 - 2. Waste disposal in landfills shall be minimized.

1.2 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- 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.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of the Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to State that may be uncovered during demolition remain the property of State.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to State.

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

1.4 SUBMITTALS

- A. Construction Waste Estimate: Within 14 calendar days after Start Date of the Work, or prior to any waste removal, whichever occurs sooner, submit construction waste estimate, using the Form 01 74 19.01 "Construction Waste Estimate". Include the following information:
 - 1. Estimate of total job site waste to be generated, including material types and quantities.
 - 2. Estimate of percentages of waste categories to landfill, to be reused, and to be recycled.
- B. Waste Management Report: Upon completion of Work, including final cleanup, provide a final waste management report containing the information required in Form 01 74 19.02 "Waste Management Report". Include the following information:
 - 1. Total quantity of each waste material generated; and the date(s) removed from the project site.
 - 2. Percentages of waste categories to landfill, to be reused, and to be recycled.
 - 3. Identity of the landfill / receiving facility, handling costs, transport costs, tipping fees paid at the landfill, and total landfill costs. Attach copies of manifests, weight tickets, receipts, and invoices.
 - 4. For each material reused or recycled from the Project, include the total costs of handling and transportation, and income. Attach manifests, weight tickets, receipts, and/or invoices.
- C. Qualification Data: For waste management coordinator.

1.5 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements. Superintendent may serve as Waste Management Coordinator.
- B. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.
 - 1. California Department of Resources Recycling and Recovery (CalRecycle); Telephone (916) 341-6300; <https://www.calrecycle.ca.gov/condemo>.
 - 2. Local Integrated Waste Management Programs and Re-Use Programs in the Project area.
 - 3. California Department of Toxic Substances Control (DTSC).

1.6 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
 - 1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

3. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.
- C. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there were no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:
1. Total quantity of waste.
 2. Estimated cost of disposal (cost per unit). Include transportation and tipping fees and cost of collection containers and handling for each type of waste.
 3. Total cost of disposal (with no waste management).
 4. Revenue from salvaged materials.
 5. Revenue from recycled materials.
 6. Savings in transportation and tipping fees by donating materials.
 7. Savings in transportation and tipping fees that are avoided.
 8. Handling and transportation costs. Include cost of collection containers for each type of waste.
 9. Net additional cost or net savings from waste management plan.

1.7 PERFORMANCE REQUIREMENTS

- A. General: Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.
- B. Diversion from Landfill: Waste categories appropriate for diversion from landfill shall include, but not be limited to, the following:
1. Land clearing debris.
 2. Soil.
 3. Wood: Clean dimensional wood, palette wood.
 4. Sheet Wood: Plywood, OSB and particle board.
 5. Concrete.
 6. Bricks.
 7. Concrete Masonry Units (CMU).
 8. Asphalt Concrete.
 9. Paper.
 - a. Bond.
 - b. Newsprint.
 - c. Cardboard and paper packaging materials.
 10. Cement Fiber Products: Shingles, panels, and siding.
 11. Metals.
 - a. Ferrous.
 - b. Non-ferrous.
 12. Paint.
 13. Rigid Foam.
 14. Glass.
 15. Plastics.
 16. Carpet and pad.

17. Beverage containers.
18. Insulation.
19. Gypsum Board.
20. Piping.
21. Electrical conduit.
22. Porcelain Plumbing Fixtures.
23. Fluorescent Light Tubes (per Department of Toxic Substances Control regulations).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 IMPLEMENTATION

- A. General: Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management during the entire duration of the Contract.
 1. Comply with operation, termination, and removal requirements in Section 01 50 00 "Temporary Facilities and Controls."
- B. Waste Management Coordinator: Engage a waste management coordinator or designate on-site party to be responsible for implementing, monitoring, and reporting status of waste management work.
 1. Distribute copies of the Construction Waste Estimate and Waste Management Report forms to the Job Site Foreman and each Subcontractor.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
- D. Meetings: Conduct Waste Management meetings with subcontractors who generate construction waste. Present current status of the Waste Management Report at regular job-site meetings.

3.2 DEMOLITION AND CONSTRUCTION WASTE MANAGEMENT

- A. Materials Handling Procedures: Provide means by which waste materials will be protected from contamination and means to be employed in reuse or recycling of waste material consistent with requirements for acceptance by receiving facilities.
- B. Separation Facilities: Lay out and label a specific area to facilitate separation of materials for reuse and recycling. Recycling and waste bin areas shall be kept neat and clean and clearly marked to avoid contamination of materials.
- C. Hazardous Wastes: Hazardous wastes shall be separated, stored, and disposed of according to local regulations, and in accordance with specifications for such work as may be included in this Project.
- D. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at appropriate stages of the Project.

3.3 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, 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.

3.4 ATTACHMENTS

- A. Form 01 74 19.01: Construction Waste Estimate.
- B. Form 01 74 19.02: Waste Management Report.

END OF SECTION

FORM 01 74 19.01 CONSTRUCTION WASTE ESTIMATE

This form must be completed by the Contractor. Attach additional sheets if necessary. Waste categories appropriate for diversion from landfill shall include but not be limited to categories listed below. Edit the list to suit Project's scope.

PROJECT NAME: _____ PROJECT NUMBER: _____

CONTRACTOR'S / VENDOR'S NAME: _____ DATE: _____

Waste Material (edit to suit)	Unit	Estimated Quantity Generated	Percent to Landfill	Percent Reused	Percent Recycled
Land Clearing Debris	CY				
Soil	CY				
Wood	CY				
Sheet Wood	CY				
Concrete	CY				
Bricks	CY				
Concrete Masonry Units	CY				
Asphalt Concrete	CY				
Paper	CY				
Cement Fiber Products	CY				
Metal (ferrous)	TON				
Metal (non-ferrous)	LBS				
Paint	CF				
Rigid Foam	CF				
Glass	CF				
Plastics	CF				
Carper and Pad	SY				
Beverage Containers	LBS				
Insulation	CF				
Gypsum Board	CF				
Porcelain Plumbing Fixtures	EA				
Fluorescent Light Tubes	EA				

FORM 01 74 19.02 WASTE MANAGEMENT REPORT

QUANTITIES

Waste Material (edit to suit)	Unit	Date Removed	Total Quantity Generated	Percent to Landfill	Percent Reused	Percent Recycled
Land Clearing Debris	CY					
Soil	CY					
Wood	CY					
Sheet Wood	CY					
Concrete	CY					
Bricks	CY					
Concrete Masonry Units	CY					
Asphalt Concrete	CY					
Paper	CY					
Cement Fiber Products	CY					
Metal (ferrous)	TON					
Metal (non-ferrous)	LBS					
Paint	CF					
Rigid Foam	CF					
Glass	CF					
Plastics	CF					
Carper and Pad	SY					
Beverage Containers	LBS					
Insulation	CF					
Gypsum Board	CF					
Porcelain Plumbing Fixtures	EA					
Fluorescent Light Tubes	EA					

FORM 01 74 19.02 WASTE MANAGEMENT REPORT

COST/INCOME

Waste Material (edit to suit)	Unit	Receiving Facility	Landfill Cost in \$			Reused in \$		Recycled in \$	
			Handling	Transport	Fee	Cost	Income	Cost	Income
Land Clearing Debris	CY								
Soil	CY								
Wood	CY								
Sheet Wood	CY								
Concrete	CY								
Bricks	CY								
Concrete Masonry Units	CY								
Asphalt Concrete	CY								
Paper	CY								
Cement Fiber Products	CY								
Metal (ferrous)	TON								
Metal (non-ferrous)	LBS								
Paint	CF								
Rigid Foam	CF								
Glass	CF								
Plastics	CF								
Carper and Pad	SY								
Beverage Containers	LBS								
Insulation	CF								
Gypsum Board	CF								
Porcelain Plumbing Fixtures	EA								
Fluorescent Light Tubes	EA								
TOTAL:									

SECTION 01 74 20

RECYCLED CONTENT CERTIFICATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the recycled content certification.

1.2 REFERENCES

- A. State Agency Buy Recycled Campaign: <https://www.calrecycle.ca.gov/buyrecycled/stateagency>.
 - 1. Access this website for information on the Buy Recycled Campaign.

1.3 DEFINITIONS

- A. Product Categories: Recycled content categories identified for purchasing and reporting of products.
 - 1. Paper products.
 - 2. Printing and writing papers.
 - 3. Soil amendments and toppings.
 - 4. Erosion control products.
 - 5. Glass products.
 - 6. Lubricating oils.
 - 7. Plastic products.
 - 8. Paint.
 - 9. Tires.
 - 10. Tire-derived products.
 - 11. Antifreeze.
 - 12. Metals.
 - 13. Carpet.
 - 14. Pavement surfacing.
 - 15. Building finishes.
 - 16. Textiles.
- B. Recycled Content Product (RCP): All materials, goods, and supplies that are from one of the sixteen (16) Product Categories that meet the requirements identified in Public Contract Code, Section 12209, including any good or material that has been reused or refurbished without substantial alteration of its original form. For reused or refurbished products, there is no minimum content requirement.
- C. Non-Recycled Content Product (non-RCP): All materials, goods, and supplies that are from one of the sixteen (16) Product Categories having no recycled content or less than the minimum content or not meeting recyclability requirements, as identified in Public Contract Code, Section 12209.

RECYCLED CONTENT CERTIFICATION

1.4 REQUIREMENTS

A. Recycled content reporting for the Project.

1. Document and report the percentage of recycled content in materials, products, equipment and furnishings installed and provided for this Project.
2. State Agency Buy Recycled Campaign (SABRC) is a joint effort between the Department of General Services and the California's Department of Resources Recycling and Recovery (CalRecycle) to implement State law. Public Contract Code, Sections 12200-12320, requires State agencies to purchase recycled content products instead of non-recycled content products in sixteen (16) product categories whenever price, quality, and availability are comparable, to ensure that a minimum percentage of purchases in those categories have recycled content, and report these purchases annually to CalRecycle. This certification and reporting are utilized to comply with those requirements.
3. State and State's contractor(s) are required to purchase recycled content products in sufficient quantities to ensure that mandated recycled content products procurement goals are attained within sixteen (16) product categories.
4. The sixteen (16) product categories and their respective minimum postconsumer-content requirements are outlined in SABRC Handout on CalRecycle website: <https://www2.calrecycle.ca.gov/Docs/Web/114687>.
5. In order to help state agencies identify all reportable purchases and all reportable recycled content products purchases, Contractor is mandated by the Public Contract Code, Section 12205 to certify in writing to the State the minimum percentage, if not the exact percentage, of postconsumer recycled-content material in the products, materials, goods, and supplies offered or sold to the State regardless of whether the product meets the requirements of Public Contract Code, Section 12209.
6. All products that can be classified as being in one of the sixteen (16) categories must be included in the reporting, whether the product is recycled content products or non-recycled content products. Only products that can be classified in one of the categories shall be reported.

1.5 SUBMITTALS

A. Form 01 74 20.01 "Recycled Content Certification Worksheet": Submit with each product submittal from one of the sixteen (16) Product Categories, containing the following information:

1. Product Description, with applicable specification section of product.
2. Quantity of product.
3. Estimated material dollar value including any taxes and delivery cost.
4. Designate the Product Category for each product listed.
5. Designate whether product is a Recycled Content Product.
6. Estimate of percentage of material content.
7. Attach a copy of the manufacturer's or vendor's data sheet showing recycled content percentages if product is reported as a Recycled Content Product.

B. Form 01 74 20.02 "State Agency Buy Recycled Campaign Procurement Summary": Submit with each product submittal from one of the sixteen (16) Product Categories, containing the following information:

1. Product Category.
2. All reportable purchases, quantity and dollar value including any taxes and delivery cost.
3. Recycled Content Product purchases, quantity and dollar value including any taxes and delivery cost.

RECYCLED CONTENT CERTIFICATION

4. Percent of Recycled Content Product purchases, quantity and dollar value including any taxes and delivery cost.

1.6 CLASSIFICATION OF PRODUCTS

- A. Recycled content products and non-recycled content products that are made from multiple material types should be reported in the product category of the material type representing most of the product.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.1 IMPLEMENTATION

- A. Recycled Content Manager: Designate an individual responsible for instructing suppliers and subcontractors, and overseeing and documenting results of Recycled Content Certification for the Project.
- B. Recycled Content Manager shall document results of submitted Form 01 74 20.01 "Recycled Content Certification Worksheets" on the Form 01 74 20.02 "State Agency Buy Recycled Campaign Procurement Summary", in total for each product category. Only reportable products from one of the sixteen (16) categories should be recorded.
- C. Distribution:
 1. Recycled Content Manager shall insure that Form 01 74 20.01 "Recycled Content Certification Worksheet" is submitted with each product submittal from one of the sixteen (16) Product Categories or at intervals agreed to by the State's Representative for monitoring of the program.
 2. Recycled Content Manager shall provide copies of the Form 01 74 20.02 "State Agency Buy Recycled Campaign Procurement Summary" at intervals agreed to by the State's Representative for monitoring of the program. At the conclusion of the construction and prior to final payment, Recycled Content Manager shall provide a copy of the final Form 01 74 20.02 "State Agency Buy Recycled Campaign Procurement Summary" under provisions of Section 01 77 00 "Closeout Procedures".

3.2 ATTACHMENTS

- A. Form 01 74 20.01: Recycled Content Certification Worksheet (Example).
 1. An example of a completed form is attached for Contractor's reference. An electronic version of this form for Contractor's use will be provided by the State at the Project start meeting.
- B. Form 01 74 20.02: State Agency Buy Recycled Campaign Procurement Summary (Example).
 1. An example of a completed form is attached for Contractor's reference. An electronic version of this form for Contractor's use will be provided by the State at the Project start meeting.

END OF SECTION

FORM 01 74 20.01 RECYCLED CONTENT CERTIFICATION WORKSHEET (EXAMPLE)

This form must be completed by the contractor. The contractor must submit a worksheet with each product submittal to the State agency, with a row completed for each product supplied to the State. Attach additional sheets if necessary. Information must be included, even if the product does not contain recycled content material but it is within one of the 16 categories. Refer to footnotes following this form.

PROJECT NAME: Visitor's Non-Secure Entrance, Statewide Youth Correctional Agency **PROJECT NUMBER:** 00000000001234

CONTRACTOR'S / VENDOR'S NAME: XYZ Contractors **DATE:** December 1, 2024

ADDRESS: 4300 Pleasant Valley Dr, Lincoln Logs, CA 95000 **PROJECT DIRECTOR:** (AS NAMED)

PHONE: (123) 456-7890 **EMAIL:** Super.Intendent@xyzcont.com

Product Description / Specification Section	Quantity	Estimated Dollars	Product Category ¹	RCP Y/N?	Virgin Content (Percent) ²	Postconsumer Material (Percent) ³	Secondary Material (Percent) ⁴	Total Percent ⁵
High Impact Resistant Gypsum Board / 092900	N/A	\$2,500	Paper	Y	50	10	40	100%
Cellulose Building Insulation / 072126	N/A	\$10,000	Paper	Y	20	10	70	100%
Underslab Vapor Barrier / 033000	N/A	\$1,500	Plastic	Y	20	20	60	100%
Electrical Cover Plates / 260533	N/A	\$2,500	Plastic	N	90	0	10	100%
Interior and Exterior Paint / 099100	300gal	\$8,000	Paint	N	100	0	0	100%
Recessed Entrance Mats / 124800	N/A	\$1,800	Tire Derived	Y	40	20	40	100%
Ceramic Tile / 093013	N/A	\$5,000	Glass	Y	35	10	55	100%
Exterior and Interior Windows / 085000	N/A	\$30,000	Glass	N	70	10	20	100%
Metal Studs / 092216	N/A	\$6,000	Metal	Y	65	15	10	100%

Public Contract Code Section 12205 (b) requires all businesses to certify in writing, under penalty of perjury, the minimum percentage, if not the exact percentage, of postconsumer material in the products, materials, goods, or supplies offered or sold to the State.

Public Contract Code Section 12205 (a) requires all State agencies to require all contractors to certify in writing, under penalty of perjury, the minimum percentage, if not the exact percentage, of postconsumer material in the products, materials, goods, or supplies offered or sold to the State.

Printed name of person completing form

Title

Signature of person completing form

RECYCLED CONTENT CERTIFICATION WORKSHEET (EXAMPLE)

RESDMSTR: 3/31/2025

01 74 20.01 - 1

00000000011757

Footnotes

You must submit copies of this form and/or other documentation for each product that is reportable.

1. Product category refers to one of the product categories into which the reportable product purchase falls. For products made from multiple materials, choose the category that comprises most of the product, either by a weight or volume criteria. The product categories and corresponding content requirements are defined as follows:

- | | | |
|---------------------------------|---------------------------|------------------------|
| 1. Paper products | 7. Plastic products | 13. Carpet |
| 2. Printing and writing papers | 8. Paint | 14. Pavement surfacing |
| 3. Soil amendments and toppings | 9. Tires | 15. Building finishes |
| 4. Erosion control products | 10. Tire-derived products | 16. Textiles |
| 5. Glass products | 11. Antifreeze | |
| 6. Lubricating oils | 12. Metal | |

Minimum content and recyclability requirements for the above product categories are identified in Public Contract Code, Section 12209. For reused or refurbished products, there is no minimum content requirement.

2. Virgin material content is that portion of the product made from non-recycled material, that is, the material is neither secondary nor postconsumer material.
3. Postconsumer material is defined as “a finished material which would have been disposed of as a solid waste, having completed its life cycle as a consumer item, and does not include manufacturing wastes.” This is material such as newspaper that you read and was recycled and then made into recycled-content newsprint or some other recycled product. Postconsumer material is generally any product that was bought by the consumer, used, and then recycled into another product.
4. Secondary material is defined as “fragments of finished products or finished products of a manufacturing process, which has converted a resource into a commodity of real economic value, and includes postconsumer material, but does not include excess virgin resources of the manufacturing process.” This is material such as newsprint that is trimmed from a roll in the paper plant that is returned to the beginning of the process to make recycled-content newsprint. The material (product) did not get to the consumer before being recycled.
For example, if a printing and writing paper contained 20 percent postconsumer material, you would indicate 20 percent in the postconsumer column and 80 percent in the virgin column. If the product had 40 percent secondary material and 20 percent postconsumer material, you would indicate 40 percent in the secondary column, 20 percent in the postconsumer column, and 40 percent in the virgin column. To meet the 50/10 content requirement of another product category, the product would contain 50 percent recycled content (40 percent secondary and 10 percent postconsumer material) and 50 percent virgin material.
5. The sum of the virgin column, the postconsumer column, and the secondary column must equal 100 percent.

Note: Products that are made from multiple material types should be reported in the product category of the material type representing most of the product. The amount of material used in the product can be measured by weight or volume. If, for instance, a chair is made from steel, aluminum, and plastic and most of the material, either by weight or volume, is plastic, report it as a plastic product. If, however, most of the product, either by weight or volume, is metal, report the purchase as a metal product.

FORM 01 74 20.02 STATE AGENCY BUY RECYCLED CAMPAIGN PROCUREMENT SUMMARY (EXAMPLE)

Attach copies of the recycled-content certification form(s) and/or other documentation for each product that contains any amount of recycled material. Refer to footnotes following this form.

PROJECT NAME: Visitor's Non-Secure Entrance, Statewide Youth Correctional Agency **PROJECT NUMBER:** 000000000001234

CONTRACTOR'S / VENDOR'S NAME: XYZ Contractors **DATE:** December 1, 2024

ADDRESS: 4300 Pleasant Valley Dr, Lincoln Logs, CA 95000 **PROJECT DIRECTOR:** (AS NAMED)

PHONE: (123) 456-7890 **EMAIL:** Super.Intendent@xyzcont.com

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Product Category ¹	All Reportable Purchases (QUANTITY) ²	All Reportable Purchases (DOLLARS) ³	RCP Purchases (QUANTITY) ⁴	RCP Purchases (DOLLARS) ⁵	Percent of RCP (QUANTITY) ⁶	Percent of RCP (DOLLARS) ⁷
Paper products		\$ 18,000.00		\$ 12,500.00		70%
Printing and writing paper		\$ 0.00		\$0.00		0%
Soil amendments and toppings	0(cu yd)	\$ 0.00	0(cu yd)	\$ 0.00	0%	0%
Erosion control products		\$ 20,000.00		\$ 20,000.00		100%
Glass products		\$ 35,000.00		\$ 5,000		14%
Lubricating oils	0(gal)	\$ 0.00	0(gal)	\$ 0.00	0%	0%
Plastic products		\$ 4,000.00		\$ 1,500.00		38%
Paint	300(gal)	\$ 8,000.00	0(gal)	\$ 0.00	0%	0%
Tires	0	\$ 0.00	0	\$ 0.00	0%	0%
Tire-derived products		\$ 2,000.00		\$ 2,000.00		100%
Antifreeze	0(gal)	\$ 0.00	0(gal)	\$ 0.00	0%	0%
Metal		\$ 11,000.00		\$ 6,000.00		54%
Carpet	12,000 (sq ft)	\$ 78,000.00	4,000 (sq ft)	\$ 42,000.00	33%	54%
Pavement surfacing	150 (ton)	\$50,000	75 (ton)	\$ 20,000.00	50%	40%

STATE AGENCY BUY RECYCLED CAMPAIGN PROCUREMENT SUMMARY (EXAMPLE)

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
Product Category ¹	All Reportable Purchases (QUANTITY) ²	All Reportable Purchases (DOLLARS) ³	RCP Purchases (QUANTITY) ⁴	RCP Purchases (DOLLARS) ⁵	Percent of RCP (QUANTITY) ⁶	Percent of RCP (DOLLARS) ⁷
Building finishes		\$ 25,000.00		\$ 5,000.00		20%
Textiles		\$12,000.00		\$2,000.00		17%
		Total ⁸ : \$ 263,000		Total ⁹ : \$ 116,000		Total ¹⁰ : 44.1%

Footnotes

Attach copies of the recycled-content certification forms and/or other documentation for each product.

Note: All purchases within these product categories, regardless of the source of the product or the type of contract used to purchase them, should be included in your report. Include **all** product purchases — RCPs and non-RCPs.

1. Include **all** purchases (RCPs and non-RCPs) within the 16 product categories. RCPs outside of the 16 product categories **cannot** be counted toward attaining the procurement goals and are not reportable.
2. Indicate the quantity (units) of **all** purchases (RCPs and non-RCPs) in each product category during the course of the project. Quantities do not need to be reported for the product categories with shading.
3. Indicate the total dollars spent on **all** purchases (RCPs and non-RCPs) in each product category purchased during the course of the project.
4. Indicate the total quantity (units) of RCPs purchased during the course of the project. Quantities do not need to be reported for the product categories with shading.
5. Indicate the total dollars spent on RCPs during the course of the project for each category.
6. Indicate the percentage of RCPs purchased. The percent recycled is calculated by dividing the figure in column 4 by the figure in column 2 and multiplying by 100. Percentages do not need to be calculated for the product categories with shading.
7. Indicate the percentage of total dollars spent on RCPs in each category. The percentage recycled is calculated by dividing the figure in column 5 by the figure in column 3 and multiplying by 100.
8. The total of column 3 should be equivalent to the total estimated dollars spent on **all** products (RCPs and non-RCPs) during the course of the project.
9. The total of column 5 should be equivalent to the estimated total dollars spent on reportable RCPs during the course of the project.
10. Column 7 is calculated by dividing the figure in column 5 by the figure in column 3 and multiplying by 100.

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
 - 1. Beneficial Occupancy procedures.
 - 2. Completion procedures.
 - 3. Warranties.
 - 4. Record Drawings.
 - 5. Operation manuals.
 - 6. Maintenance manuals.
 - 7. Operation and maintenance documentation directory manuals.
 - 8. Final cleaning.

1.2 DEFINITIONS

- A. Punch-list (List of Incomplete Items): Contractor-prepared list of items to be completed or corrected, prepared for the State's use prior to State's inspection, to determine if the Work is complete.

1.3 SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's Punch-list: Initial submittal at Beneficial Occupancy.
- C. Certified Punch-list: Final submittal at Completion.
- D. Certificate of Insurance: For continuing coverage.
- E. Guaranties, Warranties and Bonds: Submittal prior to Final Inspection.
- F. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
- G. Record Drawings Reports: Submit written report monthly at the time of Application for Payment submittal indicating items incorporated into Project Record Drawings concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.
- H. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specifications Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

CLOSEOUT PROCEDURES

1. Format: Submit operation and maintenance manuals in the following format:
 - a. Submit by email to State. Enable reviewer comments on draft submittals.
- I. Certification of Disabled Veteran Business Enterprise Participation: Submit Form STD 817 with final Application for Payment.
- J. Certification of Small Business Participation:
 1. Preliminary Report upon Completion of the Work.
 2. Final Report upon receipt of Final Payment.
- K. Waste Management Report: Submittal prior to Final Inspection. Provide as specified in individual Specifications Section.
- L. Recycled-Content Certification Worksheet: Submittal prior to Final Inspection. Provide as specified in individual Specifications Section.
- M. State Agency Buy Recycled Campaign Procurement Summary: Submittal prior to Final Inspection. Provide as specified in individual Specifications Section.
- N. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.4 COMPLETION PROCEDURES

- A. Punch-list: Prepare and submit a list of items to be completed and corrected a minimum of 30 calendar days prior to the end of the Contract Time.
- B. Submittals Prior to Completion: Before requesting final inspection for determining the date of Completion of the Work, complete the following.
 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting State unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in other Division 01 Sections, including Waste Management Report and Recycled-Content Certification Worksheet.
 3. Submit Project Record Drawings, and similar final record information.
 4. Submit each operation and maintenance manual in final form prior to requesting inspection for Completion and at least 30 days before commencing demonstration and training.
 5. Submit closeout submittals specified in individual Sections, including warranties, certifications, training and similar documents.
 6. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by State. Label with manufacturer's name and model number. Obtain State's signature for receipt of submittals.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section..
 7. Submit Final Completion photographic documentation.
- C. Procedures Prior to Completion: Complete the following a minimum of 14 days prior to requesting inspection for determining date of Completion of the Work. List items below that are incomplete at time of request.

CLOSEOUT PROCEDURES

1. Make final changeover of permanent locks and deliver keys to State. Advise State's personnel of changeover in security provisions.
2. Complete startup and testing of systems and equipment.
3. Perform preventive maintenance on equipment used prior to Completion.
4. Instruct State's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 01 79 00 "Demonstration and Training."
5. Advise State of changeover in utility services.
6. Participate with State in conducting inspection and walkthrough with authorities having jurisdiction.
7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
8. Complete final cleaning requirements.
9. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Final Inspection: Submit a written request for final inspection to determine Completion a minimum of 14 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, State will either proceed with inspection or notify Contractor of unfulfilled requirements. After inspection, State will notify Contractor of items, either on Contractor's list or additional items identified by State, that must be completed or corrected before Acceptance of the Work.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

E. Submittals After Final Inspection:

1. Submit a final Application for Payment in accordance with Section 01 29 00 "Payment Procedures."
2. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
3. Certified Punch-list: Submit certified copy of punch list, endorsed and dated by Architect or Engineer. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

F. Completion of the Work date and Acceptance of the Work will be determined as specified in Document 00 72 00 "General Conditions of the Contract for Construction", Article 8.6.

1.5 PUNCH-LIST ITEMS

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor, listed by room or space number.
2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
3. Include the following information on each page:
 - a. Project name and number.
 - b. Date.
 - c. Page number.

CLOSEOUT PROCEDURES

4. Submit list of incomplete items in the following format:
 - a. PDF Electronic File: State will return annotated file.

1.6 CONTRACTOR'S CERTIFICATION OF DISABLED VETERAN BUSINESS ENTERPRISE (DVBE) PARTICIPATION

- A. Submit, upon Completion of the Work, together with a final Application for Payment, complete and accurate Form STD 817 "Prime Contractor's Certification – DVBE Subcontractor Report". The State shall review the Form STD 817, and if it is determined to be complete and accurate, the payment will be authorized.
- B. If the Form STD 817 is late or determined to be incomplete or inaccurate, the State shall withhold ten thousand dollars (\$10,000) from the final payment, or the full final payment if less than ten thousand dollars (\$10,000), and provide the Contractor with a notice allowing at least 15 days, but not more than 30 days to cure the defect.
 1. If the Contractor does not comply by the deadline identified in the Cure Notice, the State shall permanently deduct the ten thousand dollars (\$10,000) from the final payment, or the full final payment if less than ten thousand dollars (\$10,000).

1.7 CONTRACTOR'S CERTIFICATION OF SMALL BUSINESS (SB) PARTICIPATION

- A. If final payment has been made to Small Business, upon Completion of the Work, submit the two-page certification, Forms 01 77 00.01 and 01 77 00.02 "Contractor's Certification of Small Business Participation".
- B. If retention has been withheld, and final payment to Small Business subcontractors will not be made until the Contractor has received final payment from the State, Contractor shall:
 1. Upon completion of the Work submit the two-page certification, Forms 01 77 00.01 and 01 77 00.02 "Contractor's Certification of Small Business Participation"; and mark the box entitled "PRELIMINARY REPORT" on Form 01 77 00.02.
 2. Within 30 days of receipt of final payment submit an updated two-page certification, Forms 01 77 00.01 and 01 77.00.02 "Contractor's Certification of Small Business Participation" and mark the box entitled "FINAL REPORT" on Form 01 77 00.02. The FINAL REPORT shall be mailed to: DGS, Real Estate Services Division, Project Management & Development Branch, 707 Third Street 4th Floor, West Sacramento, CA 95605; or sent as a scanned Adobe PDF or similar e-mail attachment to State's Representative.
- C. When completing the Certification, include all Small Businesses even if the firms were not listed at bid time when completing percentage calculations. Provide comments if Small Business utilization was different than that approved in original Agreement. The second page of the Certification may be copied as needed to list all firms.

1.8 SUBMITTAL OF PROJECT WARRANTIES

- A. Standard Guarantee: Refer to Document 00 72 00 "General Conditions of the Contract for Construction", Article 3.5. Submittal is not required for a standard one year guarantee for Work on this project.
- B. Additional Guaranties/Warranties: Provide additional guaranties/warranties, in excess of one year, where specifically required by individual Specifications Sections. Additional

CLOSEOUT PROCEDURES

guaranties/warranties will commence on the date of Completion of the Work as established by the State's Representative.

- C. Time of Submittal: Submit written warranties on request of State for designated portions of the Work where warranties are indicated to commence on dates other than date of Completion, or when delay in submittal of warranties might limit State's rights under warranty.
 - 1. For equipment put into use with State's permission during construction, submit warranties within 10 days after first operation.
- D. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- E. Provide duplicate, notarized copies of warranties. Execute Contractor's submittals and assemble documents executed by subcontractors, suppliers, and manufacturers.
- F. Warranties:
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name and number, and name of Contractor.
- G. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- H. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.9 RECORD DRAWINGS

- A. General: Use one set of State furnished paper copies of the Contract Drawings as record prints.
- B. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Information entered on record prints shall be neat, legible, and emphasized by drawing "revision clouds" around changed items.
 - d. Symbols and designations used in preparing record prints shall match those used in Contract Drawings.
 - e. Record data as soon as possible after obtaining it.

CLOSEOUT PROCEDURES

- f. Record and check the markup before enclosing concealed installations.
 - g. Cross-reference record prints to corresponding photographic documentation.
- 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Special measurements.
 - k. Changes made by Change Order.
 - l. Changes made following Additional Detailed Instructions.
 - m. Details not on the original Contract Drawings.
 - n. Field records for variable and concealed conditions.
 - o. Record information on the Work that is shown only schematically.
 - p. Miscellaneous records required by other Specification Sections.
- 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
- 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
- 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
- 6. Note Change Order, Request for Information and Additional Detailed Instructions numbers, and similar identification, where applicable.

1.10 MAINTENANCE OF RECORD DRAWINGS

- A. Maintenance of Record Drawings: Store Record Drawings in the field office apart from the Contract Documents used for construction. Do not use Project Record Drawings for construction purposes. Maintain Record Drawings in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Drawings for State reference during normal working hours.
- B. Monthly Applications for Payments will not be processed without review and approval of Project Record Drawings by the State.
- C. Final Inspection will not be scheduled until Project Record Drawings are submitted to the State.

1.11 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual 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.

CLOSEOUT PROCEDURES

2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual 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.
3. All material shall be neatly typewritten; handwritten instructions are not acceptable.
4. Extraneous Data: Where contents of manuals include manufacturers' catalog pages, clearly indicate precise items included in this installation and delete, or otherwise clearly indicate, manufacturer's data with which this installation is not concerned.

1.12 REQUIREMENTS FOR OPERATION AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 1. Title page.
 2. Table of contents.
 3. Manual contents.
- B. Title Page: Include the following information:
 1. Subject matter included in manual.
 2. Name and address of Project.
 3. Date of submittal.
 4. Name and contact information for Contractor.
 5. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system.
 1. Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by State's operating personnel for types of emergencies indicated.
 - a. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 - 1) Fire.
 - 2) Flood.
 - 3) Gas leak.
 - 4) Water leak.
 - 5) Power failure.
 - 6) Water outage.
 - 7) System, subsystem, or equipment failure.
 - 8) Chemical release or spill.

- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents.

1.13 OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by State's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 - 2. Performance and design criteria if Contractor has delegated design responsibility.
 - 3. Operating standards.
 - 4. Operating procedures.
 - 5. Operating logs.
 - 6. Wiring diagrams.
 - 7. Control diagrams.
 - 8. Piped system diagrams.
 - 9. Precautions against improper use.
 - 10. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:
 - 1. Product name and model number. Use designations for products indicated on Contract Documents.
 - 2. Manufacturer's name.
 - 3. Equipment identification with serial number of each component.
 - 4. Equipment function.
 - 5. Operating characteristics.
 - 6. Limiting conditions.
 - 7. Performance curves.
 - 8. Engineering data and tests.
 - 9. Complete nomenclature and number of replacement parts.
- D. Operating Procedures: Include the following, as applicable:
 - 1. Startup procedures.
 - 2. Equipment or system break-in procedures.
 - 3. Routine and normal operating instructions.
 - 4. Regulation and control procedures.
 - 5. Instructions on stopping.
 - 6. Normal shutdown instructions.
 - 7. Seasonal and weekend operating instructions.
 - 8. Required sequences for electric or electronic systems.

9. Special operating instructions and procedures.

- E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- F. Piped Systems: Diagram piping as installed and identify color coding where required for identification.

1.14 MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by State's operating personnel.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.
- D. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- E. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins; 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.
 - a. 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.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- F. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

CLOSEOUT PROCEDURES

1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Types of cleaning agents to be used and methods of cleaning.
 7. List of cleaning agents and methods of cleaning detrimental to product.
 8. Schedule for routine cleaning and maintenance.
 9. Demonstration and training video recording, if available.
- G. 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.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- H. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- I. Warranties: Include copies of warranties and lists of circumstances and conditions that would affect validity of warranties.
1. Include procedures to follow and required notifications for warranty claims.
- J. 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 maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
1. Use cleaning products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

CLOSEOUT PROCEDURES

- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove spills, stains, and other foreign deposits.
 - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
 - h. Vacuum and mop hard surfaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - o. Clean ducts, blowers, and coils as required by Sustainable Design Requirements.
 - p. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
 - q. Clean strainers.
 - r. Remove snow and ice to provide safe access to building.
- C. Deficient cleaning operations, as determined by the State, shall be immediately corrected as directed.
- D. Pest Control: Comply with pest control requirements in Section 01 50 00 "Temporary Facilities and Controls." Prepare written report.
- E. Construction Waste Disposal: Comply with waste-disposal requirements.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations required by Section 01 73 00 "Execution" before requesting inspection for determination of Completion.

3.3 ATTACHMENTS

- A. Certification of Disabled Veteran Business Enterprise Participation: Form STD 817 "Prime Contractor's Certification – DVBE Subcontractor Report"
- B. Certification of Small Business Participation: 2 pages.
 - 1. Form 01 77 00.01: Contractor's Certification of SB Participation (the first page).
 - 2. Form 01 77 00.02: Contractor's Certification of SB Participation (the second page).

END OF SECTION

STATE DEPARTMENT AND CONTRACT INFORMATION									
State Department Information		Contract Information		Prime Contractor Information:		FOR STATE USE ONLY			
State Department Name:		Contract #:		Name:		Date Received:			
State Department Address:		Fiscal Supplier ID#:		Address:					
Contract Manager Name:		Contract Execution Date:		Phone #:					
Contract Manager Phone #:		Date Work Completed:		Email:					
Contract Manager Email Address:		Contract Award Amount:		Date Last Payment Received:					
				Contract Received Amount:					
SECTION 3									
List all Disabled Veteran Business Enterprise firms involved with this contract.									
(A) DVBE Subcontractor(s) Name	(B) DVBE Subcontractor(s) Address	(C) DVBE Certification ID Number	(D) Total Contract Commitment Percentage to DVBE	(E) Total Contract Commitment Amount to DVBE	(F) Total Payment Amount to DVBE	(G) Difference in Amount Paid to DVBE (F - E)	(H) Percentage Paid to DVBE (F/Contract Received Amount)		
Number of DVBE Subcontractors			Grand Total	\$	0.00	\$	0.00	\$	0.00%
1.			0.00%			0.00	0.00	0.00%	
2.			0.00%			0.00	0.00	0.00%	
3.			0.00%			0.00	0.00	0.00%	
4.			0.00%			0.00	0.00	0.00%	
5.			0.00%			0.00	0.00	0.00%	
6.			0.00%			0.00	0.00	0.00%	
7.			0.00%			0.00	0.00	0.00%	
8.			0.00%			0.00	0.00	0.00%	
9.			0.00%			0.00	0.00	0.00%	
10.			0.00%			0.00	0.00	0.00%	
11.			0.00%			0.00	0.00	0.00%	
12.			0.00%			0.00	0.00	0.00%	
13.			0.00%			0.00	0.00	0.00%	
(I) Comments/Explanations									
Use next page for additional lines									
I certify under penalty of perjury under the laws of the State of California that all information submitted is true and correct.									
Prime Contractor		Print Name:		Title:		Signature:		Date:	
Return upon completion of contract.									
Americans with Disabilities (ADA) Notice: Persons with disabilities requiring reasonable modifications should contact the OSDS Report Coordinator at OSDSReports@dgs.ca.gov									

STATE DEPARTMENT AND CONTRACT INFORMATION									
State Department Information		Contract Information		Prime Contractor Information		FOR STATE USE ONLY			
State Department Name:		Contract #:		Name:		Date Received:			
State Department Address:		FISCAL Supplier ID#:		Address :					
Contract Manager Name:		Contract Execution Date:		Phone #:					
Contract Manager Phone #:		Date Work Completed:		Email:					
Contract Manager Email Address:		Contract Award Amount:		Date Last Payment Received:					
				Contract Received Amount:					
List all Disabled Veteran Business Enterprise firms involved with this contract.									
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)		
DVBE Subcontractor(s) Name	DVBE Subcontractor(s) Address	DVBE Certification ID Number	Total Contract Commitment Percentage to DVBE	Total Contract Commitment Amount to DVBE	Total Payment Amount to DVBE	Difference in Amount Paid to DVBE (F - E)	Percentage Paid to DVBE (F/Contract Received Amount)		
Number of DVBE Subcontractors		Total		\$	\$				
14.			0.00%		0.00	0.00	0.00%		
15.			0.00%			0.00	0.00%		
16.			0.00%			0.00	0.00%		
17.			0.00%			0.00	0.00%		
18.			0.00%			0.00	0.00%		
19.			0.00%			0.00	0.00%		
20.			0.00%			0.00	0.00%		
21.			0.00%			0.00	0.00%		
22.			0.00%			0.00	0.00%		
23.			0.00%			0.00	0.00%		
24.			0.00%			0.00	0.00%		
25.			0.00%			0.00	0.00%		
26.			0.00%			0.00	0.00%		
27.			0.00%			0.00	0.00%		
28.			0.00%			0.00	0.00%		
29.			0.00%			0.00	0.00%		
30.			0.00%			0.00	0.00%		
31.			0.00%			0.00	0.00%		
32.			0.00%			0.00	0.00%		
33.			0.00%			0.00	0.00%		
34.			0.00%			0.00	0.00%		
35.			0.00%			0.00	0.00%		
36.			0.00%			0.00	0.00%		
Attach copies of this page for additional lines									
I certify under penalty of perjury under the laws of the State of California that all information submitted is true and correct.									
Americans with Disabilities (ADA) Notice: Persons with disabilities requiring reasonable modifications should contact the OSDS Report Coordinator at OSDSReports@dgs.ca.gov									

Form Completion Instructions

GENERAL INFORMATION: Military and Veteran Code (MVC) 999.5(d), 999.7 and Government Code (GC) 14841, and California Code of Regulations (CCR) 1896.78(e) requires all Prime Contractors that committed to have a Disabled Veteran Business Enterprise (DVBE) perform an element of work for a contract to report DVBE subcontractor participation information and certify to the state that all DVBE subcontracting payments were made. Departments are required to withhold \$10,000 from the final payment, or the full payment if less than \$10,000, on contracts until the Prime Contractor complies with the certification requirements by submitting this form.

If prime contractors do not comply with the requirements after given notice to cure by the state departments, the withheld amount will be permanently deducted.

All contracted work must be completed before submission of invoice(s) and this certification form.

Prime Contractors are required to maintain records supporting the information submitted on this form and that all payments to DVBE subcontractor(s) were made. Upon request, proof of payment must be provided (MVC 999.5(d)).

INCLUDE

- ONLY ONE contract per Report
- All DVBEs that performed an element of work for this contract regardless of tier

State Department Information:

State Department Name: Enter the State Department name

State Department Address: Enter the State Department address

Contract Manager Name: Enter the Contract Manager name

Contract Manager Phone Number: Enter the Contract Manager phone #

Contract Manager Email Address: Enter the Contract Manager email address

Contract Information

Contract Number: Enter the Contract Number

Contractor's FISCAL Supplier ID Number: Enter your FISCAL supplier ID number

Contract Execution Date: Enter the date contract was signed

Date Work Completed: Enter the date the work was completed on the contract

Contract Award Amount: Enter the total dollar amount awarded for this contract including all financial amendments

Form Completion Instructions

Prime Contractor Information:

TABLE INSTRUCTIONS

Prime Contractor Name: Enter your name as shown on the contract

Prime Contractor Address: Enter your address

Phone Number: Enter your number (with area code)

Email Address: Enter your email address

Date Last Payment Received: Enter the date the last payment for work performed was received

Contract Received Amount: Enter the dollar amount of the last payment received

For State Use Only

Date STD 817 Received: Enter date the Contract Manager received the STD 817 from the Prime Contractor

A) DVBE Subcontractor(s) Name: Enter the name of all DVBEs that are listed to perform an element of work or supplies for this contract and any formal approved substitution(s). (Use additional lines if the name does not fit on a single line) Use page two for additional lines.

B) DVBE Subcontractor(s) Address: Enter the address of each DVBE (Use page 2 for additional lines if address does not fit on a single line)

C) DVBE Certification ID Number: Enter each DVBE's certification number

D) Total Contract Commitment Percentage to DVBE: Enter the total percentage of contracted dollars to each DVBE at the time of award

E) Total Contract Commitment Amount to DVBE: Enter the entire amount contracted to each DVBE at the time of award

F) Total Payment Amount to DVBE: Enter the total amount paid to all DVBEs that performed an element of work or were suppliers for this contract

Form Completion Instructions

Note: Complete and accurate certifications are due upon completion of contract.

G) **Difference in Amount Paid to DVBE:** The form will compute the difference of DVBE dollars contracted compared to dollars paid

H) **Percentage Paid to DVBE:** The form will compute the percentage paid to DVBEs using the Contract Received Amount entered under State and Contract Information

Instructions I

I) **Comments/Explanations:** Enter any relevant comments and explanations for any differences between the DVBE amounts or percentages committed and paid. Reference the line number if comments and explanations are used.

SIGNATURE BLOCK

Prime Contractor's Signature: Enter your printed name, title, sign with an electronic signature or a wet signature, and date

CONTRACTOR'S CERTIFICATION OF SMALL BUSINESS PARTICIPATION

TO: Real Estate Services Division (Construction Services Area Office Address)	Date:
	Project Number:
	Contract Number:

FROM:

PROJECT
TITLE:

THIS IS TO CERTIFY THAT I,

(Print Name)

AS AN AUTHORIZED OFFICIAL OF

(Firm or Corporation)

WORKING IN THE CAPACITY OF

(Title)

HAVE BEEN PROPERLY AUTHORIZED BY SAID FIRM OR CORPORATION TO SIGN THE
FOLLOWING STATEMENT PERTAINING TO SUBJECT CONTRACT.

Pursuant to Government Code, Section 14841,

I, the undersigned, hereby certify that to the best of my knowledge, the Small Business participation
information listed on the attached report for the above contract is complete and correct.

SIGNED:

DATE:

FORM 01 77 00.02 CONTRACTOR'S CERTIFICATION OF SMALL BUSINESS PARTICIPATION

State of California · Department of General Services

☐ **PRELIMINARY REPORT**

CONTRACTOR'S CERTIFICATION OF SMALL BUSINESS (SB) PARTICIPATION

☐ **FINAL REPORT**

CONTRACT NUMBER		PROJECT NUMBER		CONTRACT COMPLETION DATE		CONTRACT ACCEPTANCE DATE	
PRIME CONTRACTOR			ORIGINAL CONTRACT AMOUNT			FINAL CONTRACT AMOUNT	
DESCRIPTION OF WORK PERFORMED AND MATERIALS PROVIDED	SB BUSINESS NAME AND ADDRESS	SB CERT. NO.	SB CONTRACT PAYMENTS				
			PAYMENT AMOUNT	DATE WORK COMPLETED	DATE OF FINAL PAYMENT	COMMENTS	
TOTAL \$							

ORIGINAL SMALL BUSINESS COMMITMENT: _____%

ACTUAL SMALL BUSINESS ACHIEVED: _____%

Page ____ of ____

SECTION 01 79 00

DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for instructing State's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, products and equipment.
 - 2. Demonstration and training video recordings.

1.2 SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Submit a minimum of 6 weeks prior to requesting inspection for determining date of Completion of the Work.
 - 2. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Attendance Record: For each training module, within seven days of end training, submit list of participants and length of instruction time.
- C. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:
 - a. Name of Project.
 - b. Name of Contractor.
 - c. Date of video recording.
 - 2. At completion of training, submit complete training manual(s) for State's use prepared in same PDF file format required for operation and maintenance manuals.

1.3 QUALITY ASSURANCE

- A. When so specified in individual Sections, provide demonstration and instruction to State personnel, performed by a representative approved by the equipment or system manufacturer.

1.4 COORDINATION

- A. Coordinate instruction schedule with State's operations. Adjust schedule as required to minimize disrupting State's operations and to ensure availability of State's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and accepted by State.

1.5 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:

- 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:

- a. System, subsystem, and equipment descriptions.
- b. Performance and design criteria if Contractor is delegated design responsibility.
- c. Operating standards.
- d. Regulatory requirements.
- e. Equipment function.
- f. Operating characteristics.
- g. Limiting conditions.
- h. Performance curves.

- 2. Documentation: Review the following items in detail:

- a. Emergency manuals.
- b. Systems and equipment operation manuals.
- c. Systems and equipment maintenance manuals.
- d. Product maintenance manuals.
- e. Project Record Documents.
- f. Identification systems.
- g. Warranties and bonds.
- h. Maintenance service agreements and similar continuing commitments.

- 3. Emergencies: Include the following, as applicable:

- a. Instructions on meaning of warnings, trouble indications, and error messages.
- b. Instructions on stopping.
- c. Shutdown instructions for each type of emergency.
- d. Operating instructions for conditions outside of normal operating limits.
- e. Sequences for electric or electronic systems.
- f. Special operating instructions and procedures.

4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

1.6 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 01 77 00 "Closeout Procedures."
- B. Set up instructional equipment at instruction location.

1.7 INSTRUCTION

- A. Engage qualified instructors to instruct State's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. State will furnish Contractor with names and positions of participants.
- B. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction for all seasons of operations.
 - 1. Schedule training with State with at least 14 days' advance notice.
 - 2. All demonstration and training shall be completed prior to requesting final inspection.
- C. Time Allocated for Instructions: Amount of time required for instruction on each item of equipment and system shall be as specified in individual Sections, and not less than one hour.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
 - 1. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instructions.
- E. Cleanup: Collect used and leftover educational materials and give them to State. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

1.8 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. Provide digital recording with audio of demonstrations and instructions in digital video MPEG format. Recording shall clearly show equipment or systems as they are being described. Audio portion of recording shall include entire session narrative, including questions and answers.
- B. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full HD mode.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
 - 1. Film training session(s) in segments not to exceed 15 minutes.
 - a. Produce segments to present a single significant piece of equipment per segment.
 - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
 - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- D. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
 - 1. Furnish additional portable lighting as required.

- E. Preproduced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 91 13

GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. General requirements for coordinating and scheduling commissioning activities.
2. Commissioning meetings.
3. Commissioning reports.
4. Use of commissioning process test equipment, instrumentation, and tools.
5. Construction checklists, including, but not limited to, installation checks, startup, performance tests, and performance test demonstration.
6. Commissioning tests and commissioning test demonstration.
7. Adjusting, verifying, and documenting identified systems and assemblies.

1.2 DEFINITIONS

- A. Acceptance Criteria: Threshold of acceptable work quality or performance specified for a commissioning activity, including, but not limited to, construction checklists, performance tests, performance test demonstrations, commissioning tests, and commissioning test demonstrations.
- B. Commissioning Authority: An entity engaged by State to evaluate Commissioning-Process Work.
- C. Commissioning Plan: A document, prepared by Commissioning Authority, that outlines the organization, schedule, allocation of resources, and documentation of commissioning requirements.
- D. Commissioning: A quality-focused process for verifying and documenting that the facility and all of its systems and assemblies are planned, designed, installed, and tested to comply with State's Project Requirements.
- E. Construction-Phase Commissioning-Process Completion: The stage of completion and acceptance of commissioning process when resolution of deficient conditions and issues discovered during commissioning process and retesting until acceptable results are obtained has been accomplished. State will establish in writing the date construction-phase commissioning-process completion is achieved.
 1. Commissioning process is complete when the Work specified of this Section and related Sections has been completed and accepted, including, but not limited to, the following:
 - a. Completion of tests and acceptance of test results.
 - b. Resolution of issues, as verified by retests performed and documented with acceptance of retest results.
 - c. Comply with requirements in Section 01 79 00 "Demonstration and Training."
 - d. Completion and acceptance of submittals and reports.

GENERAL COMMISSIONING REQUIREMENTS

- F. State's Witness: Commissioning Authority, State's Project Manager, or Architect- or Engineer-designated witness authorized to authenticate test demonstration data and to sign completed test data forms.
- G. "Systems," "Assemblies," "Subsystems," "Equipment," and "Components": Where these terms are used together or separately, they shall mean "as-built" systems, assemblies, subsystems, equipment, and components.
- H. Test: Performance tests, performance test demonstrations, commissioning tests, and commissioning test demonstrations.
- I. Sampling Procedures and Tables for Inspection by Attributes: As defined in ASQ Z1.4.

1.3 COMPENSATION

- A. If State, and/or State's Representatives perform additional services or incur additional expenses due to actions of Contractor listed below, State will deduct charges for such additional services and expenses from the Contract Sum.
 - 1. Failure to meet acceptance criteria for test.
- B. For a deficiency identified, not related to any pre-functional checklist or start-up fault, the following shall apply:
 - 1. For the first retesting of the equipment the State will not deduct charges from the Contractor for the actual cost the State has incurred in retesting. Additional retesting cost beyond the first retest shall be charged to the Contractor and deducted from the Contract Sum.
 - 2. Retesting required because a specific pre-functional checklist or start-up test item, reported to have been successfully completed, but determined during functional performance testing to be faulty, shall be charged to the Contractor and deducted from the Contract Sum.

1.4 COMMISSIONING TEAM

- A. Members Appointed by Contractor(s):
 - 1. Commissioning Coordinator: A person or entity employed by Contractor to manage, schedule, and coordinate commissioning process.
 - 2. Appointed team members shall have the authority to act on behalf of the entity they represent.
- B. Members Appointed by State:
 - 1. Commissioning Authority, plus consultants that Commissioning Authority may deem appropriate for a particular portion of the commissioning process.
 - 2. State's representative(s) that the State may deem appropriate for a particular portion of the commissioning process.

1.5 SUBMITTALS

- A. Comply with requirements in Section 01 33 00 "Submittal Procedures" for submittal procedure general requirements for commissioning process.

B. Commissioning Plan Information:

1. List of Contractor-appointed commissioning team members to include specific personnel and subcontractors performing and participating in the various commissioning requirements.
2. List of instrumentation required for each test to include identification of parties that will provide instrumentation for each test.

C. Commissioning schedule:

1. Schedule of commissioning activities integrated with the Construction Schedule. Comply with requirements in Section 01 32 00 "Construction Progress Documentation" for the Construction Schedule general requirements for commissioning process.
2. Two-week look-ahead schedules.

D. List test instrumentation, equipment, and monitoring devices.

E. Test Reports:

1. Pre-Startup Report: Prior to startup of equipment or a system, submit signed, completed construction checklists.
2. Test Data Reports: At the end of each day in which tests are conducted, submit test data for tests performed.
3. Commissioning Issue Reports: Daily, at the end of each day in which tests are conducted, submit commissioning issue reports for tests for which acceptable results were not achieved.
4. Weekly Progress Report: Weekly, at the end of each week in which tests are conducted, submit a progress report.
5. Data Trend Logs: Submit data trend logs at the end of the trend log period.
6. System Alarm Logs: Daily, at the start of days following a day in which tests were performed, submit printout of log of alarms that occurred since the last log was printed.

F. Construction Checklists:

1. Material checks.
2. Installation checks.
3. Startup procedures, where required.

G. Commissioning Report:

1. At Construction-Phase Commissioning Completion, include the following:
 - a. Pre-startup reports.
 - b. Approved test procedures.
 - c. Test data forms, completed and signed.
 - d. Progress reports.
 - e. Commissioning issue report log.
 - f. Commissioning issue reports showing resolution of issues.
 - g. Correspondence or other documents related to resolution of issues.
 - h. Other reports required by commissioning process.
 - i. List unresolved issues and reasons they remain unresolved and should be exempted from the requirements for Construction-Phase Commissioning Completion.
 - j. Report shall include commissioning work of Contractor.

H. Request for Certificate of Construction-Phase Commissioning Process Completion.

GENERAL COMMISSIONING REQUIREMENTS

- I. Operation and Maintenance Data: For proprietary test equipment, instrumentation, and tools to include in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Commissioning Coordinator Qualifications:
 - 1. Documented experience commissioning systems of similar complexity to those contained in these documents on at least three projects of similar scope and complexity.
 - 2. Certification of commissioning-process expertise.
- B. Commissioning process shall meet the requirements of LEED EA Prerequisite: Fundamental Commissioning and Verification.

PART 2 - PRODUCTS

2.1 TEST EQUIPMENT, INSTRUMENTATION, AND TOOLS

- A. Test equipment and instrumentation required to perform the commissioning process shall remain the property of Contractor unless otherwise indicated.
- B. Test equipment and instrumentation required to perform commissioning process shall comply with the following criteria:
 - 1. Be manufactured for the purpose of testing and measuring tests for which they are being used and have an accuracy to test and measure system performance within the tolerances required to determine acceptable performance.
 - 2. Calibrated and certified.
 - 3. Maintain test equipment and instrumentation.
 - 4. Use test equipment and instrumentation only for testing or monitoring Work for which they are designed.

2.2 PROPRIETARY TEST EQUIPMENT, INSTRUMENTATION, AND TOOLS

- A. Proprietary test equipment, instrumentation, and tools are those manufactured or prescribed by tested equipment manufacturer and required for work on its equipment as a condition of equipment warranty, or as otherwise required to service, repair, adjust, calibrate, or perform work on its equipment.
 - 1. Identify proprietary test equipment, instrumentation, and tools required in the test equipment identification list submittal.
 - 2. Proprietary test equipment, instrumentation, and tools shall become the property of State at Completion.

2.3 REPORT FORMAT AND ORGANIZATION

- A. General Format and Organization:
 - 1. Record report on USB thumb drive.

2. Electronic Data: Portable document format (PDF); a single file with outline-organized bookmarks for major and minor tabs and tab contents itemized for specific reports.

B. Commissioning Report:

1. Include a table of contents and an index to each test.
2. Include major tabs for each Specification Section.
3. Include minor tabs for each test.
4. Within each minor tab, include the following:
 - a. Test specification.
 - b. Pre-startup reports.
 - c. Approved test procedures.
 - d. Test data forms, completed and signed.
 - e. Commissioning issue reports, showing resolution of issues, and documentation related to resolution of issues pertaining to a single test. Group data forms, commissioning issue reports showing resolution of issues, and documentation related to resolution of issues for each test repetition together within the minor tab, in reverse chronological order (most recent on top).

PART 3 - EXECUTION

3.1 PREPARATION

- A. Review preliminary construction checklists and preliminary test procedures and data forms.

3.2 CONSTRUCTION CHECKLISTS

- A. Construction checklists cannot modify or conflict with the Contract Documents.
- B. Create construction checklists based on actual systems and equipment to be included in Project.
- C. Material Checks: Compare specified characteristics and approved submittals with materials as received. Include factory tests and other evaluations, adjustments, and tests performed prior to shipment if applicable.
 1. Service connection requirements, including configuration, size, location, and other pertinent characteristics.
 2. Included optional features.
 3. Delivery Receipt Check: Inspect and record physical condition of materials and equipment on delivery to Project site, including agreement with approved submittals, cleanliness, and lack of damage.
 4. Installation Checks:
 - a. Location according to Drawings and approved Shop Drawings.
 - b. Configuration.
 - c. Compliance with manufacturers' written installation instructions.
 - d. Attachment to structure.
 - e. Access clearance to allow for maintenance, service, repair, removal, and replacement without the need to disassemble or remove other equipment or building elements. Access coordinated with other building elements and equipment, including, but not

- limited to, ceiling and wall access panels, in a manner consistent with OSHA fall-protection regulations and safe work practices.
 - f. Utility connections are of the correct characteristics, as applicable.
 - g. Correct labeling and identification.
 - h. Startup Checks: Verify readiness of equipment to be energized. Include manufacturer's standard startup procedures and forms.
- D. Startup: Perform and document initial operation of equipment to prove that it is installed properly and operates as intended according to manufacturer's standard startup procedures, at minimum.
- E. Performance Tests:
 - 1. Static Tests: As specified elsewhere, including, but not limited to, duct and pipe leakage tests, insulation-resistance tests, and water-penetration tests.
 - 2. Component Performance Tests: Tests evaluate the performance of an input or output of components under a full range of operating conditions.
 - 3. Equipment and Assembly Performance Tests: Test and evaluate performance of equipment and assemblies under a full range of operating conditions and loads.
 - 4. System Performance Tests: Test and evaluate performance of systems under a full range of operating conditions and loads.
 - 5. Intersystem Performance Tests: Test and evaluate the interface of different systems under a full range of operating conditions and loads.

3.3 GENERAL EXECUTION REQUIREMENTS

- A. Schedule and coordinate commissioning process with the Construction Schedule.
- B. Perform activities identified in construction checklists, including tests, and document results of actions as construction proceeds.
- C. Perform test demonstrations for State's witness. Unless otherwise indicated, demonstrate tests for 100 percent of work to which the test applies. In some instances, demonstration of a random sample of other than 100 percent of the results of a test is specified.
 - 1. On determination of the sample size, the samples shall be selected randomly by State's witness at the time of the test demonstration.
 - 2. Include in the Commissioning Plan a detailed list of the test demonstrations with lot and sample quantities for each test.
- D. Report test data and commissioning issue resolutions.
- E. Schedule personnel to participate in and perform Commissioning-Process Work.
- F. Installing contractors' commissioning responsibilities include, but are not limited to, the following:
 - 1. Operating the equipment and systems they install during tests.
 - 2. In addition, installing contractors may be required to assist in tests of equipment and systems with which their work interfaces.
 - 3. Furnish and apply oils, greases, refrigerants, fuels and other lubricants and materials required to place equipment in condition ready for operation

3.4 COMMISSIONING COORDINATOR RESPONSIBILITIES

- A. Management and Coordination: Manage, schedule, and coordinate commissioning process, including, but not limited to, the following:
1. Coordinate with subcontractors on their commissioning responsibilities and activities.
 2. Obtain, assemble, and submit commissioning documentation.
 3. Conduct periodic on-site commissioning meetings. Comply with requirements in Section 01 31 00 "Project Management and Coordination."
 4. Develop and maintain the commissioning schedule. Integrate commissioning schedule into the Construction Schedule. Update Construction Schedule at specified intervals.
 5. Review and comment on preliminary test procedures and data forms.
 6. Report inconsistencies and issues in system operations.
 7. Verify that tests have been completed and results comply with acceptance criteria, and that equipment and systems are ready before scheduling test demonstrations.
 8. Direct and coordinate test demonstrations.
 9. Coordinate witnessing of test demonstrations by State's witness.
 10. Coordinate and manage training. Be present during training sessions to direct video recording, present training, and direct the training presentations of others. Comply with requirements in Section 01 79 00 "Demonstration and Training."
 11. Prepare and submit specified commissioning reports.
 12. Track commissioning issues until resolution and retesting is successfully completed.
 13. Retain original records of Commissioning-Process Work, organized as required for the commissioning report. Provide State's representative access to these records on request.
 14. Assemble and submit commissioning report.

3.5 COMMISSIONING TESTING

- A. Quality Control: Construction checklists, including tests, are quality-control tools designed to improve the functional quality of Project. Test demonstrations evaluate the effectiveness of Contractor's quality-control process.
- B. State's witness will be present to witness commissioning work requiring the signature of the State's witness, including, but not limited to, test demonstrations. State will coordinate attendance by State's witness with Contractor's published Commissioning Schedule. State's witness will provide no labor or materials in the commissioning work. The only function of State's witness will be to observe and comment on the progress and results of commissioning process.
- C. Construction Checklists:
1. Complete construction checklists as Work is completed.
 2. Distribute construction checklists to installing contractors before they start work.
 3. Installers:
 - a. Verify installation using approved construction checklists as Work proceeds.
 - b. Complete and sign construction checklists for work performed during the preceding day.
 4. Provide Commissioning Authority access to construction checklists.
- D. Installation Compliance Issues: Record as an installation compliance issue Work found to be incomplete, inaccessible, at variance with the Contract Documents, nonfunctional, or that does not comply with construction checklists. Record installation compliance issues on the construction

checklist at the time they are identified. Record corrective action and how future Work should be modified before signing off the construction checklist.

E. Pre-Startup Audit: Prior to executing startup procedures, review completed installation checks to determine readiness for startup and operation. Report conditions, which, if left uncorrected, adversely impact the ability of systems or equipment to operate satisfactorily or to comply with acceptance criteria. Prepare pre-startup report for each system.

F. Test Procedures and Test Data Forms:

1. Test procedures shall define the step-by-step procedures to be used to execute tests and test demonstrations.
2. Test procedures shall be specific to the make, model, and application of the equipment and systems being tested.
3. Completed test data forms are the official records of the test results.
4. Commissioning Authority will provide to Contractor preliminary test procedures and test data forms for performance tests and commissioning tests after approval of Product Data, Shop Drawings, and preliminary operation and maintenance manual.
5. Review preliminary test procedures and test data forms, and provide comments within 14 days of receipt from Commissioning Authority. Review shall address the following:
 - a. Equipment protection and warranty issues, including, but not limited to, manufacturers' installation and startup recommendations, and operation and maintenance instructions.
 - b. Applicability of the procedure to the specific software, equipment, and systems approved for installation.
6. After Contractor has reviewed and commented on the preliminary test procedures and test data forms, Commissioning Authority will revise and reissue the approved revised test procedures and test data forms marked "Approved for Testing."
7. Use only approved test procedures and test data forms marked "Approved for Testing" to perform and document tests and test demonstrations.

G. Performance of Tests:

1. The sampling rate for tests is 100 percent. The sampling rate for test demonstrations is 100 percent unless otherwise indicated.
2. Perform and complete each step of the approved test procedures in the order listed.
3. Record data observed during performance of tests on approved data forms at the time of test performance and when the results are observed.
4. Record test results that are not within the range of acceptable results on commissioning issue report forms in addition to recording the results on approved test procedures and data forms according to the "Commissioning Compliance Issues" Paragraph in this Article.
5. On completion of a test, sign the completed test procedure and data form. Tests for which test procedures and data forms are incomplete, not signed, or which indicate performance that does not comply with acceptance criteria will be rejected. Tests for which test procedures and data forms are rejected shall be repeated and results resubmitted.

H. Performance of Test Demonstration:

1. Perform test demonstrations on a sample of tests after test data submittals are approved. The sampling rate for test demonstrations shall be 100 percent unless otherwise indicated in the individual test specification.
2. Notify State's witness at least three days in advance of each test demonstration.
3. Perform and complete each step of the approved test procedures in the order listed.

GENERAL COMMISSIONING REQUIREMENTS

4. Record data observed during performance of test demonstrations on approved data forms at the time of demonstration and when the results are observed.
5. Provide full access to State's witness to directly observe the performance of all aspects of system response during the test demonstration. On completion of a test demonstration, sign the completed data form and obtain signature of State's witness at the time of the test to authenticate the reported results.
6. Test demonstration data forms not signed by Contractor and State's witness at the time of the completion of the procedure will be rejected. Test demonstrations for which data forms are rejected shall be repeated and results shall be resubmitted.
 - a. Exception for Failure of State's Witness to Attend: Failure of State's witness to be present for agreed-on schedule of test demonstration shall not delay Contractor. If State's witness fails to attend a scheduled test, Contractor shall proceed with the scheduled test. On completion, Contractor shall sign the data form for Contractor and for State's witness, and shall note the absence of State's witness at the scheduled time and place.
7. False load test requirements are specified in related sections.
 - a. Where false load testing is specified, provide temporary equipment, power, controls, wiring, piping, valves, and other necessary equipment and connections required to apply the specified load to the system. False load system shall be capable of steady-state operation and modulation at the level of load specified. Equipment and systems permanently installed in this work shall not be used to create the false load without State's written approval.

I. Commissioning Compliance Issues:

1. Test results that are not within the range of acceptable results are commissioning compliance issues.
2. Track and report commissioning compliance issues until resolution and retesting are successfully completed.
3. If a test demonstration fails, determine the cause of failure. Direct timely resolution of issue and then repeat the demonstration. If a test demonstration must be repeated due to failure caused by Contractor work or materials, reimburse State for billed costs for the participation in the repeated demonstration.
4. Test Results: If a test demonstration fails to meet the acceptance criteria, perform the following:
 - a. Complete a commissioning compliance issue report form promptly on discovery of test results that do not comply with acceptance criteria.
 - b. Submit commissioning compliance issue report form within 48 hours of the test.
 - c. Determine the cause of the failure.
 - d. Establish responsibility for corrective action if the failure is due to conditions found to be Contractor's responsibility.
5. Commissioning Compliance Issue Report: Provide a commissioning compliance issue report for each issue. Do not report multiple issues on the same commissioning compliance issue report.
 - a. Exception: If an entire class of devices is determined to exhibit the identical issue, they may be reported on a single commissioning compliance issue report. (For example, if all return-air damper actuators that are specified to fail to the open position are found to fail to the closed position, they may be reported on a single commissioning issue report.) If a single commissioning issue report is used for

GENERAL COMMISSIONING REQUIREMENTS

- multiple commissioning compliance issues, each device shall be identified in the report, and the total number of devices at issue shall be identified.
- b. Complete and submit the commissioning compliance issue report immediately when the condition is observed.
 - c. Record the commissioning compliance issue report number and describe the deficient condition on the data form.
 - d. Resolve commissioning compliance issues promptly. Complete and re-submit the commissioning compliance issue report when issues are resolved.
6. Diagnose and correct failed test demonstrations as follows:
- a. Perform diagnostic tests and activities required to determine the fundamental cause of issues observed.
 - b. Record each step of the diagnostic procedure prior to performing the procedure. Update written procedure as changes become necessary.
 - c. Record the results of each step of the diagnostic procedure.
 - d. Record the conclusion of the diagnostic procedure on the fundamental cause of the issue.
 - e. Determine and record corrective measures.
 - f. Include diagnosis of fundamental cause of issues in commissioning compliance issue report.
7. Retest:
- a. Schedule and repeat the complete test procedure for each test demonstration for which acceptable results are not achieved. Obtain signature of State's witness on retest data forms. Repeat test demonstration until acceptable results are achieved. Except for issues that are determined to result from design errors or omissions, or other conditions beyond Contractor's responsibility, compensate State for direct costs incurred as the result of repeated test demonstrations to achieve acceptable results.
 - b. For each repeated test demonstration, submit a new test data form, marked "Retest."
8. Do not correct commissioning compliance issues during test demonstrations.
- a. Exceptions will be allowed if the cause of the issue is obvious and resolution can be completed in less than 15 minutes. If corrections are made under this exception, note the deficient conditions on the test data form and issue a commissioning compliance issue report. A new test data form, marked "Retest," shall be initiated after the resolution has been completed.
9. Failure due to Manufacturer defect:
- a. If 10% or three, whichever is greater, of identical pieces, size alone does not constitute a difference, of equipment fail to perform to the Contract Documents, not allowing it to meet its submitted performance specifications, due to manufacturing defect, either mechanically or substantively, all identical units may be considered unacceptable. Comply with the following:
 - 1) Within one week of notification, the Contractor or manufacturer's representative shall examine all other identical units making a record of the findings.
 - 2) Within 14 calendar days of the original notification, the Contractor or manufacturer shall provide a signed and dated written explanation of the problem, cause of failures, other pertinent information and proposed solutions which shall include full equipment submittals. The proposed solutions shall not significantly exceed the specification requirements of the original installation.

- 3) The State shall determine whether a repair is acceptable, or the replacement of all identical units is required.
- 4) Two samples of the proposed solution shall be installed, tested, and operated for a minimum of 7 calendar days, upon which the State will decide whether to accept the solution.
- 5) Upon acceptance, replace or repair all identical items, at its expense and extend the warranty accordingly. The replacement or repair work shall proceed without delay.

3.6 COMMISSIONING MEETINGS

- A. Schedule and conduct commissioning meetings. Comply with requirements in Section 01 31 00 "Project Management and Coordination."

3.7 SEQUENCING

- A. Sequencing of Commissioning Verification Activities: For a particular material, item of equipment, assembly, or system, perform the following in the order listed unless otherwise indicated:

1. Construction Checklists:

- a. Material checks.
- b. Installation checks.
- c. Startup, as appropriate. Some startup may depend on component performance. Such startup may follow component performance tests on which the startup depends.
- d. Performance Tests:
 - 1) Static tests, as appropriate.
 - 2) Component performance tests. Some component performance tests may depend on completion of startup. Such component performance tests may follow startup.
 - 3) Equipment and assembly performance tests.
 - 4) System performance tests.
 - 5) Intersystem performance tests.

2. Commissioning tests.

- B. Before performing commissioning tests, verify that materials, equipment, assemblies, and systems are delivered, installed, started, and adjusted to perform according to construction checklists.
- C. Verify readiness of materials, equipment, assemblies, and systems by performing tests prior to performing test demonstrations. Notify State if acceptable results cannot be achieved due to conditions beyond Contractor's control or responsibility.
- D. Commence tests as soon as installation checks for materials, equipment, assemblies, or systems are satisfactorily completed. Tests of a particular system may proceed prior to completion of other systems, provided the incomplete work does not interfere with successful execution of test.

3.8 SCHEDULING

- A. Commence commissioning process as early in the construction period as possible.

GENERAL COMMISSIONING REQUIREMENTS

B. Commissioning Schedule: Integrate commissioning activities into Construction Schedule. See Section 01 32 00 "Construction Progress Documentation."

1. Include detailed commissioning activities in monthly updated Construction Schedule and short-interval schedule submittals.
2. Schedule the start date and duration for the following commissioning activities:
 - a. Submittals.
 - b. Preliminary operation and maintenance manual submittals.
 - c. Installation checks.
 - d. Startup, where required.
 - e. Performance tests.
 - f. Performance test demonstrations.
 - g. Commissioning tests.
 - h. Commissioning test demonstrations.
3. Schedule shall include a line item for each installation check, startup, and test activity specific to the equipment or systems involved.
4. Determine milestones and prerequisites for commissioning process. Show commissioning milestones, prerequisites, and dependencies in monthly updated critical-path-method construction schedule and short-interval schedule submittals.

C. Three-Week Look-Ahead Commissioning Schedule:

1. Three weeks prior to the beginning of tests, submit a detailed three-week look-ahead schedule. Thereafter, submit updated three-week look-ahead schedules weekly for the duration of commissioning process.
2. Three-week look-ahead schedules shall identify the date, time, beginning location, Contractor personnel required, and anticipated duration for each startup or test activity.
3. Use three-week look-ahead schedules to notify and coordinate participation of State's witnesses.

D. State's Witness Coordination:

1. Coordinate State's witness participation.
2. Notify State of commissioning schedule changes at least two workdays in advance for activities requiring the participation of State's witness.

3.9 COMMISSIONING REPORTS

A. Test Reports:

1. Pre-startup reports include observations of the conditions of installation, organized into the following sections:
 - a. Equipment Model Verification: Compare contract requirements, approved submittals, and provided equipment. Note inconsistencies.
 - b. Preinstallation Physical Condition Checks: Observe physical condition of equipment prior to installation. Note conditions including, but not limited to, physical damage, corrosion, water damage, or other contamination or dirt.
 - c. Preinstallation Component Verification Checks: Verify components supplied with the equipment, preinstalled or field installed, are correctly installed and functional. Verify external components required for proper operation of equipment correctly installed

- and functional. Note missing, improperly configured, improperly installed, or nonfunctional components.
- d. Summary of Installation Compliance Issues and Corrective Actions: Identify installation compliance issues and the corrective actions for each. Verify that issues noted have been corrected.
 - e. Evaluation of System Readiness for Startup: For each item of equipment for each system for which startup is anticipated, document in summary form acceptable to Owner completion of equipment model verification, preinstallation physical condition checks, preinstallation component verification checks, and completion of corrective actions for installation compliance issues.
2. Test data reports include the following:
 - a. "As-tested" system configuration. Complete record of conditions under which the test was performed, including, but not limited to, the status of equipment, systems, and assemblies; temporary adjustments and settings; and ambient conditions.
 - b. Data and observations, including, but not limited to, data trend logs, recorded during the tests.
 - c. Signatures of individuals performing and witnessing tests.
 - d. Data trend logs accumulated overnight from the previous day of testing.
 3. Commissioning Compliance Issue Reports: Report as commissioning compliance issues results of tests and test demonstrations that do not comply with acceptance criteria. Report only one issue per commissioning compliance issue report. Distribute commissioning compliance issue reports to parties responsible for taking corrective action. Identify the following:
 - a. Commissioning compliance issue report number. Assign unique, sequential numbers to individual commissioning compliance issue reports when they are created, to be used for tracking.
 - b. Action distribution list.
 - c. Report date.
 - d. Test number and description.
 - e. Equipment identification and location.
 - f. Briefly describe observations about the performance associated with failure to achieve acceptable results. Identify the cause of failure if apparent.
 - g. Diagnostic procedure or plan to determine the cause (include in initial submittal)
 - h. Diagnosis of fundamental cause of issues as specified below (include in resubmittal).
 - i. Fundamental cause of unacceptable performance as determined by diagnostic tests and activities.
 - j. When issues have been resolved, update and resubmit the commissioning issue report forms. Identify resolution taken and the dates and initials of the persons making the entries.
 - k. Schedule for retesting.
 4. Progress reports include information for tests conducted since the preceding report and the following:
 - a. Completed data forms.
 - b. Equipment or system tested, including test number, system or equipment tag number and location, and notation about the apparent acceptability of results.
 - c. Activities scheduled but not conducted per schedule.
 - d. Commissioning compliance issue report log.
 - e. Schedule changes for remaining Commissioning-Process Work, if any.

5. Data trend logs shall be initiated and running prior to the time scheduled for the test demonstration.
 - a. Trend log data format shall be multiple data series graphs. Where multiple data series are trend logged concurrently, present the data on a common horizontal time axis. Individual data series may be presented on a segmented vertical axis to avoid interference of one data series with another, and to accommodate different axis scale values. Graphs shall be sufficiently clear to interpret data within the accuracy required by the acceptance criteria.
 - b. Attach to the data form printed trend log data collected during the test or test demonstration.
 - c. Record, print out, and attach to the data form operator activity during the time the trend log is running. During the time the trend log is running, operator intervention not directed by the test procedure invalidates the test results.
6. System Alarm Logs: Record and print out a log of alarms that occurred since the last log was printed. Evaluate alarms to determine if the previous day's work resulted in any conditions that are not considered "normal operation."
 - a. Conditions that are not considered "normal operation" shall be reported on a commissioning issue report attached to the alarm log. Resolve as necessary. The intent of this requirement is to discover control system points or sequences left in manual or disabled conditions, equipment left disconnected, set points left with abnormal values, or similar conditions that may have resulted from failure to fully restore systems to normal, automatic control after test completion.

3.10 CERTIFICATE OF CONSTRUCTION-PHASE COMMISSIONING PROCESS COMPLETION

- A. When Contractor considers that construction-phase commissioning process, or a portion thereof which State agrees to accept separately, is complete, Contractor shall prepare and submit to State a comprehensive list of items to be completed or corrected. Failure to include an item on such list does not alter Contractor's responsibility to complete commissioning process.
- B. On receipt of Contractor's list, Commissioning Authority will make an inspection to determine whether the construction-phase commissioning process or designated portion thereof is complete. If Commissioning Authority's inspection discloses items, whether included on Contractor's list, which is not sufficiently complete as defined in "Construction-Phase Commissioning Process Completion" Paragraph in the "Definitions" Article, Contractor shall, before issuance of the Certificate of Construction-Phase Commissioning Process Completion, complete or correct such items on notification by Commissioning Authority. In such case, Contractor shall then submit a request for another inspection by Commissioning Authority to determine construction-phase commissioning process completion.
- C. Contractor shall promptly correct deficient conditions and issues discovered during commissioning process. Costs of correcting such deficient conditions and issues, including additional testing and inspections, the cost of uncovering and replacement, and compensation for State's and Commissioning Authority's services and expenses made necessary thereby, shall be at Contractor's expense.
- D. When construction-phase commissioning process or designated portion is complete, Commissioning Authority will prepare a Certificate of Construction-Phase Commissioning Process Completion that shall establish the date of completion of construction-phase commissioning process. Certificate of Construction-Phase Commissioning Process Completion shall be submitted prior to requesting inspection for determining date of Completion.

GENERAL COMMISSIONING REQUIREMENTS

END OF SECTION

SECTION 024126 - SELECTIVE ELECTRICAL DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removal of existing electrical equipment, wiring, and conduit in areas to be remodeled; removal of designated construction; dismantling, cutting and alterations for completion of the Work.
2. Disposal of materials.
3. Storage of removed materials.
4. Identification of utilities.
5. Salvaged items.
6. Protection of items to remain as indicated on Drawings.
7. Relocate existing equipment to accommodate construction.

1.2 SCHEDULING

- A. Schedule work to coincide with new construction.
- B. Cease operations immediately when structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.

1.3 COORDINATION

- A. Conduct demolition to minimize interference with adjacent and occupied building areas.
- B. Coordinate demolition work with Owner.
- C. Coordinate and sequence demolition so as not to cause shutdown of operation of surrounding areas.
- D. Shut-down Periods:
 1. Arrange timing of shut-down periods of in service panels with Owner. Do not shut down any utility without prior written approval.
 2. Keep shut-down period to minimum or use intermittent period as directed by Owner. Maintain life-safety systems in full operation in occupied facilities, or provide notice minimum 3 days in advance.
- E. Identify salvage items in cooperation with Owner.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify wiring and equipment indicated to be demolished serve only abandoned facilities.
- C. Verify termination points for demolished services.

3.2 PREPARATION

- A. Erect, and maintain temporary safeguards, including warning signs and lights, barricades, and similar measures, for protection of the public, Owner, Contractor's employees, and existing improvements to remain.
- B. Provide temporary egress signage and emergency lighting
- C. Existing Fire Alarm System: Maintain existing system in service. Disable system only to make switchovers and connections. Make temporary connections to maintain service in areas adjacent to work area.
- D. Existing Telephone System: Maintain existing system in service.
- E. Existing Public Address System: Maintain existing system in service. Disable system only to make switchovers and connections. Make temporary connections to maintain service in areas adjacent to work area.

3.3 DEMOLITION

- A. Demolition Drawings are based on field observation [and existing record documents]. Report discrepancies to Architect before disturbing existing installation.
- B. Remove abandoned conduit, cabling and associated supports, including abandoned conduit and cables above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces to match existing.
- C. Remove conduit, wire, boxes, and fastening devices to avoid any interference with new installation.
- D. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.
- E. Remaining Circuits and Equipment: Reinstall existing electrical installations disturbed. Certain existing electrical installations may be located in walls, ceilings or floors that are to be removed and are essential for the operation of other remaining installations. Where this condition occurs provide a new extension of original circuits, raceways, equipment and outlets to retain service continuity. Installations shall be concealed in finished areas.
- F. Reconnect equipment being disturbed by renovation work and required for continuous service.
- G. Disconnect or shut off service to areas where electrical work is to be removed. Remove electrical fixtures, equipment, and related switches, outlets, conduit and wiring which are not part of final project.
- H. Install temporary wiring and connections to maintain existing systems in service during construction.

- I. Perform work on energized equipment or circuits with experienced and trained personnel.
- J. Remove, relocate, and extend existing installations to accommodate new construction.
- K. Repair adjacent construction and finishes damaged during demolition and extension work.
- L. Remove exposed abandoned grounding and bonding components, fasteners and supports, and electrical identification components, including abandoned components above accessible ceiling finishes. Cut embedded support elements flush with walls and floors.
- M. Clean and repair existing equipment to remain or to be reinstalled.
- N. Protect and retain power to existing active equipment remaining.
- O. Cap abandoned empty conduit at both ends.

3.4 EXISTING PANELBOARDS

- A. Ring out circuits in existing panel affected by the Work. Where additional circuits are needed, reuse circuits available for reuse. Install new breakers.
- B. Tag unused circuits as spare.
- C. Where existing circuits are indicated to be reused, use sensing measuring devices to verify circuits feeding Project area or are not in use.
- D. Remove existing wire no longer in use from panel to equipment.
- E. Provide new updated directories where circuits have been modified or rewired.

3.5 SALVAGE ITEMS

- A. Remove and protect items indicated on Drawings to be salvaged and turn over to Owner.
- B. Items of salvageable value may be removed as work progresses. Transport salvaged items from site as they are removed.

3.6 REUSABLE ELECTRICAL EQUIPMENT

- A. Carefully remove equipment, materials, or fixtures which are to be reused.
- B. Disconnect, remove, or relocate existing electrical material and equipment interfering with new installation.
- C. Relocate existing lighting fixtures as indicated on Drawings. Clean fixtures and re-lamp. Test fixture to see if it is in good working condition before installation at new location.

3.7 CLEANING

- A. Remove demolished materials as work progresses. Legally dispose.
- B. Keep workplace neat.

- C. Clean and repair existing materials and equipment which remain or are to be reused.
- D. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.
- E. Luminaries: Use mild detergent to clean all exterior and interior surfaces; rinse with clean water and wipe dry. Replace lamps, ballasts, and broken electrical parts.

3.8 RECYCLABLE AND REUSABLE MATERIAL AND EQUIPMENT:

- A. Contractor shall be responsible for recycling of all removed materials and equipment as part of this work. Materials shall be collected by a recognized and approved reuse and recycling center.
- B. Recyclable and reusable material and equipment shall include but not limited to the following:
 - 1. Plastic lighting diffusers
 - 2. Ferrous metals
 - 3. Non-ferrous metals
 - 4. Fluorescent lamps and ballasts

3.9 PROTECTION OF FINISHED WORK

- A. Do not permit traffic over unprotected floor surface.

END OF SECTION

SECTION 260500 - ELECTRICAL WORK – GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 CONDITIONS:

- A. The Requirements of General Conditions and Special Conditions apply to Work of this Section as if fully repeated herein.
- B. Drawings and specifications take precedence when they call for materials or construction methods of better quality or larger size than required by codes laws, rules, or regulations.
- C. The Requirements of this Section apply to all Work of Division 26.

1.2 WORK INCLUDED:

- A. Provide a complete working installation with all material and equipment as shown and specified. The Contract Documents do not undertake to show or specify every item to be provided. When an item not shown or specified is necessary for proper operation of equipment shown or specified, provide the item, which will allow the system to function properly, at no increase in Contract Price.
- B. Make electrical connections for equipment furnished as part of Work of other Sections.
- C. Perform necessary equipment seismic anchorage in compliance with the California Building Code Title 24, and requirements of any local agency having jurisdiction.
- D. The drawings indicate the arrangements of electrical equipment. Review architectural drawings and details for door swings, cabinets, counters, and built-in equipment; conditions indicated on architectural plans shall govern. Coordinate installation of electrical equipment with structural system and mechanical equipment and access thereto. Coordinate installation of recessed electrical equipment with concealed ductwork and piping, and wall thickness.
- E. Equipment layout is based on one manufacturer's product or from composite dimensions from multiple manufacturers. Where equipment selected for use on the job differs from layout, coordinate space requirements and connection arrangements with Engineer. Equipment which exceeds specified maximum dimensions, or which reduces required clearances shall not be accepted.

1.3 QUALITY ASSURANCE:

- A. Requirements of Regulatory Agencies:
 - 1. As specified in Division 1 - General Requirements.
 - 2. Nothing in the Contract Documents shall be construed to permit Work not conforming to applicable laws, ordinances, rules, or regulations.
 - 3. When the Contract Documents exceed requirements of applicable laws, ordinances, rules or regulations, Contract Documents shall take precedence.
 - 4. It is not the intent of the Contract Documents to repeat requirements of Codes except where necessary for completeness or clarity.
 - 5. All installed or connected equipment shall be labeled or certified for its use by a nationally recognized testing laboratory. Where equipment is not furnished with a

factory installed label or certification, it shall be the responsibility of the contractor to obtain and pay for the necessary tests and approvals.

1.4 SUBMITTALS:

A. General:

1. Submit Shop Drawings and supplemental data for all materials and equipment specified in all Sections of this Division, in accordance with the Requirements of Division 1, and as specified hereinafter.
2. Submittals shall have materials proposed for the project identified. Catalog cuts containing unidentified materials or superfluous information will not be accepted.
3. All submittals shall be reviewed by the Contractor and stamped with his approval prior to submitting to the Architect. Contractor shall indicate in writing any deviation in submittals from requirement of Contract Documents.
4. Forward all submittals to the Architect, together, at one (1) time. Individual or incomplete submittals will not be acceptable. Only one (1) request for substitution will be considered on each item of materials or equipment.
5. Wherever catalog numbers and specific brands or trade names, not preceded by the designation "equal to", or followed by the designations "or equal", "or accepted equal", or "or approved equal", are mentioned in these Specifications or Drawings, no substitutions will be accepted.
6. Identify each item by manufacturer, brand, trade name, number, size, rating, or whatever other data is necessary to properly identify and check materials and equipment. The words "as specified" will not be sufficient identification.
7. Identify each submittal item by reference to Specification Section paragraph in which the item is specified or Drawing and Detail number.
8. Organize submittals in the same sequence as they appear in Specification Sections, article, or paragraphs.
9. Shop Drawings shall show physical arrangement, construction details, finishes, materials used in fabrication, provisions for conduit entrance, access requirements for installation and maintenance, physical size, electrical characteristics, foundation and support details, and weight. Reuse of the Contract Drawings as Shop Drawings will not be acceptable.
 - a. Specifically show, by drawn detail or note, that equipment complies with each specified requirements of the Contract Documents.
 - b. Drawings shall be to scale and dimensioned (except wiring diagrams need not be to scale) and may be prepared by a vendor but shall be submitted as instruments of Contractor, thoroughly checked, and stamped by Contractor before submission to Architect for review.
 - c. Catalog cuts and published material may be included to supplement scale drawings.
10. Internal wiring diagrams of equipment shall show wiring as actually furnished for this project, with all optional items clearly identified as included or excluded. Clearly identify external wiring connections. Identify and obliterate superfluous material.
11. External system wiring diagrams shall show wiring as actually installed, connected, and identified for this project. Include identification of cables, cable conductors, terminals in terminal cabinets, and connections to the identified external wiring connection points on equipment. Prepare Drawings on twenty-four inches (24") by thirty-six inches (36") minimum sheets bearing title block of equipment manufacturer, manufacturer's local engineering distributor, or Contractor, prepared to accepted drafting standards, and bearing Contractor's approved stamp.

12. Acceptance of a substitute is not to be considered a release from the Specifications. Correct any deficiencies in an item, even though approved, at Contractor's expense.
13. Be responsible for installation of approved substitution. Make any changes required for installation of approved substituted equipment at no increase in Contract Sum.

B. Operating and Maintenance Instructions and Materials:

1. Subsequent to final completion and testing operations, part of the Work of this Division shall be responsibility for instructing the Owner's authorized representatives in operation, adjustment, and maintenance of electrical plant. Submit three (3) copies of certificate, signed by Owner's representatives, attesting to their having been instructed.
2. Before Owner's personnel assume operation of systems, submit three (3) bound sets of Operating and Maintenance Instructions, Manuals, and Parts Lists on the electrical plant and its component parts, including all major equipment and that which requires or for which manufacturer recommends maintenance in a specified manner. Provide names, addresses and telephone numbers of source of supply for parts.

1.5 PROJECT RECORD DOCUMENTS:

- A. Upon completion of Work, furnish Architect with complete sets of reproducible plans upon which shall be shown all Work installed under Contract. Drawings shall include actual locations of outlets, conduit, and wire sizing as well as routing and revised panelboard schedules.
- B. All symbols and designations used in preparing Record Drawings shall match those used in Contract Drawings.
- C. Maintain an up to date set of electrical drawings during the course of construction.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING:

- A. Identify materials and equipment delivered to site to permit check against materials list and Shop Drawings.
- B. Protect from loss or damage. Replace lost or damaged materials and equipment with new at no increase in Contract Sum.

1.7 PROJECT EXAMINATION AND CONDITIONS:

- A. Examine project; verify dimensions and locations against Drawings and become informed of all conditions under which Work is to be done before submitting proposals.
- B. Information shown relative to services is based upon available records and data but shall be regarded as approximate only. Make deviations found necessary to conform with actual locations and conditions with no increase in Contract Sum. Verify locations and elevation of utilities prior to commencement of excavation for new underground installations.
- C. Exercise extreme care in excavating near existing utilities to avoid any damage thereto; be responsible for any damage caused by such operations.

1.8 DRAWINGS AND COORDINATION WITH OTHER WORK:

- A. Drawings:
 1. For purposes of clarity and legibility, Drawings are essentially diagrammatic to the extent that many offsets, bends, special fittings, and the exact locations of items are not

- shown, unless specifically dimensioned.
2. Exact routing of wiring and locations of outlets, panels, and other items, shall be governed by structural conditions, and materials and equipment already in place. Use data in the Contract Documents. In addition, the Architect reserves the right, at no increase in Contract Sum, to make any reasonable change in locations of exposed electrical items, to group them into orderly relationships and/or increase their utility. Verify the Architect's requirements in this regard prior to roughing-in.
 3. Dimensions, locations of doors, partitions and similar physical features shall be taken from Architectural Drawings and verified at the site as part of the Work of this Division. Consult the Architectural Drawings for exact location of outlets to center with architectural features, panels, and similar items, at the approximate locations shown on the Electrical Drawings.
 4. Drawings indicate, generally, routes of all branch circuits. All runs to panels are indicated as starting from nearest outlet, pointing to direction of panel. Continue all such circuits, conduits to panel as though routes were indicated in their entirety.

B. Coordination:

1. Work out all "tight" conditions involving Work of this Division and Work of other Divisions in advance of installation. Provide additional Work necessary to overcome "tight" conditions, at no increase in Contract Sum.
2. Differences of disputes concerning coordination, interference, or extent of Work between Divisions shall be decided by General Contractor. His decision, if consistent with Contract Document requirements, shall be final.
3. Provide adequate working space around electrical equipment in compliance with all applicable codes.
4. Coordinate electrical interface of mechanical equipment with the Work of other Divisions.
5. Provide templates, information, and instructions for Work of other Divisions to properly locate holes and openings to be cut or provided for Electrical Work.
6. Size all feeders (conduit and wiring), motor starters, overload protection and circuit breakers to suit horsepower of motors or wattages of equipment furnished as part of the Work of the various Sections of the Specifications. In no case shall feeders and branch circuits (conduit and wiring) and circuit breakers be of smaller capacities or sizes than those shown or specified.
7. Schedule of Work - Refer to Section on Work Sequence.
8. Make every effort to keep existing electrical circuits, including telephone, public address, fire alarm, power, and other electrical services, in operation. Where power outages are unavoidable, schedule such outages with the Owner to occur at such times as to cause the least disruption of normal facility functions.

C. Equipment Rough-In:

1. Rough-in locations shown on Electrical Drawings for equipment furnished by the Owner and for equipment furnished under other Divisions are approximate only. Obtain exact rough-in locations from the following sources:
 - a. From Shop Drawings for Contractor-furnished and installed equipment.
 - b. From the Architect for Owner-furnished, Contractor-installed equipment.
 - c. From the Architect for existing equipment where such equipment is relocated as part of the Work of this Contract.
 2. Verify electrical characteristics of equipment before starting rough-in.
 3. Unless otherwise shown or specified, equipment which requires electrical connection shall be installed as part of the Work of the Division in which specified.
- Internal

components shall be wired to a single point with wiring in raceway direct connection (hardwired) to building electrical system or internal wiring and connections with cord and plug for receptacle connection to building wiring.

4. Unless otherwise shown or specified, provide direct raceway and conductor connections from building wiring system to equipment terminals for direct connected equipment which is Contractor-furnished and Contractor-installed, Owner-furnished, and Contractor-installed, and for existing equipment relocated by the Contractor.
5. Insert plug in receptacle for cord-connected equipment which is Contractor-furnished and Contractor-installed, Owner-furnished, and Contractor-installed and for existing equipment relocated by the Contractor. Provide new cord and plug if required on Owner-furnished and Contractor-installed equipment.
6. Provide disconnect switches, flush type in finished spaces, where shown or required by Codes for direct-connected equipment.
7. Disconnect existing equipment from building electrical system, including internal wiring required for relocation and reconnection at new location.

1.9 GUARANTEE:

- A. Provide guarantee in accordance with and in form required under Division 1. Repair or replace as may be necessary any defective work, material, or part with no increase in Contract Sum including repair or replacement of other Work, furnishing, equipment, or premises caused by such repair or replacement of defective work.
 1. Where other guarantee periods or requirements are called for in other sections of the contract documents, they shall take precedence over the requirements of Division 1.

PART 2 - PRODUCTS

2.1 MATERIALS:

- A. Identify materials and equipment by manufacturer's name and nameplate data. Remove unidentified materials and equipment from site.
- B. Equipment specified by manufacturer's number shall include all accessories, controls, and other components, listed in catalog as standard with equipment. Furnish optional or additional accessories as specified. All materials shall be UL labeled and in accordance with NEMA Standards.
- C. Where no specific make of material or equipment is mentioned, any high quality product of a reputable manufacturer may be used, provided it conforms to requirements of system and meets with Architect's acceptance.
- D. Conflicts between Plans and Specifications, exclusive of the General Conditions of the Contract, the most stringent and higher quality requirement shall govern.
- E. If the Contract Documents are not complete as to any detail such as accessories or hardware, of a required construction system or with regard to manner of installing of parts, materials, or equipment, but there exists an accepted trade standard for good and workmanlike construction, such detail or accessories shall be deemed to have been implicitly required by the Contract Documents in accordance with such standard.
- F. Equipment and material damaged during transportation, installation, or operation will be considered as totally damaged. Replace with new. Variance from this will be permitted only

with written acceptance.

- G. Provide an authorized representative to constantly supervise the Work of this Division and to check all materials prior to installation for conformance with the Contract Documents.
- H. Do not use equipment exceeding dimensions indicated for equipment, or arrangements that reduce required clearances, or exceed specified maximum dimensions.

2.2 FLASH PROTECTION

- A. Electrical equipment including switchboards, panelboards, disconnect switches, etc. which are likely to require examination, adjustment or servicing while energized shall be field marked to warn of potential electric arch flash hazards per CEC Article 110. 16.. Marking shall be a pre-printed label which references NFPA 70E.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Manufacturer's Directions: Follow manufacturer's directions where manufacturers of articles used furnish directions covering points not specified or shown.
- B. Equipment: Accurately set and level, neatly place support and anchor properly.
- C. Assemble together all equipment which requires assembling including Contractor-supplied bussing, internal wire connections where required; connect all incoming conduit, cable, and wires properly; and adjust and make ready for service electrical equipment and material required by this Contract.
- D. All Work shall be done in orderly, workmanlike manner in accordance with NECA Standard of Installation and present neat appearing installation when completed.
- E. Provide concrete foundations or pads for floor mounted electrical equipment where indicated on the drawings.
 - 1. Install minimum 4" high concrete pads or as indicated. Other pad dimensions shall be as required to accommodate the equipment installed.
 - 2. Use 3,000 PSI concrete.
 - 3. Reinforce with 6" x 6" 10GA wire mesh with short dowels into floor at 12" on center around perimeter.
 - 4. Chamfer top edges $\frac{3}{4}$ ".
 - 5. Make all faces smooth.
 - 6. Set anchor bolts for equipment.
 - 7. Coordinate the size of all pads, the location of all anchor bolts, and the location of all vibration isolators.

3.2 NORMAL CONTINGENCIES:

- A. Protection: In performance of Work, protect existing facility and protect Work of other Sections as well as Work of this Section from damage.
 - 1. Existing conduits which are required to be extended, altered, or reconnected shall be accomplished as shown or as directed. Existence of any wires, conduits, or other facilities are shown in a general way only. Determine existence, location, and condition

- on site.
2. Where existing conduits which are shown to be revised or which will be essential to functioning of particular system are cut or exposed due to construction changes, new connections shall be made in most expeditious manner as directed or shown. Where wiring is involved, new wires shall be "pulled-in" between nearest available accessible reused outlets. In all cases where new wires are required, shown, or specified to be installed in existing conduits, if same cannot be installed, new conduits shall be provided therefore as directed.
 3. Existing switchboards, motor control centers, and panelboards which are required to be extended, altered, or modified under the Work of this Division shall be provided with new sections, bus extensions, and all necessary hardware for a complete and operating system.
 4. Attention is called to the fact that all new conduit, wiring, and apparatus shown or specified shall be connected to existing systems so as to function as complete units.
 5. All conduits, electrical apparatus, and similar items, in place and not shown or specified to be reused or which will not be essential to functioning of various systems when Work is completed, shall be removed. No existing material shall be reinstalled or reused, unless shown or specified. Concealed conduits which are not shown or specified to be reused and become exposed due to construction changes shall be removed to nearest available accessible reused outlets.

3.3 PERFORMANCE:

A. Sleeves, Chases, and Concrete Inserts:

1. This Division shall provide, to cause no delay, all required sleeves, chases, concrete inserts, anchor bolts, and similar items before concrete is placed, and be responsible for correct location and installation of same.
2. Sleeves and chases are prohibited in structural members, except where shown or as otherwise approved in writing.

B. Cutting and Patching:

1. Do all cutting and patching, including structural reinforcing, necessary for the Work of this Division.
2. No reinforcing steel or pre-stressed tendons may be cut within concrete floors without prior approval. All new cores or drilled holes shall be a minimum of 1 ½" clear of existing reinforcing. Concrete slabs must be scanned to determine the location of all reinforcing steel prior to coring, anchorage, drilling, or any other modifications.
3. Do no cutting or patching without prior approval. Repair damage done by cutting and patching equal to original condition, in Architect's opinion.

C. Provide metal backing plates, anchor plates, and similar items that are required for anchorage for the Work of this Section; securely weld or bolt to metal framing. Wood blocking or backing will not be permitted in combination with metal framing.

3.4 TESTING AND ADJUSTING:

- #### A. Furnish all labor and test equipment required for the Work of this Division. Testing work is defined as that work necessary to establish that equipment has been properly assembled, connected, and checked to verify that intent and purpose of the drawings, specifications, manufacturer's instruction manuals, and directions of Architect have been accomplished in satisfactory manner.

- B. Provide field tests to verify component compliance with Specifications, including but not limited to adjusting, calibrating, and setting circuit breakers, relays, timers, etc.
- C. After completion of testing and adjustment, operate the different systems and equipment under normal working conditions and show specified performance. If, in the opinion of the Architect, performance of equipment or systems is not in accordance with Contract Document or submitted data, alter, or replace equipment at no increase in Contract Sum.
- D. Do not allow or cause any Work installed hereunder to be covered up or enclosed before it has been inspected and accepted. Should any Work be enclosed or covered up before it has been approved, uncover such Work, and after it has been inspected and approved, make all repairs necessary to restore Work of Others to condition in which it was found at time of cutting, all at no increase in Contract Sum.
- E. At completion of Work provide written certification that all Systems are functioning properly without defects.

3.5 CLEANING AND PAINTING:

- A. Properly prepare Work of this Division to be finish painted as part of the Work of Painting Section.
- B. Refinish Work supplied with final finish as part of the Work of this Division if damaged as part of the Work of this Division to satisfaction of Architect.
- C. Thoroughly clean interiors of switchboards and motor control centers. After other Work is accomplished, clean exposed conduit, panels (interiors and exteriors), fixtures, and equipment, and leave in condition satisfactory to Architect.
- D. Clean out and remove from site all surplus materials and debris resulting from this Work, including surplus excavated materials.

3.6 SALVAGE MATERIAL AND EQUIPMENT:

- A. Where remodel or demolition work is to be accomplished under this Contract, all removed materials and equipment which in the opinion of the Owner are salvable shall remain the property of the Owner. Such salvaged materials and equipment shall be delivered to the Owner on the premises as directed and shall be neatly piled or stored and protected from damage.
- B. All materials considered to be scrap and not salvable shall be removed from the premises and disposed of by the Contractor.

END OF SECTION

SECTION 260501 - TESTING REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Test procedures specified in this Section are in addition to that specified in other Sections of Division 26.
- B. Provide the services of a recognized independent testing firm to perform testing work, including but not limited to:
 - 1. Emergency lighting inverter.
- C. Coordinate functional testing of automatic transfer switches with manufacturer's representative and Section 26 28 26 - ENCLOSED TRANSFER SWITCHES requirements.

1.2 REFERENCES

- A. Perform inspections and tests in accordance with the following codes and standards:
 - 1. National Electrical Manufacturer's Association - NEMA.
 - 2. American Society for Testing and Materials - ASTM.
 - 3. Institute of Electrical and Electronic Engineers - IEEE.
 - 4. InterNational Electrical Testing Association - NETA Acceptance Testing Specifications - ATS-2017.
 - 5. American National Standards Institute - ANSI.
 - 6. State and local codes and ordinances.
 - 7. Insulated Cable Engineers Association - ICEA.
 - 8. Occupational Safety and Health Administration - OSHA.
 - 9. ANSI/NFPA 70: National Electrical Code.
 - 10. ANSI/NFPA 70B: Electrical Equipment Maintenance.
 - 11. NFPA 70E: Electrical Safety Requirements for Employee Workplaces.
 - 12. ANSI/NFPA 78: Lightning Protection Code.
 - 13. ANSI/NPFA 101: Life Safety Code.
- B. Division 26 specification sections and drawings are interrelated. Use Division 26, in its entirety, and accompanying electrical drawings for interpreting inspection and testing requirements.
- C. Use Manufacturer's instruction manuals applicable to each particular apparatus for special inspection and testing requirements.

1.3 SUBMITTALS

- A. Testing organization shall provide the following certified test report information, including but not limited to:
 - 1. Summary of job.
 - 2. Description of equipment tested.
 - 3. Description of test procedure.
 - 4. List of test equipment and calibration date.
 - 5. Test results.
 - 6. Conclusions and recommendations.

7. Appendix, including all field test reports.
- B. Secure report and test documents together using index tabs and a 3 ring binder.
- C. Provide brief field report after completion of any test prior to leaving the site. Report may be typed or printed. List the equipment tested, describe any deficiencies found and recommended corrections. Leave report copies with the Inspector of Record (IOR) and General Contractor.

1.4 TESTING AGENCY QUALIFICATIONS

- A. Company that is a financially independent testing organization which can function as an unbiased testing authority, professionally independent of the manufacturers, suppliers and installers of equipment or systems evaluated by the testing firm.
- B. Member of the International Electrical Testing Association, specializing in the testing of equipment or apparatus specified in this Section with minimum 3 years experience.
- C. Each on-site crew leader shall hold a current registered certification in electrical testing applicable to each type of apparatus to be inspected or tested. The certification in electrical testing shall be issued by an independent, nationally recognized, technician certification agency. The following entities shall qualify as independent agencies:
 1. InterNational Electrical Testing Association (NETA). Accepted certifications:
 - a. Certified Technician/Level III
 - b. Certified Senior Technician/Level IV
 2. National Institute of Certification in Engineering Technologies (NICET). Accepted certifications specifically in Electrical Testing Engineering Technology:
 - a. Engineering Technician/Level III
 - b. Senior Engineering Technician/Level IV

1.5 DIVISION OF RESPONSIBILITY

- A. Routine work performed by the Contractor prior to and in addition to tests performed by the testing firm:
 1. Cleaning of equipment and apparatus.
 2. Insulation-resistance and continuity test.
 3. Rotation test.
 4. Equipment bolt torquing.
 5. Inspect for physical damage.
 6. Proper equipment connection and operation.
 7. Coordinate exact motor overload requirements.
- B. The Contractor has the option to assign all or any portion of above listed routine work to the testing firm at his own expense.
- C. The Contractor provides suitable and stable source of electrical power to each test site as required by the testing firm.
- D. The Contractor notifies the Inspector of Record (IOR) and the testing firm when equipment becomes available for acceptance tests. Work coordinated to expedite project scheduling.
- E. The Owner's representative is responsible for approving a short-circuit analysis and coordination study prepared and certified by an independent testing or engineering firm or

manufacturer as outlined by Section 26 05 73 - SHORT-CIRCUIT ANALYSIS AND COORDINATION STUDY.

- F. The testing firm notifies the Owner's representative prior to commencement of any testing.
- G. Report any system, material, or workmanship which is found defective on the basis of acceptance tests to the Owner's representative in writing.
- H. The testing firm maintains a written record of all tests and, upon completion of project, assembles and certifies final test report.
- I. Safety and Precautions:
 - 1. Safety practices include, but are not limited to, the following requirements:
 - a. Occupation Safety and Health Act.
 - b. Accident Prevention Manual for Industrial Operations, National Safety Council.
 - c. Applicable state and local safety operating procedures.
 - d. Owner's safety practices.
 - e. National Fire Protection Association - NFPA 70E.
 - f. American National Standards for Personnel Protection.
 - 2. Testing performed with apparatus de-energized. Exceptions must be thoroughly reviewed to identify safety hazards and devise adequate safeguards.
 - 3. The testing firm provides a designated safety representative on the project to supervise the testing operations with respect to safety.

PART 2 - PRODUCTS

2.1 TEST EQUIPMENT

- A. The testing agency provides all test equipment.
- B. Care and Precautions:
 - 1. Contractor responsible for any damage to equipment or material due to improper test procedures or test apparatus handling. Replace or restore to original condition any damaged equipment or material.
 - 2. Provide and use safety devices such as rubber gloves and blankets, protective screen, barriers and danger signs to adequately protect and warn all personnel in the vicinity of the tests.
 - 3. Use test equipment that is calibrated and certified traceable to the National Bureau of Standards. Certification date: No later than 6 months.

PART 3 - EXECUTION

3.1 ACCEPTABLE TESTING FIRMS

- A. Electro Test (ETI)
- B. Power Systems Testing
- C. Apparatus Testing and Engineering
- D. Electrical Reliability Services

- E. Alternate firm: Provide testing firm qualifications for consideration.

3.2 APPLICATION

A. General:

1. Provide all materials, supplies, tools, equipment, labor, and services required to perform all tests as specified in this Section.
2. Correct all deficiencies revealed by tests. Replace at contractor's cost, all materials and equipment found faulty.
3. The testing intent is to assure that all electrical equipment, both contractor and Owner supplied, is operational within industry and manufacturer's tolerances and is installed in accordance with design specifications.
4. The test and inspections determine the suitability for energization.
5. Use the Inter National Electrical Testing Association (NETA) guidelines for all testing procedure and acceptance test values of results.
6. Complete all test prior to commissioning and final acceptance.

B. Summary:

1. Test all cable, equipment and systems listed above to assure proper installation, setting, connections, and functioning in accordance with the Drawings, Specifications, and the manufacturer's recommendations. It is the intent that field testing be extensive, and complete as specified, to provide positive assurance of totally correct installation and operation of equipment.
2. Furnish all necessary test equipment to satisfactorily perform all tests specified herein.
3. When conducting tests, comply with the following:
 - a. Notify the Owner and Inspector of Record at least 2 weeks prior to commencement of any testing.
 - b. Conduct all tests in the presence of the Owner's Representative and IOR except when advised that his presence will not be necessary.
 - c. Include all tests and inspections recommended by the equipment manufacturer whether required by these Specifications or not, unless specifically waived by the owner.
 - d. Maintain a written record of all tests showing date, personnel making test, equipment or material tested, tests performed, manufacturer and serial number of testing equipment and results.
4. Tests include, but are not limited to, the following:
 - a. All Wiring: Free of shorts unintentional and grounds.
 - b. Molded case breakers 150 amperes and larger. Time and instantaneous tripping, physical condition, contact resistance, insulation resistance.
 - c. Power Circuit Breakers: Calibration to time/current curves, physical condition, contact resistance, insulation resistance.
 - d. Grounding system: Ground resistance (impedance), ground integrity.
 - e. Secondary Service Bus Ducts: Proper torque on connections, insulation resistance, and physical condition.
 - f. Motor Controls: Proper overload heater sizes.
 - g. Ground Fault System: Neutral free of improper grounds and pick-up.
 - h. Protective Relays: Pick-up, timing, insulation resistance, physical condition.
 - i. Switchboards, Panelboards, and similar circuit breaker equipment: Insulation resistance, physical condition.
 - j. Feeder Cables: Insulation resistance.

- k. Motors: proper rotation, insulation resistance.
- C. Minimum Acceptable Test Results:
 - 1. Ground System: The main ground electrode system resistance to ground no greater than 5 ohms.
 - 2. Electrical Apparatus and System Insulation Resistance:
 - a. Rating of Equipment of 250 volts maximum: Use 500 volt D.C. test voltage. Minimum insulation resistance, 25 megohms.
 - b. Rating of equipment of 600 volts: Use 1000 volt D.C. test voltage. Minimum insulation resistance, 100 megohms.
 - 3. Wire and Cables Under 600 Volts:
 - a. Rating of cables of 300 volts maximum. Use 500 volt D.C. test voltage. Minimum insulation resistance, 50 megohms.
 - b. Rating of cables of 600 volts maximum: Use 1000 volt D.C. test voltage. Minimum insulation resistance, 50 megohms.

3.3 TECHNICAL REQUIREMENTS

- A. Grounding Systems:
 - 1. Tests include measurement of ground resistance at the following equipment and structures:
 - a. All primary and secondary switchgear.
 - b. All power transformer frames and neutral grounds.
 - c. All secondary switchboards located within buildings.
 - d. Other miscellaneous grounds selected at random in a manner to be representative of the entire installation.
 - e. Ground system ground rods, including those in manholes.
 - f. Isolated instrumentation system.
 - 2. Use "3 probe - fall of potential" method ground tests made on system ground rods. All other ground tests may be measured to system ground by use of ground reference method.
 - 3. Verify that ground system installation is completed before performing testing work.
 - 4. Ground circuits showing more than 5 ohms resistance will be considered defective and repaired by the Contractor at his own expense.
- B. Circuit Breakers:
 - 1. Electrical Tests:
 - a. Megger test breaker. Voltage 1000 + 2x rated voltage phase to phase, phase to ground with breaker closed, cross pole breaker open.
 - b. Check trip free operation.
 - c. Test trip devices using the primary injection current method. Verify trip timing to manufacturer's specification values. Test values that fail to meet the NETA or manufacturer guidelines: Include equipment, device, test values and failure reason on the daily report submitted to the IOR and General Contractor.

3.4 RETESTING

- A. Retest any equipment which does not pass initial tests, or where subsequent testing is required for acceptance as directed by the Owner's Representative.

3.5 REPLACEMENT OF DEFECTIVE MATERIAL OR EQUIPMENT

- A. Repair or replace any material or equipment found defective or cannot pass the tests specified in this Section at no additional cost to the Owner.
- B. Complete correction of defective material or equipment and retesting within the Contract period.
- C. If the equipment or material cannot pass the second test, remove the defective equipment and replace it with equivalent equipment that meets the requirements of the Specifications. Such replacement at no additional cost to the Owner.
- D. Remove defective equipment or material from the site no later than 15 days from the date of notification by the Owner or his representative.

3.6 FIELD ADJUSTMENTS

- A. Testing firm responsible for final setting and adjustments on protective devices in accordance with the coordination study values determined by Section 26 05 73 - SHORT-CIRCUIT ANALYSIS AND COORDINATION STUDY and approved by the Owner's representative.

END OF SECTION

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes building wire and cable; nonmetallic-sheathed cable; direct burial cable; service entrance cable; armored cable; metal clad cable; and wiring connectors and connections.
- B. Related Sections:
 - 1. Section 26 05 53 - Identification for Electrical Systems: Product requirements for wire identification.

1.2 REFERENCES

- A. International Electrical Testing Association:
 - 1. ANSI/NETA ATS – 2017 Acceptance Testing Specifications for Electrical Power Equipment and Systems.
- B. NECA (National Electrical Contractors Association) - Standard of Installation.
- C. ANSI/NFPA 70 – National Electrical Code (NEC).
- D. Part 3, Title 24, - California Electrical Code (CEC).
- E. Underwriters Laboratories, Inc. (UL).
 - 1. UL-83, UL-44 – Thermoplastic-Insulated Wire and Cables.
 - 2. UL-1569 – Metal Clad Cable.

1.3 SYSTEM DESCRIPTION

- A. Product Requirements: Provide products as follows:
 - 1. Stranded conductor for feeders and branch circuits 10 AWG and smaller.
 - 2. Stranded conductors for control circuits.
 - 3. Conductor not smaller than 12 AWG for power and lighting circuits.
 - 4. Conductor not smaller than 16 AWG for control circuits.
 - 5. 10 AWG conductors for 20 ampere, 120 volt branch circuit home runs longer than 75 feet.
 - 6. 10 AWG conductors for 20 ampere, 277 volt branch circuit home runs longer than 200 feet.
- B. Wiring Methods: Provide the following wiring methods:
 - 1. Concealed Dry Interior Locations: Use only building wire , Type THHN/THWN-2 XHHW-2 insulation, in raceway, armored cable and/or metal clad cable.
 - 2. Concealed Dry Interior Patient Care Locations as defined by CEC Article 517: Use only building wire , Type THHN/THWN-2 XHHW-2 insulation, in raceway and metal clad cable with ground wire.
 - 3. Exposed Dry Interior Locations: Use only building wire Type THHN/THWN-2 XHHW-2 insulation, in raceway.
 - 4. Exterior Locations: Use only building wire Type THHN/THWN-2 XHHW-2 insulation, in raceway.

1.4 DESIGN REQUIREMENTS

- A. Conductor sizes are based on copper unless indicated as aluminum or "AL".
- B. When aluminum conductor is substituted for copper conductor, size to match circuit requirements for conductor ampacity and voltage drop.

1.5 SUBMITTALS

- A. Product Data: Submit for building wire and each cable assembly type.

1.6 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of components and circuits.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements are as indicated on Drawings.

1.9 COORDINATION

- A. Where wire and cable destination is indicated and routing is not shown, determine routing and lengths required.
- B. Determine required separation between wire, cable and other work. Determine cable routing to avoid interference with other work.
- C. Wire and cable routing indicated is approximate unless dimensioned.

PART 2 - PRODUCTS

2.1 BUILDING WIRE

- A. Manufacturers:
 - 1. Diamond Wire & Cable Co.
 - 2. Essex Group Inc.
 - 3. General Cable Co.
 - 4. Approved equal.
- B. Product Description: Single conductor insulated wire.
- C. Conductor: Copper.

2.2 METAL CLAD CABLE

- A. Manufacturers:
 - 1. Substitutions: Approved equal.

B. Conductor: #12 AWG Copper.

1. Ground: Internal insulated green copper with redundant grounded armor.
2. Neutral: Separate neutral per each phase conductor with identifying color strip.
3. Insulation Voltage Rating: 600 volts.
4. Insulation Temperature Rating: 75 or 90 degrees C.
5. Insulation Material: Thermoplastic.
6. Armor Material: Steel.
7. Fittings: Steel or malleable iron squeeze connectors with insulated throat.

2.3 PLASTIC TAPE:

- A. Black 7 mil thick general purpose electrical tape, Scotch 33 plus or equal.

2.4 HEAT SHRINK TUBING

- A. Black medium/heavy dual wall adhesive flexible Polyolefin tubing, 3M or equal.

2.5 INSULATING RESIN:

- A. Use two part liquid epoxy resin with resin and catalyst in premeasured, sealed mixing pouch. Scotchcast 4 or equivalent.

2.6 REDUCING ADAPTERS:

- A. Burndy, Thomas and Betts or approved equal.

2.7 WIRING CONNECTORS

- A. Bolted pressure connectors: Cast bronze compression bolts designed for parallel taps, tees, crosses or end-to-end connections.
- B. Compression connectors: One piece tin plated copper high-compression type lugs for installation with hand or hydraulically operated crimping tools and dies.
- C. Insulated spring wire connectors: Multi-part construction incorporating a steel spring enclosed with a color coded outer thermoplastic shell.
- D. Insulated spring wire wet/damp location spring wire connectors: Multi-part construction incorporating a steel spring enclosed with a color coded outer thermoplastic shell pre-filled with silicone base to protect against moisture and corrosion.
- E. Compression type termination lugs: Tin plated copper high-compression type lugs for installation with hand or hydraulically operated crimping tools and dies. Provide 2-hole lugs for size #4/0 AWG and larger wire where terminated to bus bars.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify interior of building has been protected from weather.
- B. Verify mechanical work likely to damage wire and cable has been completed.

- C. Verify raceway installation is complete and supported.

3.2 PREPARATION

- A. Completely and thoroughly swab raceway before installing wire.

3.3 EXISTING WORK

- A. Remove exposed abandoned wire and cable, including abandoned wire and cable above accessible ceiling finishes. Patch surfaces where removed cables pass through building finishes.
- B. Disconnect abandoned circuits and remove circuit wire and cable. Remove abandoned boxes when wire and cable servicing boxes is abandoned and removed. Install blank cover for abandoned boxes not removed.
- C. Provide access to existing wiring connections remaining active and requiring access. Modify installation or install access panel.
- D. Extend existing circuits using materials and methods compatible with existing electrical installations, or as specified.
- E. Clean and repair existing wire and cable remaining or wire and cable to be reinstalled.

3.4 INSTALLATION

- A. Route wire and cable to meet Project conditions.
- B. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- C. Identify and color code wire and cable under provisions of Section 26 05 53. Identify each conductor with its circuit number or other designation indicated.
- D. Special Techniques--Building Wire in Raceway:
 - 1. Pull conductors into raceway at same time.
 - 2. Install building wire 4 AWG and larger with pulling equipment.
- E. Special Techniques - Cable:
 - 1. Protect exposed cable from damage.
 - 2. Support cables above accessible ceiling, using spring metal clips or plastic cable ties to support cables from structure. Do not rest cable on ceiling panels.
 - 3. Use suitable cable fittings and connectors.
 - 4. Armored Cable or Metal Clad Cable is not permitted for homerun use. Extend cable from junction/wireway box having branch circuits for the immediate area. Use conduit or electrical metallic tubing for routing branch circuit conductors from junction/wireway box to panelboard.
 - 5. Armored Cable or Metal Clad Cable is not permitted to be routed through rated or non-rated walls.
 - 6. AC or MC cable is not permitted for Critical or Life Safety branch circuit wiring except where permitted by the CEC.
- F. Special Techniques - Wiring Connections:
 - 1. Clean conductor surfaces before installing lugs and connectors.
 - 2. Make splices, taps, and terminations to carry full ampacity of conductors with no

- perceptible temperature rise.
3. Tape uninsulated conductors and connectors with electrical tape to 150 percent of insulation rating of conductor.
 4. Provide heat shrink tubing to completely cover compression connections.
 5. Install split bolt connectors and lugs for copper conductor splices and taps, 8 AWG and larger.
 6. Install insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
 7. Encapsulate below grade splices at outlet, pull and junction boxes with specified insulating resin kits. Make all splices watertight.
 8. Install waterproof wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller in outdoor or wet locations.
 9. Where oversized cables are used to accommodate voltage drop, whether a single or parallel feeder, provide appropriate reducing adapter and conductors for termination.
 10. Secure conductors to circuit breakers, lugs and ground/neutral bus terminations utilizing a torque screwdriver or wrench to the manufacturer's specified torque values.
 11. Terminate aluminum conductors with tin-plated, aluminum-bodied compression connectors only. Fill with anti-oxidant compound before installing conductor.
 12. Install suitable reducing connectors or mechanical connector adaptors for connecting aluminum conductors to copper conductors.

3.5 WIRE COLOR

A. General

1. For wire sizes 10 AWG and smaller, install wire colors in accordance with the following:
 - a. Black, red, and blue for circuits at 120/208 volts single or three phase.
 - b. Orange, brown, and yellow for circuits at 277/480 volts single or three phase.
2. For wire sizes 8 AWG and larger, identify wire with colored tape at terminals, splices and boxes. Colors are as follows:
 - a. Black, red, and blue for circuits at 120/208 volts single or three phase.
 - b. Orange, brown, and yellow for circuits at 277/480 volts single or three phase.

B. Branch Circuits: Shared neutral conductors for multiple circuits are not permitted. Provide a separate neutral conductor for each phase conductor.

C. Neutral Conductors: White. When two or more neutrals are located in one conduit, individually identify each with proper circuit number.

D. Branch Circuit Conductors: Install three or four wire home runs with each phase uniquely color coded.

E. Feeder Circuit Conductors: Uniquely color code each phase.

F. Ground Conductors:

1. For 6 AWG and smaller: Green.

3.6 FIELD QUALITY CONTROL

A. Provide visual and mechanical inspection in accordance with NETA ATS-2017, 7.3.2A.

- B. Subject feeder cables sized #2 AWG and larger, rated 600 volts AC to insulation resistance test in accordance with NETA ATS-2017, 7.3.2B and CEC 110.3(A)(4).
- C. Do not megger any cables after connecting to any equipment, unless specifically directed to do so by Architect.
- D. Provide written test results and a final report of electrical tests per NETA ATS-2017 5.4 to Architect.

END OF SECTION

SECTION 260526 -GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Active electrodes.
 - 2. Wire.
 - 3. Mechanical connectors.
 - 4. Exothermic connections.

1.2 REFERENCES

- A. Institute of Electrical and Electronics Engineers:
 - 1. IEEE 142 - Recommended Practice for Grounding of Industrial and Commercial Power Systems.
 - 2. IEEE 1100 - Recommended Practice for Powering and Grounding Electronic Equipment.
- B. International Electrical Testing Association:
 - 1. ANSI/NETA ATS – 2017 Acceptance Testing Specifications for Electrical Power Equipment and Systems.
- C. NFPA 70 – National Electrical Code (NEC).
- D. Part 3, Title 24, - California Electrical Code (CEC).

1.3 SYSTEM DESCRIPTION

- A. Grounding systems use the following elements as grounding electrodes:
 - 1. Existing Metal underground water pipe.
 - 2. Metal building frame.
 - 3. Concrete-encased electrode.
 - 4. Existing Metal underground gas piping system.
 - 5. Rod electrode.
 - 6. Plate electrode.

1.4 DESIGN REQUIREMENTS

- A. Construct and test grounding systems for access flooring systems on conductive floors accordance with IEEE 1100.

1.5 PERFORMANCE REQUIREMENTS

- A. Grounding System Resistance: 5 ohms maximum.

1.6 SUBMITTALS

- A. Product Data: Submit data on grounding electrodes and connections.
- B. Test Reports: Indicate overall resistance to ground and resistance of each electrode.

1.7 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of components and grounding electrodes.

1.8 QUALITY ASSURANCE

- A. Provide grounding materials conforming to requirements of NEC, IEEE 142, and UL labeled.

1.9 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years experience.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site in original factory packaging, labeled with manufacturer's identification.
- B. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.
- C. Do not deliver items to project before time of installation. Limit shipment of bulk and multiple-use materials to quantities needed for immediate installation.

1.11 COORDINATION

- A. Complete grounding and bonding of building reinforcing steel prior concrete placement.

PART 2 - PRODUCTS

2.1 ROD ELECTRODES

- A. Product Description:
 - 1. Material: Copper-clad steel.
 - 2. Diameter: 3/4 inch.
 - 3. Length: 8 feet.
- B. Connector: Connector for exothermic welded connection-bolt clamp.

2.2 ACTIVE ELECTRODES

- A. Product Description:
 - 1. Material: Metallic-salt-filled copper-tube electrode.
 - 2. Shape: Straight as indicated on Drawings.
 - 3. Length: 8 feet 10 feet.

2.3 WIRE

- A. Material: Stranded copper.
- B. Foundation Electrodes: 4AWG.
- C. Grounding Electrode Conductor: Copper conductor insulated if in conduit or above grade

exposed, bare if direct buried.

- D. Bonding Conductor: Copper conductor insulated.

2.4 MECHANICAL CONNECTORS

- A. Description: Bronze connectors, suitable for grounding and bonding applications, in configurations required for particular installation.

2.5 EXOTHERMIC CONNECTIONS

- A. Product Description: Exothermic materials, accessories, and tools for preparing and making permanent field connections between grounding system components.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify final backfill and compaction has been completed before driving rod electrodes.

3.2 PREPARATION

- A. Remove paint, rust, mill oils and surface contaminants at connection points.

3.3 EXISTING WORK

- A. Modify existing grounding system to maintain continuity to accommodate renovations.
- B. Extend existing grounding system using materials and methods as specified.

3.4 INSTALLATION

- A. Install rod electrodes at locations as indicated on Drawings. Install additional rod electrodes to achieve specified resistance to ground.
- B. Install grounding and bonding conductors concealed from view.
- C. Bond together metal siding not attached to grounded structure; bond to ground.
- D. Equipment Grounding Conductor: Install separate, insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
- E. Install continuous grounding using underground cold water system and building steel as grounding electrode. Where water piping is not available, install artificial station ground by means of driven rods or buried electrodes.
- F. Permanently ground entire light and power system in accordance with NEC, including service equipment, distribution panels, lighting panelboards, switch and starter enclosures, motor frames, grounding type receptacles, and other exposed non-current carrying metal parts of electrical equipment.
- G. Size grounding conductors in accordance with CEC or as indicated on drawings. Install from grounding bus of serving panel to ground bus of served panel, grounding screw of receptacles,

lighting fixture housing, light switch outlet boxes or metal enclosures of service equipment. Ground conduits as necessary by means of grounding bushings on terminations at panelboards and switchboards to grounding bus.

- H. Permanently attach equipment and grounding conductors prior to energizing equipment.

3.5 FIELD QUALITY CONTROL

- A. Provide visual and mechanical inspection in accordance with NETA ATS, 7.13A.
- B. Perform electrical tests in accordance with NETA ATS, 7.13B.
- C. Perform ground resistance testing in accordance with IEEE 142.
- D. Perform continuity testing in accordance with IEEE 142.
- E. Provide written test results of grounding system and submit to Architect.

3.6 INDEPENDENT TESTING ORGANIZATION AND PERSONNEL

- A. Obtain the services of an independent third party testing organization to perform electrical tests.
- B. Independent testing organization and personnel shall meet the requirements of NETA ATS 3.1 and 3.2.

END OF SECTION

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Conduit and cable tray supports.
 - 2. Formed steel channel.
 - 3. Spring steel clips.
 - 4. Sleeves.
 - 5. Mechanical sleeve seals.
 - 6. Firestopping relating to electrical work.
 - 7. Firestopping accessories.
 - 8. Floor and wall mounted equipment bases and supports.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
 - 3. ASTM E814 - Standard Test Method for Fire Tests of Through-Penetration Fire Stops.
 - 4. ASTM E1966 - Standard Test Method for Fire-Resistive Joint Systems.
- B. NFPA 70 – National Electrical Code (NEC).] [Part 3, Title 24, - California Electrical Code (CEC).
- C. Underwriters Laboratories Inc.:
 - 1. UL 1479 - Fire Tests of Through-Penetration Firestops.
 - 2. UL - Fire Resistance Directory.

1.3 DEFINITIONS

- A. Firestopping (Through-Penetration Protection System): Sealing or stuffing material or assembly placed in spaces between and penetrations through building materials to arrest movement of fire, smoke, heat, and hot gases through fire rated construction.

1.4 SYSTEM DESCRIPTION

- A. Firestopping Materials: UL 1479, to achieve fire ratings in accordance with UL Design Numbers noted on Drawings.

1.5 PERFORMANCE REQUIREMENTS

- A. Penetrations: Provide through-penetration firestop systems that are installed to resist the spread of fire, passage of smoke and other hot gases according to requirements indicated, to restore the original fire-resistance rating of assembly penetrated.
 - 1. Install complete through penetration firestop systems that have been tested and are listed by recognized testing agencies per ASTM E 814 or UL 1479 fire tests in a configuration

that is representative of site conditions.

2. F-Rated Systems: Install through-penetration firestop systems with F-ratings indicated, as determined per ASTM E 814 or UL 1479, but not less than the fire resistance rating of the assembly being penetrated.
3. T-Rated Systems: Install through-penetration firestop systems with T-ratings indicated, as well as F-ratings, as determined per ASTM E 814 or UL 1479, where required by the Building Code.

1.6 SUBMITTALS

- A. Shop Drawings: Indicate system layout with location and detail of trapeze hangers.
- B. Product Data:
 1. Hangers and Supports: Submit manufacturers catalog data including load capacity.
 2. Firestopping: Submit data on product characteristics, performance and limitation criteria.
- C. Firestopping Schedule: Submit schedule of opening locations and sizes, penetrating items, and required listed design numbers to seal openings to maintain fire resistance rating of adjacent assembly.
- D. Design Data: Indicate load carrying capacity of hangers and supports.
- E. Manufacturer's Installation Instructions:
 1. Hangers and Supports: Submit special procedures and assembly of components.
 2. Firestopping: Submit preparation and installation instructions.
- F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- G. Engineering Judgements: For conditions not covered by UL or WH listed designs, submit judgements by licensed professional engineer suitable for presentation to authority having jurisdiction for acceptance as meeting code fire protection requirements.

1.7 SEISMIC DETAILS AND CALCULATIONS

- A. Submit details and calculations for support and anchors that are not specifically detailed on the Drawings where required by California Building Standards Code, California Code of Regulations, Title 24. Pre-approved systems may be used as noted below only if the pre-approval is current and accepted by the local agency having jurisdiction.
- B. Where pre-approved bracing systems will be employed, submit:
 1. System component brochure describing components used and detailed installation instructions.
 2. Loads to be transmitted to the structure at anchor points.
- C. Where pre-approved bracing systems are not used, submit details and calculations of proposed systems. Include:
 1. Detailed drawings and calculations showing system to be installed, stamped by a Structural Engineer registered in the state of California.
 2. Loads to be transmitted to the structure at anchor points.

1.8 QUALITY ASSURANCE

- A. Through Penetration Firestopping of Fire Rated Assemblies: UL 1479 with 0.10 inch water gage minimum positive pressure differential to achieve fire F-Ratings and temperature T-

Ratings as indicated on Drawings, but not less than 1-hour.

1. Wall Penetrations: Fire F-Ratings as indicated on Drawings, but not less than 1-hour.
2. Floor Penetrations: Fire F-Ratings and temperature T-Ratings as indicated on Drawings, but not less than 1-hour.
 - a. Floor Penetrations Within Wall Cavities: T-Rating is not required.

- B. Through Penetration Firestopping of Non-Fire Rated Floor [and Roof] Assemblies: Materials to resist free passage of flame and products of combustion.

1. Noncombustible Penetrating Items: Noncombustible materials for penetrating items connecting maximum of three stories.
2. Penetrating Items: Materials approved by authorities having jurisdiction for penetrating items connecting maximum of two stories.

1.9 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years experience.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site in original factory packaging, labeled with manufacturer's identification.
- B. Protect from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original packaging.

1.11 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply firestopping materials when temperature of substrate material and ambient air is below 60 degrees F.
- B. Maintain this minimum temperature before, during, and for minimum 3 days after installation of firestopping materials.

PART 2 - PRODUCTS

2.1 CONDUIT SUPPORTS

- A. Hanger Rods: Threaded high tensile strength galvanized carbon steel with free running threads.
- B. Beam Clamps: Malleable Iron, with tapered hole in base and back to accept either bolt or hanger rod. Set screw: hardened steel.
- C. Conduit clamps for trapeze hangers: Galvanized steel, notched to fit trapeze with single bolt to tighten.
- D. Conduit clamps - general purpose: One hole malleable iron for surface mounted conduits.
- E. Cable Ties: High strength nylon temperature rated to 185 degrees F. Self locking.

2.2 FORMED STEEL CHANNEL

- A. Product Description: Galvanized 12 gage) thick steel. With holes 1-1/2 inches on center.

2.3 SPRING STEEL CLIPS

- A. Spring steel conduit hanger to threaded rod or wire.

2.4 SLEEVES

- A. Sleeves for Through Non-fire Rated Floors: 18 gage thick galvanized steel.
- B. Fire-stopping Insulation: Glass fiber type, non-combustible.

2.5 MECHANICAL SLEEVE SEALS

- A. Product Description: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

2.6 FIRESTOPPING

- A. Product Description: Different types of products by multiple manufacturers are acceptable as required to meet specified system description and performance requirements; provide only one type for each similar application.
 - 1. Silicone Firestopping Elastomeric Firestopping: [Single] [Multiple] component silicone elastomeric compound and compatible silicone sealant.
 - 2. Foam Firestopping Compounds: [Single] [Multiple] component foam compound.
 - 3. Formulated Firestopping Compound of Incombustible Fibers: Formulated compound mixed with incombustible non-asbestos fibers.
 - 4. Fiber Stuffing and Sealant Firestopping: Composite of [mineral] [ceramic] fiber stuffing insulation with silicone elastomer for smoke stopping.
 - 5. Mechanical Firestopping Device with Fillers: Mechanical device with incombustible fillers and silicone elastomer, covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
 - 6. Intumescent Firestopping: Intumescent putty compound which expands on exposure to surface heat gain.
 - 7. Firestop Pillows: Formed mineral fiber pillows.

2.7 FIRESTOPPING ACCESSORIES

- A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces and suitable for required fire ratings.
- B. Installation Accessories: Provide clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.
- C. General:
 - 1. Furnish UL listed products.
 - 2. Select products with rating not less than rating of wall or floor being penetrated.
- D. Non-Rated Surfaces:
 - 1. Stamped steel, chrome plated, hinged, split ring escutcheons or floor plates or ceiling

- plates for covering openings in occupied areas where conduit is exposed.
2. For exterior wall openings below grade, furnish modular mechanical type seal consisting of interlocking synthetic rubber links shaped to continuously fill annular space between conduit and cored opening or water-stop type wall sleeve.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify openings are ready to receive sleeves.
- B. Verify openings are ready to receive firestopping.

3.2 PREPARATION

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter affecting bond of firestopping material.
- B. Remove incompatible materials affecting bond.
- C. Install damming materials to arrest liquid material leakage.
- D. Obtain permission from Architect/Engineer before using powder-actuated anchors.
- E. Do not drill or cut structural members.

3.3 INSTALLATION - HANGERS AND SUPPORTS

- A. Anchors and Fasteners:
 1. Concrete Structural Elements: Provide expansion anchors, powder actuated anchors and preset inserts.
 2. Steel Structural Elements: Provide beam clamps, spring steel clips, steel ramset fasteners, and welded fasteners.
 3. Concrete Surfaces: Provide expansion anchors.
 4. Hollow Masonry, Plaster, and Gypsum Board Partitions: Provide structural backing plate.
 5. Solid Masonry Walls: Provide expansion anchors and preset inserts.
 6. Sheet Metal: Provide sheet metal screws.
 7. Wood Elements: Provide wood screws.
- B. Inserts:
 1. Install inserts for placement in concrete forms.
 2. Install inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
 3. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.
 4. Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
 5. Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut above flush with top of recessed into and grouted flush with slab.
- C. Install conduit and raceway support and spacing in accordance with the California Electrical Code.

- D. Install all support devices according to manufacturer's guidelines and recommendations.
- E. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.
- F. Do not drill through structural framing members.
- G. Do not support equipment or fixtures from the roof deck. Provide necessary framing and joist hangers to span between structural members to locate hangers properly.
- H. Install multiple conduit runs on common hangers.
- I. Supports:
 - 1. Fabricate supports from structural steel or formed steel channel. Install hexagon head bolts to present neat appearance with adequate strength and rigidity. Install spring lock washers under nuts.
 - 2. Install surface mounted cabinets and panelboards with minimum of four anchors.
 - 3. In wet and damp locations install steel channel supports to stand cabinets and panelboards 1 inch off wall.
 - 4. Support vertical conduit at every floor.

3.4 INSTALLATION - FIRESTOPPING

- A. Install material at fire rated construction perimeters and openings containing penetrating sleeves, piping, ductwork, conduit and other items, requiring firestopping.
- B. Apply primer where recommended by manufacturer for type of firestopping material and substrate involved, and as required for compliance with required fire ratings.
- C. Apply firestopping material in sufficient thickness to achieve required fire and smoke rating.
- D. Fire Rated Surface:
 - 1. Seal opening at floor, wall, partition, ceiling, and roof as follows:
 - a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
 - b. Pack void with backing material.
 - c. Seal ends of sleeve with UL listed fire resistive silicone compound to meet fire rating of structure penetrated.
- E. Non-Rated Surfaces:
 - 1. Seal opening through non-fire rated all, partition floor, ceiling, and roof opening as follows:
 - a. Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
 - b. Install type of firestopping material recommended by manufacturer.
 - 2. Interior partitions: Seal pipe penetrations at clean rooms, laboratories, hospital spaces, computer rooms, telecommunication rooms data rooms and. Apply sealant to both sides of penetration to completely fill annular space between sleeve and conduit.

3.5 INSTALLATION - EQUIPMENT BASES AND SUPPORTS

- A. Provide housekeeping pads of concrete, minimum 4 inches thick and extending 6 inches beyond supported equipment.
- B. Using templates furnished with equipment, install anchor bolts, and accessories for mounting

and anchoring equipment.

- C. Construct supports of steel members formed steel channel. Brace and fasten with flanges bolted to structure.

3.6 INSTALLATION - SLEEVES

- A. Exterior watertight entries: Seal with adjustable interlocking rubber links.
- B. Conduit penetrations not required to be watertight: Sleeve and fill with silicon foam.
- C. Set sleeves in position in forms. Provide reinforcing around sleeves.
- D. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
- E. Extend sleeves through floors 1 inch above finished floor level. Caulk sleeves.
- F. Where conduit or raceway penetrates floor, ceiling, or wall, close off space between conduit or raceway and adjacent work with fire stopping insulation and caulk.
- G. Install chrome plated steel escutcheons at finished surfaces where penetrations occur below finished ceilings.

3.7 FIELD QUALITY CONTROL

- A. Inspect installed firestopping for compliance with specifications.

3.8 CLEANING

- A. Clean adjacent surfaces of firestopping materials.

3.9 PROTECTION OF FINISHED WORK

- A. Protect adjacent surfaces from damage by material installation.

END OF SECTION

SECTION 260533 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes conduit and tubing, surface raceways, wireways, outlet boxes, pull and junction boxes, and handholes.
- B. Related Sections:
 - 1. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
 - 2. Section 26 05 29 - Hangers and Supports for Electrical Systems.
 - 3. Section 26 05 53 - Identification for Electrical Systems.
 - 4. Section 26 27 26 - Wiring Devices.

1.2 REFERENCES

- A. American National Standards Institute:
 - 1. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
 - 2. ANSI C80.3 - Specification for Electrical Metallic Tubing, Zinc Coated.
 - 3. ANSI C80.5 - Aluminum Rigid Conduit - (ARC).
- B. National Electrical Manufacturers Association:
 - 1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
 - 2. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
 - 3. NEMA OS 1 - Sheet Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
 - 4. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers, and Box Supports.
 - 5. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
 - 6. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Tubing and Conduit.
 - 7. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.
- C. NFPA 70 – National Electrical Code (NEC).] [Part 3, Title 24, - California Electrical Code (CEC).

1.3 SYSTEM DESCRIPTION

- A. Raceway and boxes located as indicated on Drawings, and at other locations required for splices, taps, wire pulling, equipment connections, and compliance with regulatory requirements. Raceway and boxes are shown in approximate locations unless dimensioned. Provide raceway to complete wiring system.
- B. Wet and Damp Locations: Provide rigid steel conduit, electrical metallic tubing with compression type fittings, Schedule 40 nonmetallic conduit. Provide cast metal or nonmetallic outlet, junction, and pull boxes. Provide flush mounting outlet box in finished areas.
- C. Concealed Dry Locations: Provide rigid steel conduit, intermediate metal conduit or electrical metallic tubing. Provide sheet-metal boxes. Provide flush mounting outlet box in finished areas. Provide hinged enclosure for large pull boxes where shown on drawings.
- D. Exposed Interior Dry Locations: Use rigid steel conduit or intermediate metal conduit below eight feet or where subject to damage. Use rigid steel conduit, intermediate metal conduit, or

electrical metallic tubing above eight feet or in electrical, mechanical or telecommunication rooms. Use sheet-metal or cast metal boxes. Use flush mounting outlet box in finished areas. Provide hinged enclosure for large pull boxes.

1.4 DESIGN REQUIREMENTS

A. Minimum Raceway Size:

1. 3/4 inch.
2. 1 inch. for homeruns.
3. 1 inch outside foundation line.
4. 1 1/4" inch for communication system outlets.

1.5 SUBMITTALS

A. Product Data: Submit for the following:

1. Metallic conduit.
2. Electrical metallic tubing.
3. Flexible metal conduit.
4. Liquidtight flexible metal conduit.
5. Nonmetallic conduit.
6. Flexible nonmetallic conduit.
7. Nonmetallic tubing.
8. Raceway fittings.
9. Conduit bodies.
10. Surface raceway.
11. Wireway.
12. Pull and junction boxes.
13. Handholes.

B. Manufacturer's Installation Instructions: Submit application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of Product.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

1.7 COORDINATION

- A. Coordinate mounting heights, orientation and locations of outlets mounted above counters, benches, and backsplashes.
- B. Coordinate Work of this Division and Work of other Divisions in advance of installation. Provide additional Work to overcome tight conditions at no increase in Contract Sum.
- C. Coordinate installation of outlet boxes for equipment specified in other divisions.

PART 2 - PRODUCTS

2.1 METAL CONDUIT

- A. Rigid Steel Conduit: ANSI C80.1.
- B. Intermediate Metal Conduit (IMC): Rigid steel.
- C. Fittings: NEMA FB 1. Fittings shall be steel with threaded fittings. Use insulated metallic bushings with lug where ground connections are required. Use plastic bushing for non-bonding applications.
- D. Conduit Bodies: Bodies connected to rigid steel or intermediate conduit shall be malleable iron. Provide matching gasketed cover with at least two corrosion resistant screws.

2.2 PVC COATED METAL CONDUIT

- A. Product Description: NEMA RN 1; rigid steel conduit with external PVC coating, 40 mil thick.
- B. Fittings and Conduit Bodies: NEMA FB 1; steel fittings with external PVC coating to match conduit.

2.3 FLEXIBLE METAL CONDUIT

- A. Product Description: Interlocked steel construction.
- B. Fittings: NEMA FB 1; steel iron squeeze type with insulated throat.

2.4 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Product Description: Interlocked steel construction with PVC jacket.
- B. Fittings: NEMA FB 1; steel fitting with insulated throat.

2.5 ELECTRICAL METALLIC TUBING (EMT)

- A. Product Description: ANSI C80.3; galvanized tubing.
- B. Fittings: NEMA FB 1; steel compression couplings and connectors. Box connectors shall have with insulated throat. Compression couplings and connectors for 2 inch trade size and smaller. Set screw type couplings for 2 1/2 inch trade size or larger.
- C. Conduit Bodies: Provide types shapes, and sizes to suit individual applications. Bodies shall be malleable iron.

2.6 NONMETALLIC CONDUIT

- A. Product Description: NEMA TC 2; Schedule 40 PVC.
- B. Fittings: NEMA TC 3.

2.7 NONMETALLIC TUBING

- A. Product Description: NEMA TC 2.
- B. Fittings and Conduit Bodies: NEMA TC 3.

2.8 SURFACE METAL RACEWAY

- A. Manufacturers:
 - 1. Hubbell Wiring Devices Model
 - 2. Thomas & Betts Corp. Model.
 - 3. Walker Systems Inc. Model.
 - 4. The Wiremold Co. Model.
- B. Product Description: Sheet metal channel with fitted cover, suitable for use as surface metal raceway.
- C. Fittings, Boxes, and Extension Rings: Furnish manufacturer's standard accessories; match finish on raceway.

2.9 SURFACE NONMETAL RACEWAY

- A. Manufacturers:
 - 1. Carlon Electrical Products.
 - 2. Hubbell Wiring Devices.
 - 3. Thomas & Betts Corp.
 - 4. Walker Systems Inc.
 - 5. The Wiremold Co.
- B. Product Description: Plastic channel with fitted cover, suitable for use as surface raceway.
- C. Fittings, Boxes, and Extension Rings: Furnish manufacturer's standard accessories, finish to match raceway.

2.10 WIREWAY

- A. Product Description: General purpose or Raintight type wireway.
- B. Finish: Rust inhibiting primer coating with gray enamel finish.

2.11 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: NEMA OS 1, galvanized steel.
 - 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; furnish 1/2 inch male fixture studs where required.
 - 2. Boxes for shall be 1-1/2 inch deep by 4 inch square minimum.
 - 3. Boxes for telecommunications outlets shall be 2-1/2 inch deep by 4 11/16, 2-7/8 inch deep by 5] inch square minimum. Provide 2-gang device ring.
 - 4. Concrete Ceiling Boxes: Concrete type.
- B. Nonmetallic Outlet Boxes: NEMA OS 2.
- C. Cast Boxes: NEMA FB 1, Type FD, cast fer alloy. Furnish gasketed cover by box manufacturer. Furnish threaded hubs.
- D. Wall Plates for Finished Areas: As specified in Section 26 27 26.
- E. Wall Plates for Unfinished Areas: Furnish gasketed cover.

2.12 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: NEMA OS 1, galvanized steel.
- B. Hinged Enclosures: As specified in Section 26 27 16. Surface Mounted Cast Metal Box: NEMA 250, Type 4/4X; flat-flanged, surface mounted junction box:
 - 1. Material: Galvanized cast iron.
 - 2. Cover: Furnish with ground flange, neoprene gasket, and stainless-steel cover screws.
- C. Concrete composite Handholes:
 - 1. Die-molded, concrete composite hand holes:
 - 2. Cable Entrance: Pre-cut cable entrance at center bottom of each side.
 - 3. Extension: 12" reinforced concrete below box.
 - 4. Cover: Concrete composite Steel checker plate cover with nonskid finish. Covers shall be marked "ELECTRIC", "SIGNAL", "GROUND" or as indicated on drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify outlet locations and routing and termination locations of raceway prior to rough-in.

3.2 EXISTING WORK

- A. Remove exposed abandoned raceway, including abandoned raceway above accessible ceiling finishes. Cut raceway flush with walls and floors, and patch surfaces.
- B. Remove concealed abandoned raceway to its source.
- C. Disconnect abandoned outlets and remove devices. Remove abandoned outlets when raceway is abandoned and removed. Install blank cover for abandoned outlets not removed.
- D. Maintain access to existing boxes and other installations remaining active and requiring access. Modify installation or provide access panel.
- E. Extend existing raceway and box installations using materials and methods as specified.
- F. Clean and repair existing raceway and boxes to remain or to be reinstalled.

3.3 INSTALLATION

- A. Ground and bond raceway and boxes in accordance with Section 26 05 26.
- B. Fasten raceway and box supports to structure and finishes in accordance with Section 26 05 29.
- C. Identify raceway and boxes in accordance with Section 26 05 53.
- D. Arrange raceway and boxes to maintain headroom and present neat appearance.
- E. Maintain minimum 12" clearance from top of suspended ceiling to bottom of conduits where possible.
- F. Electrical wiring, conduits and boxes may not be installed within 1 ½" of metal deck roofs.

3.4 INSTALLATION - RACEWAY

- A. Raceway routing is shown in approximate locations unless dimensioned. Route to complete wiring system.
- B. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- C. Group related raceway; support using conduit rack. Construct rack using steel channel specified in Section 26 05 29; provide space on each for 25 percent additional raceways.
- D. Provide flexible conduit connections of short length to equipment subject to vibration and all motors; twenty-four inches maximum.
- E. Provide flexible conduit for connections to light fixtures above ceilings; six foot maximum.
- F. Do not support raceway with wire or perforated pipe straps. Remove wire used for temporary supports
- G. Do not attach raceway to ceiling support wires or other piping systems.
- H. Do not route flexible conduit through rated or non-rated walls.
- I. Construct wireway supports from steel channel specified in Section 26 05 29.
- J. Route exposed raceway parallel and perpendicular to walls.
- K. Route raceway installed above accessible ceilings parallel and perpendicular to walls.
- L. Maintain clearance between raceway and piping for maintenance purposes.
- M. Maintain 2 inch clearance between raceway running perpendicular to piping with temperatures exceeding 104 degrees F.
- N. Maintain 12 inch clearance between raceway and surfaces with temperatures exceeding 104 degrees F.
- O. Cut conduit square using saw or pipe cutter; de-burr cut ends.
- P. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for minimum 20 minutes.
- Q. Install conduit hubs or sealing locknuts to fasten conduit [to sheet metal boxes in damp and wet locations] [and] [to cast boxes].
- R. Install no more than equivalent of four 90 degree bends between boxes. Install conduit bodies to make sharp changes in direction, as around beams. Install [hydraulic one-shot bender to fabricate] [factory elbows for] bends in metal conduit larger than 2 inch size.
- S. Avoid moisture traps; install junction box with drain fitting at low points in conduit system.
- T. Install fittings to accommodate expansion and deflection where raceway crosses seismic, control or expansion joints.
- U. Install suitable pull string or cord in each empty raceway except sleeves and nipples.
- V. Install suitable caps to protect installed conduit against entrance of dirt and moisture.

- W. Surface Raceway: Install flat-head screws, clips, and straps to fasten raceway channel to surfaces; mount plumb and level. Install insulating bushings and inserts at connections to outlets and corner fittings.
- X. Close ends and unused openings in wireway.
- Y. All conduits installed on this project for Telecommunications Cabling where any portion of the conduit is below slab on grade, shall be cleaned and swabbed dry by the installing contractor. In pathways installed within the building, the Telecommunications Contractor shall not place Telecommunications Cabling into slab on grade conduits containing water. Wet conditions will immediately be reported to the General Contractor or Project Manager upon discovery and cleaned prior to cable installation.

3.5 INSTALLATION - BOXES

- A. Boxes for Concealed Conduits:
 - 1. Flush mounted.
 - 2. Provide raised covers for boxes to suit the wall or ceiling, construction and finish.
- B. Install wall mounted boxes at elevations to accommodate mounting heights as indicated on Drawings.
- C. Adjust box location up to 10 feet prior to rough-in to accommodate intended purpose.
- D. Orient boxes to accommodate wiring devices oriented as specified in Section 26 27 26.
- E. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
- F. In Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 24 inches from ceiling access panel or from removable recessed luminaire.
- G. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- H. Do not install flush mounting box back-to-back in walls; install with minimum 6 inches separation.
- I. Provide acoustical rated moldable putty pads for all boxes located in acoustic rated walls.
- J. Provide fire rated moldable putty pads for all boxes located in fire rated walls.
- K. Secure flush mounting box to interior wall and partition studs with screws, not nails. [Use box support bracket with far side support leg.] Accurately position to allow for surface finish thickness.
- L. Install stamped steel bridges to fasten flush mounting outlet box between studs.
- M. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- N. Install adjustable steel channel fasteners for hung ceiling outlet box.
- O. Do not fasten boxes to ceiling support wires or other piping systems.
- P. Support boxes independently of conduit.
- Q. Install gang box where more than one device is mounted together. Do not use sectional box.

- R. Install gang box with plaster ring for single device outlets.
- S. Boxes located below eight feet in exposed interior dry locations shall be one piece drawn steel or cast type.

3.6 INSTALLATION CONCRETE COMPOSITE HANDHOLES

- A. Install boxes flush with finished grade or surface material.
- B. Provide hold down bolts for all covers.
- C. Provide minimum 12" depth of crushed rock or pea gravel below boxes for drainage. Ground bond steel cover plate with insulated green grounding conductor.

3.7 INTERFACE WITH OTHER PRODUCTS

- A. Install conduit to preserve fire resistance rating of partitions and other elements.
- B. Route conduit through roof openings for piping and ductwork or through suitable roof jack with pitch pocket. Coordinate location with roofing installation specified in other Sections.
- C. Locate outlet boxes to allow luminaires positioned as indicated on Drawings.
- D. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.

3.8 ADJUSTING

- A. Adjust flush-mounting outlets to make front flush with finished wall material.
- B. Install knockout closures in unused openings in boxes.

3.9 CLEANING

- A. Clean interior of boxes to remove dust, debris, and other material.
- B. Clean exposed surfaces and restore finish.

END OF SECTION

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Nameplates.
 - 2. Labels.
 - 3. Engraved coverplates.
 - 4. Wire markers.
 - 5. Conduit markers.
 - 6. Lockout Devices.

1.2 SUBMITTALS

- A. Product Data:
 - 1. Submit manufacturer's catalog literature for each product required.
 - 2. Submit electrical identification schedule including list of wording, symbols, letter size, color coding, tag number, location, and function.

1.3 QUALITY ASSURANCE

- A. Provide material supplied by a manufacturer producing identification systems
- B. Comply with OSHA, NFPA or local jurisdiction identification requirements for electrical systems.

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Install labels or nameplates only when ambient temperature and humidity conditions for adhesive are within range recommended by manufacturer.

PART 2 - PRODUCTS

2.1 NAMEPLATES

- A. Product Description: Laminated three-layer plastic with engraved white letters on contrasting background color.
 - 1. Provide minimum letter height as follows:
 - a. For Panelboards, Distribution boards, Switchboards, Battery Panels and Motor Control Center: 1/2 inch letters to identify equipment designation. Use 1/4 inch letters to identify voltage, phase and wires.
 - b. For Individual Circuit Breakers, Switches and Motor Starters in Distribution panelboards, Distribution boards, Switchboards, Switchgear and Motor Control Centers use 3/8 inch letters to identify equipment designation. Use 1/8 inch letters to identify all other.
 - c. For Individual mounted Circuit Breakers, Disconnect Switches, Enclosed Switches and motor Starters use 3/8 inch letters to identify equipment designation. Use 1/8 inch letters to identify all others.
 - d. For Transformers use 1/2 inch letters to identify equipment designation. Use

- 1/4 inch letters to identify primary and secondary voltages, primary disconnect location, and other specified data.
- e. For equipment cabinets, terminal cabinets, control panels and other cabinet enclosed apparatus use 3/8 inch letters to identify equipment designation.

- B. Minimum nameplate thickness: 1/16 inch for signs up to 20 square inches, or 8 inches in length; 1/8 inch thick for larger sizes. Furnish with pre-punched holes for mechanical fasteners.

2.2 BRASS TAGS

- A. Metal tags with die-stamped legend, punched for fastener. 2 inch diameter, 19 gauge.

2.3 LABELS

- A. Labels: Thermal transfer laminated adhesive tape, with 1/8-inch black letters on clear tape cartridge.

2.4 WIRE MARKERS

- A. Description: Self-adhering, pre-printed, machine printable or write-on, self-laminating vinyl wrap around strips. Inscribe blank markers using the printer or pen recommended by the manufacturer for this purpose.
- B. Legend:
 - 1. Power and Lighting Circuits: Branch circuit or feeder number as indicated on Drawings.
 - 2. Control Circuits: Control wire number as indicated on shop drawings.

2.5 CONDUCTOR PHASE MARKERS

- A. Colored vinyl plastic electrical tape, 3/4 inch wide, for identification of phase conductors.

2.6 CONDUIT AND RACEWAY MARKERS

- A. Description: Labels fastened with adhesive.
- B. Color:
 - 1. 208 Volt System: Blue lettering on white background.
- C. Legend:
 - 1. 480 Volt System: 480 VOLTS.
 - 2. 208 Volt System: 208 VOLTS.

2.7 UNDERGROUND WARNING TAPE

- A. Description: 6 inch wide plastic tape, detectable type, colored yellow or red with suitable warning legend describing buried electrical lines.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.

3.2 INSTALLATION

A. Install identifying devices after completion of painting.

B. Nameplate Installation:

1. Install nameplate parallel to equipment lines.
2. Install nameplate for each electrical distribution and control equipment enclosure with corrosive-resistant mechanical fasteners, or adhesive.
3. Install nameplates for each control panel and major control components located outside panel with corrosive-resistant mechanical fasteners.
4. Secure nameplate to equipment front using rivets.
 - a. Provide color coded nameplates as applicable, with the following information:
 - 1) Equipment or device designation.
 - 2) Amperage, KVA or horsepower rating, where applicable.
 - 3) Voltage or signal system name.
 - 4) "Served from" identification.
 - 5) Miscellaneous information as shown in "Examples".
 - 6) Examples:

(a) Panels: 2EH1
225A
277/480V, 3PH, 4W
Served From: 2EHD1

(b) Transformers: ETX-1
150KVA
480V - 120/208V, 3PH, 4W
Served From: EHD1
Load Served: EL1

(c) Motor Control Centers:
Main Nameplate: Each Compartment
MCC-NH1 EF-1
600A Main Bus 20 HP
480V, 3PH, 3W Switch Size: 100A
Served From: HDD1A-2 Starter Size: 1

(d) Disconnects or Individual Motor Starters.
EF-1
20HP
480V, 3PH, 3W
Served From: MCCNH-1

(e) Signal: STB-3
Public Address System
Served From: STBM

C. Nameplates for power system distribution equipment and devices are to be colored as follows: (Unless otherwise noted)

1. 277/480 VAC Normal - Yellow with black letters

2. 277/480 VAC Emergency/Battery - Red with white letters
 3. 120/208 VAC Normal - Blue with white letters
 4. 120/208 VAC Emergency/Battery - Red with white letters
- D. Nameplates for signal systems equipment and devices are to be black except as follows:
1. Fire alarm and life safety - White with red letters
 2. Security/Card access/CCTV systems - Green with white letters
 3. Clock, intercom, sound, MATV, CATV: Magenta with white letters
 4. Building management system (BMS): White with black letters
- E. Label Installation:
1. Install label parallel to equipment lines.
 2. Install label for identification of individual control device stations, receptacles and switches.
 3. Locate the top of label 1/2 inch below the top edge of coverplates.
 4. Install label for multi-outlet assembly receptacles.
 5. Install labels for permanent adhesion.
- F. Inscribed Device Cover plate:
1. General: Lettering type shall be Helvetica, 12 point or 1/8" high. Color of characters shall be black. Locate the top of the inscription 1/2" below the top edge of the coverplate. Inscription shall be centered and square with coverplate.
 2. Provide inscribed coverplates for devices as outlined below:
 - a. Receptacles [and] [switches].
 - b. Outlets in surface raceways.
 - c. Multi-ganged (four or more) switch arrangement.
 - d. Special purpose switches, i.e. projection screens, shades, exhaust fans, etc.
- G. Wire Marker Installation:
1. Install wire marker for each conductor at panelboard gutters, pull boxes.
 2. Provide colored plastic phase tape in half-lapped turns for a distance of 3 inches from terminal points and in boxes where splices or taps are made.
- H. Junction box identification:
1. Color code and identify all junction boxes located above suspended ceilings and below ceilings in non-public areas.
 2. Use finish paint suitable for use on metal surfaces.
 3. Boxes shall be identified with permanent felt tip marker on cover indicating panel and circuit numbers. Paint junction box covers using the color coding listed below.
 - a. 480/277 Volt System: Orange.
 - b. 208/120 Volt System: Blue.
- I. Conduit Raceway Marker Installation:
1. Install conduit raceway marker for each conduit raceway longer than 10 feet.
 2. Conduit Raceway Marker Spacing: 20 feet on center.
- 3.3 WARNING, CAUTION AND INSTRUCTION SIGNS
- A. Provide warning, caution or instruction signs where required by OSHA, where indicated, or where reasonably required to assure safe operation and maintenance of electrical systems.
1. Install engraved plastic-laminated instruction signs with approved legend where instructions or explanations are needed for system of equipment operation
 2. Provide polyester film self-adhesive signs for indoor/outdoor equipment and door

warning. Use rigid polyethylene non-adhesive signs where adhesives will not work; for example, installing on a metal fence. Provide sign color and marking that meets OSHA regulations. For example, DANGER (red background with white letters), HIGH VOLTAGE (white with black letters).

- a. Use 2 by 4 inch signs for small equipment or enclosure doors.
- b. Use 7 by 10 inch or 10 by 14 inch signs for large equipment or enclosure doors.

- B. Emergency Operating Signs: Install engraved laminate signs with white letters on red background with minimum 3/8 inch high lettering for emergency instructions on power transfer, load shedding, or other emergency operations.

3.4 Firestopping

- A. Firestopping shall be labeled at each location where installed, on each side of the penetrated fire barrier, and within 12 in. of the firestopping material.

END OF SECTION

SECTION 260573 - SHORT-CIRCUIT/COORDINATION STUDY AND ARC FLASH HAZARD ANALYSIS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes short circuit and protective device coordination studies encompassing portions of electrical distribution system from normal power source or sources up to and including [breakers in service entrance switchboard,] [fuses in service entrance switchboard,] [main breaker in sub-distribution panels,] [fuses in sub-distribution panels] [and] [main breaker in each panelboard].
- B. The contractor shall furnish an Arc Flash Hazard Analysis Study per NFPA 70E - Standard for Electrical Safety in the Workplace, reference Article 130.3 and Annex D.
- C. Related Sections:
 - 1. Section 26 28 26 - Enclosed Transfer Switches.

1.2 REFERENCES

- A. International Electrical Testing Association:
 - 1. ANSI/NETA ATS – 2017 Acceptance Testing Specifications for Electrical Power Equipment and Systems.
- B. Institute of Electrical and Electronics Engineers:
 - 1. IEEE 242 - Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems (Buff Book).
- C. NFPA 70 – National Electrical Code (NEC). Part 3, Title 24, - California Electrical Code (CEC).
- D. IEEE 1584 – Guide for Performing Arc-Flash Hazard Calculations
- E. NFPA 70E – Standard for Electrical Safety in the Workplace

1.3 SHORT CIRCUIT AND PROTECTIVE DEVICE COORDINATION STUDY

- A. Complete Short Circuit, Protective Device Coordination Study and Arc Flash Hazard Analysis to meet requirements of NFPA 70.
- B. Report shall demonstrate that all emergency system overcurrent devices are selectively coordinated to restrict outages to the circuit or equipment affected. This shall be accomplished by providing overcurrent protective devices and their ratings or settings, utilizing the 0.10 second level of the overcurrent protective device from the time-current curve as the basis for the lower limit of the calculation method.
- C. Report Preparation:
 - 1. Prepare study prior to ordering distribution equipment to verify equipment ratings required.
 - 2. Perform study with aid of computer software program.
 - 3. Obtain actual settings for [packaged chiller and motor characteristics for equipment

- incorporated into Work.
4. Calculate short circuit interrupting and, when applicable, momentary duties for assumed 3-phase bolted fault short circuit current and phase to ground fault short circuit current at each of the following:
 - a. Utility supply bus.
 - b. Medium voltage air interrupter switchgear.
 - c. Medium voltage circuit breaker switchgear.
 - d. Secondary unit substations.
 - e. Automatic transfer switch.
 - f. Manual transfer switch.
 - g. Engine generator.
 - h. Medium voltage motor controllers.
 - i. Medium voltage oil switchgear.
 - j. Low-voltage switchgear.
 - k. Switchboards.
 - l. Motor control centers.
 - m. Distribution panelboards.
 - n. Branch circuit panelboards.
 - o. Busway.
 - p. Each other significant equipment location throughout system.
- D. Report Contents:
1. Include the following:
 - a. Calculation methods and assumptions.
 - b. Base per unit value selected.
 - c. One-line diagram.
 - d. Source impedance data including power company system available power and characteristics.
 - e. Typical calculations.
 - 1) Fault impedance.
 - 2) X to R ratios.
 - 3) Asymmetry factors.
 - 4) Motor fault contribution.
 - 5) Short circuit kVA.
 - 6) Symmetrical and asymmetrical phase-to-phase and phase-to-ground fault currents.
 - 7) Tabulations of calculation quantities and results.
 - f. One-line diagram revised by adding actual instantaneous short circuits available.
 - g. Incident energy and flash protection boundary calculations.
 - h. State conclusions and recommendations.
 2. Prepare time-current device coordination curves graphically indicating coordination proposed for system, centered on conventional, full-size, log-log forms.
 3. Prepare with each time-curve sheet complete title and one-line diagram with legend identifying specific portion of system covered by that particular curve sheet.
 4. Prepare detailed description of each protective device identifying its type, function, manufacturer, and time-current characteristics. Tabulate recommended device tap, time dial, pickup, instantaneous, and time delay settings.
 5. Plot device characteristic curves at point reflecting maximum symmetrical fault current to which device is exposed. Include on curve sheets the following:
 - a. Power company relay characteristics.
 - b. Power company fuse characteristics.

- c. Medium voltage equipment protective relay characteristics.
- d. Medium voltage equipment protective fuse characteristics.
- e. Low voltage equipment circuit breaker trip device characteristics.
- f. Low voltage equipment fuse characteristics.
- g. Cable damage point characteristics.
- h. Pertinent transformer characteristics including:
 - 1) Transformer full load current.
 - 2) Transformer magnetizing inrush.
 - 3) ANSI transformer withstand parameters.
 - 4) Significant symmetrical fault current.
- i. Pertinent motor characteristics.
- j. Generator characteristics including:
 - 1) Phase and ground coordination of generator protective devices.
 - 2) Decrement curve and damage curve.
 - 3) Operating characteristic of protective devices.
 - 4) Actual impedance value.
 - 5) Time constants.
 - 6) Current boost data.
 - 7) Do not use typical values for generator.
- k. Transfer switch characteristics.
- l. Other system load protective device characteristics.

1.4 Arc Flash Hazard Analysis

- A. The arc flash hazard analysis shall be performed according to the IEEE 1584 equations that are presented in NFPA70E-2018, Annex D.
- B. When appropriate, the short circuit calculations and the clearing times of the phase overcurrent devices will be retrieved from the short-circuit and coordination study model. Alternative methods shall be presented in the proposal.
- C. The flash protection boundary and the incident energy shall be calculated at all significant locations in the electrical distribution system (switchboards, switchgear, motor-control centers, panelboards, equipment disconnects, busway and splitters) where work could be performed on energized parts.
- D. The Arc-Flash Hazard Analysis shall include all MV, 575v, & 480v locations and significant locations in 240 volt and 208 volt systems.
- E. Safe working distances shall be specified for calculated fault locations based upon the calculated arc flash boundary considering an incident energy of 1.2 cal/cm².
- F. For arc flash calculations, the worst-case scenario is not always described by the greatest magnitude of fault current. The Arc Flash Analysis shall use the maximum and minimum available fault current available at the utility to consider several scenarios and providing a worst-case scenario for each system location. The arc flash analysis will, therefore, include calculations for maximum and minimum contributions of fault current magnitude.
- G. Motors receiving power via variable frequency drives are not considered to have fault contributions. All motors less than 50hp shall be lumped into a single motor model. All motors are to be considered running (contributing).
- H. Arc flash computation shall include both line and load side of main breaker calculations, where

necessary. The worst case scenario incident energy value (cal/cm²) shall be applied to the Arc Flash label.

- I. Arc Flash calculations shall be based on actual overcurrent protective device clearing time. Maximum clearing time will be capped at 2 seconds based on IEEE 1584-20018 section B.1.2.

1.5 SUBMITTALS

- A. Qualifications Data: Submit the following for review prior to starting study.
 1. Submit qualifications and background of firm.
 2. Submit qualifications of [individual or individuals] [Professional Engineer] performing study.
- B. Software: Submit for review information on software proposed to be used in performing study.
- C. Product Data: Submit the following:
 1. Short Circuit and Coordination Study: Summarize results of study in report format including the following:
 - a. Descriptions, purpose, basis, and scope of study.
 - b. Tabulations of circuit breaker, fuse and other protective device ratings versus calculated short-circuit duties, and commentary regarding same.
 - c. Protective device time versus current coordination curves, tabulations of relay and circuit breaker trip settings, fuse selection, and commentary regarding same.
 - d. Fault current calculations including definition of terms and guide for interpretation of computer printout.
 2. Incident energy and flash protection boundary calculations.
 - a. Arcing fault magnitude
 - b. Device clearing time
 - c. Duration of arc
 - d. Arc flash boundary
 - e. Working distance
 - f. Incident energy
 - g. Hazard Risk Category
 - h. Recommendations for arc flash energy reduction
- D. Submit copies of final report [signed by professional engineer]. Make additions or changes required by review comments.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with authority having jurisdiction.
- B. Maintain one copy of each document on site.
- C. Use commercially available software, designed specifically for short circuit and protective device coordination studies.
- D. Perform study in accordance with IEEE 242.

1.7 QUALIFICATIONS

- A. Study Preparer: Company specializing in performing work of this section with minimum 5 years experience.

- B. Perform study under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of California five years' experience in power system analysis.
- C. Demonstrate company performing study has capability and experience to provide assistance during system start up.

1.8 SEQUENCING

- A. Allow 2 weeks for review of completed study by Architect/Engineer.
- B. Submit short circuit protective device coordination study and arc flash hazard analysis studies to Architect/Engineer prior to receiving final approval of distribution equipment shop drawings and prior to releasing equipment for manufacturing.
- C. When formal completion of study will cause delay in equipment manufacturing, obtain approval from Architect/Engineer for preliminary submittal of study data sufficient in scope to ensure selection of device ratings and characteristics will be satisfactory.

1.9 SCHEDULING

- A. Schedule work to expedite collection of data to ensure completion of study for final approval of distribution equipment shop drawings prior to release of equipment for manufacturing.

1.10 COORDINATION

- A. Coordinate work with local power company.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL

- A. Provide assistance to electrical distribution system equipment manufacturer during start up of electrical system and equipment. Select each primary protective device for delta-wye connected transformer so device's characteristic or operating band is within transformer characteristics, including point equal to 58 percent of ANSI withstand point to provide secondary line-to-ground fault protection.
- B. Separate transformer primary protective device characteristic curves from associated secondary device characteristics by 16 percent current margin to provide proper coordination and protection in event of secondary line-to-line faults.

3.2 ADJUSTING

- A. Perform field adjustments of protective devices and modifications to equipment to place equipment in final operating condition. Adjust settings in accordance with approved short circuit and protective device coordination study.

3.3 ARC FLASH WARNING LABELS

SHORT-CIRCUIT/COORDINATION STUDY AND ARC FLASH HAZARD ANALYSIS

- A. The vendor shall provide a 4 in. x 6 in. thermal transfer type label of high adhesion polyester for each work location analyzed.
- B. The label shall have an orange header with the wording, “WARNING, ARC FLASH HAZARD”, and shall include the following information:
 - 1. Location designation
 - 2. Nominal voltage
 - 3. Flash protection boundary
 - 4. Incident energy
 - 5. Working distance
 - 6. Engineering report number, revision number and issue date
- C. Labels shall be machine printed, with no field markings
- D. Arc flash labels shall be provided in the following manner and all labels shall be based on recommended overcurrent device settings.
 - 1. For each 600, 480 and applicable 208 volt panelboards and disconnects, one arc flash label shall be provided
 - 2. For each motor control center, one arc flash label shall be provided
 - 3. For each low voltage switchboard, one arc flash label shall be provided
 - 4. For each switchgear, one flash label shall be provided
 - 5. For medium voltage switches one arc flash label shall be provided

3.4 AVAILABLE FAULT CURRENT LABEL

- A. The vendor shall provide a 4 in. x 6 in. thermal transfer type label of high adhesion polyester for each work location analyzed.
- B. The label shall have the wording, “AVAILABLE FAULT CURRENT”, and shall include the following information:
 - 1. Project Name
 - 2. Fault Name
 - 3. Available Fault Current
 - 4. Voltage
 - 5. Date of Calculation

3.5 ARC FLASH TRAINING

- A. The equipment vendor shall train personnel of the potential arc flash hazards associated with working on energized equipment (minimum of 4 hours). Maintenance procedures in accordance with the requirements of NFPA 70E, Standard For Electrical Safety Requirements For Employee Workplaces, shall be provided in the equipment manuals. The training shall be certified for continuing education units (CEUs) by the International Association for Continuing Education Training (IACET).

END OF SECTION

SECTION 260943 - NETWORK LIGHTING CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Networked lighting control system and components.

B. Related Sections:

1. Section 26 05 33 - Raceway and Boxes for Electrical Systems: Product requirements for raceway and boxes for placement by this section.
2. Section 26 05 53 - Identification for Electrical Systems: Product requirements for electrical identification items for placement by this section.
3. Section 26 27 26 - Wiring Devices: Product requirements for wiring devices for placement by this section.

1.2 REFERENCES

A. Federal Communications Commission:

1. Standard for Radio Frequency Equipment.

B. Government Electronics and Information Technology Association:

1. EIA 709.1 - Control Network Protocol Specification.

C. National Electrical Manufacturers Association:

1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

D. National Fire Protection Association:

1. NFPA 70 - National Electrical Code.

E. Title 24 Part 6:

California Energy Commission - Building Energy Efficiency Standards.

F. Underwriters Laboratories Inc.:

1. UL 50 - Enclosures for Electrical Equipment.
2. UL 67 - Panelboards.
3. UL 508 - Industrial Control Equipment.
4. UL 916 - Energy Management Equipment.

1.3 SYSTEM DESCRIPTION

A. Provide networked lighting control system consisting of components manufactured by single source.

B. Provide networked lighting control system consisting of:

1. Multiple relay panels linked over network wiring using open protocol for communications.
2. Multiple relay panels linked over network wiring using open protocol for communications, and be fully compliant with EIA 709.1.
3. Relay panels and programmable switches connected together by networked

- wiring system extending from panel locations with single communications bus to allow switches to communicate with panels.
- 4. System connected to single time clock mounted in interior of relay panel at remote location.

C. Networked lighting control system performs lighting control in the following building areas:

- 1. Office Areas.
- 2. Boiler rooms.
- 3. Conference rooms.
- 4. Electrical and Switchgear room.
- 5. Restrooms.
- 6. Corridors and all spaces in building.

1.4 SUBMITTALS

- A. Requirements for submittals.
- B. Shop Drawings: Indicate dimensioned drawings of lighting control system components and accessories.
 - 1. One Line Diagram: Indicating system configuration indicating panels, number and type of switches, data line, and network time clock.
 - 2. Drawings for each panel showing hardware configuration and numbering.
 - 3. Panel wiring schedules.
 - 4. Include typical wiring diagrams for each component.
- C. Product Data: Submit manufacturer's standard product data for each system component.
- D. Manufacturer's Installation Instructions: Submit for each system component.
- E. Manufacturer's Certificate: Certify Products meet or exceed specified requirements. Submit in writing system has been installed, adjusted, and tested in accordance with manufacturer's recommendations.
- F. Manufacturer's Field Reports: Submit system startup report indicating date of completion and acknowledgment of programming completion. Indicate acceptance of component and equipment installation, interconnecting wiring, and start-up of system software.

1.5 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record the following information:
 - 1. Wiring diagrams reflecting field installed conditions with identified and numbered, system components and devices.
 - 2. Drawings for each panel showing hardware configuration and numbering.
- B. Operation and Maintenance Data:
 - 1. Submit manufacturer's published installation instructions, operating instructions, programming instructions, and operator's guide.
 - 2. System user's guide and programmer's guide.
 - 3. Instruction books and manufacturer's printed materials.
 - 4. Recommended renewal parts list.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with the State of California Title 24 Part 6 Energy Building Regulations.
- B. Completion and issuance of all Title 24 mandatory testing forms for automatic daylighting controls, manual daylight switching, occupancy sensing devices and automatic shut-off controls
- C. Completion and issuance of all Title 24 mandatory installation certificates for daylighting controls, occupancy sensing devices and automatic shut-off controls.
- D. Comply with NFPA 70 as applicable to electrical wiring work.
- E. Comply with NEMA 250 for type of electrical equipment enclosures.
- F. Provide panelboards with UL listing in accordance with UL 50, UL 67, and UL 916.
- G. Provide equipment complying with FCC emissions' standards in part 15 subpart J for Class A application.
- H. Maintain one copy of each document on site.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing lighting control system listed in this section, with minimum five years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum five years of documented experience approved by manufacturer.

1.8 PRE-INSTALLATION MEETINGS

- A. Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this section.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Accept system components on site in manufacturer's packaging. Inspect for damage.
- B. Protect components by storing in manufacturer's containers indoor protected from weather.

1.10 WARRANTY

- A. Requirements for warranties.
- B. Furnish five-year manufacturer's warranty for each system component.

1.11 MAINTENANCE SERVICE

- A. Requirements for maintenance service.

- B. Furnish service and maintenance of system for one year from Date of Substantial Completion. Include maintenance items as shown in manufacturer's operating and maintenance data, including checkout and adjustments.
- C. Furnish 24-hour emergency service during working hours on breakdowns and malfunctions for this maintenance period.
- D. Maintain locally, near Place of the Work, adequate stock of parts for replacement or emergency purposes. Have personnel available to ensure fulfillment of this maintenance service, with maximum 4-hour response time.
- E. Perform maintenance work using competent and qualified personnel under supervision and in direct employ of manufacturer or original installer.
- F. Do not assign or transfer maintenance service to agent or subcontractor without prior written consent of Owner.

1.12 EXTRA MATERIALS

- A. Furnish one replacement key for each locking switch panelboard.

PART 2 - PRODUCTS

2.1 NETWORKED LIGHTING CONTROL SYSTEM

- A. Manufacturers:
 - 1. Lutron Vive products for lighting controls with {INTEGRATOR} performing the final Building Automation System platform integration. Or approved equal.
- B. Networked lighting control system consisting of the following components: relay panels, network wiring, programmable network wired switches, programmable clock, software, and capability of integration into building automation system. BACnet-enabled Vive Hub HJS-2-SM (Surface Mount) or HJS-2-FM (Flush Mount). The selection of the Vive Hub model is directly related to the installation location. To ensure RF coverage is sufficient, no projects will use existing Vive Hubs without express approval of facility/owner. It is at the installing contractors' discretion whether to use 8A RMJS-8T or RMJS-8TN 0-10v dimming PowPaks. The -8T uses Class 2 0-10v terminals and the -8TN uses Class 1 0-10v whips through the electrical box knockout. Fixtures using the IEC 60929 or ANSI C82.11 0-10v protocol with 10-year warranty are the building standard as indicated on plans.
- C. Each control panel shall provide a Warn-Off (flash the lights) to inform the occupants of and impending Off command. The Warn-Off command will allow 10 extra minutes for the occupants to override their lights.
- D. Control panels shall permit lighting to be overridden On for after hours use or cleaning. These overrides shall be hard wired inputs or voice guided touch tone telephone control.

2.2 NETWORK WIRING

- A. Cat-5e LAN drop runs. Each Vive Hub will have an individual Cat-5e LAN drop run to the IDF closet or other location specified by facility. Hubs will not be connected via splitters or otherwise daisy-chained. Once a Hub is fully programmed and living on the facility's wired IT network, facility will enable or disable the Hub's wi-fi access at his discretion for security.

2.3 PROGRAMMABLE NETWORK WIRED SWITCHES

- A. All lighting controllers will be programmed in the Vive Application with the correct load wattage during start-up. This load wattage is the sum of all connected fixtures to the respective PowPak.
- B. All daylight sensors must be manually calibrated per the installation standards and direction. Default out of box calibration is not permitted. Target Brightness Levels will be set for '15' in each zone.:
- C. A high-end trim of 70% will be set for all dimming loads.

2.4 PHOTOCELL CONTROL

- A. The controller shall accept user adjustable ambient light sensors. Sensors shall provide for indoor applications. Sensors will be left at factory default settings of auto-on, maximum sensitivity, and 15-minute time out. If the sensors are located in an area to be tested for 2019 Title 24 NRCA-MCH-19-A compliance, the time out will be set for 5-minutes. Once testing is complete, the sensor will be restored to 15-minute time-out. The EC is responsible for resetting the time-out to 15 minutes and this scope requirement and cost should be covered in the pre-bid documentation. If it is not explicitly stated in the pre-bid documents, the change order cost will be assumed by the mechanical systems provider.

2.5 SOFTWARE

- A. Furnish plug-in capability for use in system commissioning, programming, monitoring, and control. Software capable of functioning with EIA 709.1 compliant network tool.
- B. After programming of system parameters is completed, system allows each user-definable feature such as schedules, relay groups, switch assignments to be field modified without need for configuration software or system integration expertise.

2.6 BAS INTEGRATION

- A. Contractor will perform the integration of the Lutron Vive system at facility with facilities' approval of the Lutron Vive. Lighting Submittal, Bill of Materials, and preliminary space layout is required prior to requesting a quote from for the integration with Lutron Vive.
- B. Contractor provides and installs hardware and software components to interface to the lighting control system status and occupancy sensors and to display that information in the existing BAS deployment as needed. Contractor leverages the Lutron Vive Lighting Control System that is typically furnished/installed by the electrician and commissioned by a Lutron technician with BACnet/IP. The system status information will be overlaid on new system graphics and will include the standard lighting control system reporting and calculations defined below.

- Provide floor plans with Lighting and Occupancy Zone Overlays adhering to facility space type and labeling guidelines
- Provide detailed Lighting Points shown below for each zone
- Provide detailed Occupancy Metrics for each zone (classrooms, common areas, private offices, conference rooms, and open office floor plans)
- Provide Aggregate Occupancy Metrics for whole Floor
- Trending and Alarming Setup
- Quality Assurance Testing and Commissioning feedback to Electrical trade for end to end commissioning support
- Update Help Menu & Documentation
- Contractor BAS Training
- If required for system expansion, provide new server hardware as needed for the lighting control interface. If needed, electrical installation should be by project electrician.
- Any exceptions to this table or to integration requirements at this facility should be approved in writing by the facility prior to kickoff.

Lighting Control System Integration Point List (standard)				
Item	Point Description	Point Type	Units/Facets	Area
1	Occupancy Status	Multi-State-Value	Occupied/Unoccupied/Unknown	Per Space
2	Total Calculated Power	Analog	W	Per Space
3	Light Level	Analog Value	%	Per Space
4	Lighting State	Binary Value	ON/OFF	Per Space
5	Master Load Shed Enabled	Binary Value	Enable/Disabled	Per Vive Hub

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Mount switches occupancy sensors and photocells as indicated on Drawings.
- B. Label each low voltage wire clearly indicating connecting relay panel. The Lutron Vive family of interior occupancy sensor will be used as the primary means of shutoff controls for facility lighting. All sensors will be left at their factory default maximum sensitivity and 15-minute time out unless specified below:
 - LRF2-OCR2B-P-WH is the standard ceiling sensor for ceilings up to 10 feet. For higher ceilings, please drop occupancy sensor down on a rod to 10 foot height.
 - LRF2-OWLB-P-WH is the standard wall mount sensor for large spaces. It can detect minor motion out to 50 feet and should be placed every 30 feet on center.
 - LRF2-OKLB-P-WH is the corner mount sensor for private offices and conference rooms. It can detect minor motion out to 35 feet.
 - LRF2-OHLB-P-WH is the hallway sensor that can detect motion out to 150 feet.
 - Lutron WLCU will be used as the RF interface gateway for all Lutron low voltage wired occupancy sensors for complex environments including dual-tech, high bay, IP66-rated humidity or exterior locations, etc.

- C. Use only properly color coded, stranded wire. Install wire sizes as indicated on Drawings. The PJ-3BRL-GWH-L01 is the standard dimming PICO. There will be one PJ-3BRL-GWH-L01 for each 0-10v dimming zone.
- D. The PJ-2B-GWH-L01 is the standard switching relay PICO. There will be one PJ-2B-GWH-L01 for each switching relay.
- E. The PJ-4B-GWH-L01 is the standard scene PICO for conference and meeting rooms. The PJ-4B-GWH-L01 will be used to set custom A/V light levels if there are multiple PowPaks in a space. All integration with A/V systems will be via BACnet/IP.
- F. UL924/1008 devices will be utilized to comply with the fire code as needed for compliance with local/national ordinances unless otherwise specified by {CUSTOMER OR FACILITY ADDRESS}. The RMJS-8T-DV-B-EM will be used standalone or in conjunction with a LUT-ATS-D to satisfy NFPA101 7.8.1.2.2 and UL924 requirements. LVS Controls devices are also acceptable to satisfy the uniformity requirements of Title 24 Section 130.1(b).
- G. During installation and programming, the Vive Project will be named in accordance with the facility standards. Each Vive Hub will be named in accordance with the facility standard Vive Hub naming convention. For example, 575 Main Street Facilities will provide Vive Hub names using the following methodology. A Vive Hub on the North side of the first floor in Building 575 will be named 'B575 F-1 N'. 'B575' is Building 575. 'F-1' is Floor 1. 'N' is North side. Each room or space will be named in accordance with the facility standard space name convention. Facility will provide updated room/space names prior to rough-in if these names differ from the construction documents. The approved naming convention will be *general building/room area_floor number_building*. For instance, RM210_F2_B575 would be the name for Room 210 on the second floor of the 575 Main Street Building. This "space" will report an overall space occupancy status to the contractor Building Automation System.

3.2 FIELD QUALITY CONTROL

- A. Test relays and switches after installation to confirm proper operation and confirm correct loads are recorded on directory card in each panel.
- B. Test light fixtures and control devices per the test procedures described in the California Energy Commissions Building Energy Efficiency Standards.
- C. Facility point of contact shall coordinate all required IP addresses and network security requirements, LAN drops, hardware installation locations, etc. Contact facility point of contact if there are any questions regarding this building standard documents.

3.3 MANUFACTURER'S FIELD SERVICES

- A. System Startup: Project quotes will include a factory-certified technician to verify installation and submit project documentation to Lutron for 5-year warranty activation and Lutron Factory As-Built Drawings.

3.4 ADJUSTING

- A. Furnish factory trained technicians to functionally test each system component after installation to verify proper operation.

3.5 DEMONSTRATION

- A. Demonstrate operation of the following system components:
1. Index system to occupied cycle and unoccupied cycle.
 2. Operation of switches. Demonstrate for zones as indicated on plans.
 3. Operation of each type of occupancy sensors. Demonstrate for zones as indicated on plans.
 4. Operation of each type of photocell. Demonstrate for zones as indicated on plans.
- B. Furnish services of manufacturer's technical representative for 8 hours to instruct Owner's personnel in operation and maintenance of system. Schedule training with Owner, provide at least 7 days' notice to Architect/Owner of training date.

3.6 SCHEDULES

- A. Lighting controls Schedule:

Lutron Vive - Sequence of Operations - Basis of Design		
Classroom (CLS)	Auto On (50%)/Auto Off	15min Delay
Multipurpose Room (MPR)	Auto On (50%)/Auto Off	
Private Office (OFF)	Auto On (50%)/Auto Off	15min Delay
Open Office (OFD)	Auto On/Auto Off	15min Delay
Open Area (COM)	Auto On/Auto Off	15min Delay
Break areas (BKR)	Auto On/Auto Off	15min Delay
Elevator Lobby (LOB)	Auto On/Auto Off	15min Delay
Conference Room (CRF)	Auto On (50%)/Auto Off	15min Delay
Storage (STOR)	Auto On/Auto Off	15min Delay
Lab (LAB)	Auto On/Auto Off	15min Delay
Flex Offices (FWS)	Manual On/Auto Off	15min Delay
Mail/Copy Room (MFD)	Auto On/Auto Off	15min

		Delay
Huddle Room (HUR)	Auto On/Auto Off	15min Delay
* Auto settings controlled by Occupancy Sensor or Time-clock. Spaces permitted for timeclock shut-off by Title 24 such as a Lobby, may be controlled by Time-clock during normal hours and have sensors disabled. * Please check with Facility for Facility Operations for site requirements.		

END OF SECTION

SECTION 26 27 26

WIRING DEVICES

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes wall switches; wall dimmers; receptacles; multioutlet assembly; and device plates and decorative box covers.
- B. Related Sections:
 - 1. Section 26 05 33 - Raceway and Boxes for Electrical Systems: Outlet boxes for wiring devices.
- C. National Electrical Manufacturers Association:
 - 1. NEMA WD 1 - General Requirements for Wiring Devices.
 - 2. NEMA WD 6 - Wiring Devices-Dimensional Requirements.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's catalog information showing dimensions, colors, and configurations.
- B. All switches, receptacles and device plates throughout project shall be from the same manufacturer unless otherwise specified.

1.3 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

1.4 EXTRA MATERIALS

- A. Furnish two of each style, size, and finish wall plate.

PART 2 PRODUCTS

2.1 WALL SWITCHES

- A. Manufacturers:
 - 1. Pass & Seymour
 - 2. Hubbell
 - 3. Leviton
 - 4. Cooper
 - 5. Approved equal
- B. Product Description: Specification Grade, NEMA WD 1, Heavy-Duty, AC only general-use snap switch.

- C. Body and Handle: White thermoplastic with rectangular rocker switch. Red color for devices connected to emergency power system.
- D. Wiring: Back and side wired. Back wiring with clamp type terminals suitable for stranded or solid wire.
- E. Indicator Light: Separate pilot strap; red color lens.
- F. Locator Light: Lighted handle type switch; green color handle.
- G. Ratings:
 - 1. Voltage: 120-277 volts, AC.
 - 2. Current: 20 amperes.

2.2 LED WALL DIMMERS

- A. MANUFACTURERS
 - 1. Leviton
 - 2. Lutron
 - 3. Approved equal
- B. Product Description: UL listed to control dimmable self ballasted LED and incandescent loads.
- C. Body and Handle: White plastic with linear slide.
- D. Ratings:
 - 1. Voltage: 120 volts, AC.
 - 2. Ratings: 150 watts LED, 600 watts incandescent.

2.3 WALL PLATES

- A. Decorative Cover Plate: White, nylon smooth thermoplastic 430 stainless and White factory painted stainless steel.
- B. Jumbo Cover Plate: White, nylon smooth thermoplastic and White factory painted stainless steel.
- C. Mounting Screws: Stainless steel, painted head to match plate finish.
- D. Surface cover plate in dry locations: Galvanized steel. Four inch square, raised 1/2" for surface mounted switches and receptacles.
- E. Weatherproof Damp Location Cover Plate: Gasketed cast metal cover plate with hinged and gasketed device cover.
- F. Weatherproof Wet Location Cover Plate: Extended polycarbonate hinged cover for use when attachment plug is inserted.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify outlet boxes are installed at proper height.
- B. Verify wall openings are neatly cut and completely covered by wall plates.
- C. Verify branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

3.2 PREPARATION

- A. Clean debris from outlet boxes.

3.3 EXISTING WORK

- A. Disconnect and remove abandoned wiring devices.
- B. Modify installation to maintain access to existing wiring devices to remain active.
- C. Clean and repair existing wiring devices to remain or to be reinstalled.

3.4 INSTALLATION

- A. Install devices plumb and level.
- B. Mounting heights shown shall be measured from finished floor to the center of the outlet box.
- C. Install switches with OFF position down.
- D. Connect wiring device grounding terminal to outlet box with bonding jumper and branch circuit equipment grounding conductor.
- E. Install decorative plates on switch, receptacle, and blank outlets in finished areas.
- F. Terminate ground wire at device where ground wire is provided within the raceway system.
- G. Carefully strip thermoplastic wire to length and make-up terminal connection as recommended by the device manufacturer.
- H. Secure device to outlet box with proper screws.
- I. Use jumbo size plates for outlets installed in masonry walls.
- J. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.

3.5 LABELS AND INSCRIPTIONS:

- A. Identify receptacle cover plate with panel and branch circuit number (for example L2A-3). Engrave and fill with 1/8" high black letters Provide label as described in Section 26 05 53 .

3.6 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate locations of outlet boxes provided under Section 26 05 33 to obtain mounting heights [as specified and] as indicated on drawings.
- B. Coordinate installation of wiring devices with floor box service fittings provided under Section 26 05 34.

3.7 FIELD QUALITY CONTROL

- A. Inspect each wiring device for defects.
- B. Operate each wall switch with circuit energized and verify proper operation.

3.8 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.

3.9 CLEANING

- A. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

SECTION 262826 - ENCLOSED TRANSFER SWITCHES

PART 1 - GENERAL

1.1 SCOPE

- A. Furnish and install automatic transfer & bypass-isolation switch (ATS/BPS) system(s) with number of poles, amperage, voltage, withstand and close-on ratings as shown on the plans. Each automatic transfer shall consist of an inherently double throw power transfer switch mechanism and a microprocessor controller to provide automatic operation. All automatic transfer & bypass-isolation switches and controllers shall be the products of the same manufacturer.

1.2 CODES AND STANDARDS

The automatic transfer switches and controls shall conform to the requirements of:

- A. UL 1008 - Standard for Transfer Switch Equipment
- B. IEC 947-6-1 Low-voltage Switchgear and Control gear; Multifunction equipment; Automatic Transfer Switching Equipment
- C. NFPA 70 – National Electrical Code (NEC). Part 3, Title 24, - California Electrical Code (CEC).
- D. NFPA 110 - Emergency and Standby Power Systems
- E. IEEE Standard 446 - IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
- F. International Electrical Testing Association:
 - 1. ANSI/NETA ATS – 2021 Acceptance Testing Specifications for Electrical Power Equipment and Systems.
- G. NEMA Standard ICS10-1993 (formerly ICS2-447) - AC Automatic Transfer Switches
- H. UL 508 Industrial Control Equipment
- I. IBC – Product shall meet or exceed the Seismic Requirement of the latest version of the International Building Code for importance factor 1.5 electrical equipment at the installed location.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate front and side views of enclosures with overall dimensions shown; conduit entrance locations and requirements; nameplate legends; size and number of bus bars for each phase, neutral, and ground; and switchboard instrument details.
- B. Product Data: Submit electrical characteristics including voltage, frame size and trip ratings, fault current withstand ratings, and time-current curves of equipment and components.

- C. Seismic Qualification: Submit manufacturer's certificate of seismic compliance in accordance with the American Society of Civil Engineers ASCE/SEI 7-05 and the California Building Code.
- D. Test Reports: Indicate results of factory production and field tests.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Submit routine preventative maintenance and lubrication schedule. List special tools, maintenance materials, and replacement parts.

1.5 ACCEPTABLE MANUFACTURERS

- A. Automatic transfer & bypass-isolation switches shall be ABB Zenith ZBTS T-series, 260A, 480/277V. No substitutions.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years' experience.
- B. The equipment and major components shall be suitable for and certified by actual seismic testing to meet all applicable seismic requirements of the California Building Code.
- C. The following minimum mounting and installation guidelines shall be met, unless specifically modified by the above referenced standards.
 - 1. The Contractor shall provide equipment anchorage details, coordinated with the equipment mounting provision, prepared, and stamped by a licensed civil engineer in the state. Mounting recommendations shall be provided by the manufacturer based upon the above criteria to verify the seismic design of the equipment.
 - 2. The equipment manufacturer shall certify that the equipment can withstand, that is, function following the seismic event, including both vertical and lateral required response spectra as specified in above codes.
 - 3. The equipment manufacturer shall document the requirements necessary for proper seismic mounting of the equipment. Seismic qualification shall be considered achieved when the capability of the equipment, meets or exceeds the specified response spectra.

1.7 MAINTENANCE SERVICE

- A. Provide service and maintenance of transfer switches for two years from Date of Shipment.

PART 2 - PRODUCTS

2.1 GENERAL TRANSFER SWITCH PRODUCT REQUIREMENTS

- A. Indicated Current Ratings: Apply as defined in UL 1008 for continuous loading and total system transfer, including tungsten filament lamp loads not exceeding 30 percent of switch amperage rating, unless otherwise indicated.

- B. Fault-Current Closing and Withstand Ratings: UL 1008 WCR ratings must be specifically listed as meeting the requirements for use with protective devices at installation locations, under specified fault conditions. Withstand and closing ratings shall be based on use of the same set of contacts for the withstand test and the closing test.
- C. Microcontroller: Shall provide selectable nominal voltages from 200Vac to 480Vac for maximum application flexibility and minimal spare part requirements. Voltage sensing shall be true RMS type and shall be accurate to +/- 1% of nominal voltage. Frequency sensing shall be accurate to +/- 0.5%. The unit shall be capable of these accuracies at a temperature range of -20 to +70 °C.
- D. ATS should be configurable to any voltages between 200-480V in the field without changing any components.
- E. Resistance to Damage by Voltage Transients: Components shall meet or exceed voltage-surge withstand capability requirements and voltage-impulse withstand requirements of UL 1008
- F. Electrical Operation: Accomplish by a momentarily energized solenoid, mechanically and electrically interlocked in both directions.
- G. Switch Characteristics: Designed for continuous-duty repetitive transfer of full-rated current between active power sources.
 - 1. Transfer switches shall be double-throw, electrically and mechanically interlocked, and mechanically held in the Source 1 and Source 2 positions. Main contacts shall be mechanically locked in final position without the use of hooks, latches, magnets, or springs. Contacts shall not be affected by momentary source power outages, swells, and surges such that contact pressure is maintained at a constant value and contact temperature rise is minimized for maximum reliability and operating life.
 - 2. The contacts shall have the following construction characteristics:
 - a. Power contactor type construction
 - b. Specialized first-touch contact tips with specialized material and design to isolate and dissipate arc to limit wear of the normal fully closed contact point.
 - c. Self-cleaning contact design
 - d. Spring over-center mechanism with quick-make, quick-break contact operation.
 - e. Contact wear inspection shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors, OR, provided via HMI, configure/connectivity software, and communications as a real-time status of contact wear as a percentage of manufacturer's designed contact life (computed with an algorithm based on real-time contact wear and end of life prediction utilizing embedded switch current, voltage, and switch statistics).

3. Electrical operation of contacts shall allow high speed transfer between sources in less than 50 MS (< 3 electrical cycles) from signal. Operating transfer speed shall be fixed and not vary depending on the voltage level conditions.
 4. The power transfer mechanism and controller shall include provisions for manual operation under load through HMI keys.
- H. Control: Transfer switch control shall be capable of communicating with remote programming devices, annunciators or annunciators and control panels.
- I. Where neutral conductors must be switched as shown on the plans, the ATS shall be supplied with a full ampere/voltage rated 4th/neutral pole. The neutral pole shall have the same withstand and closing and operational ratings as the phase poles and switched simultaneously with phase poles. Neutral poles may be either switched (break before make construction equal to open transition phase poles) and configurable at 1st pole or 4th pole of the switch or overlapping (neutral sources are momentarily paralleled during transfer of sources to maintain neutral reference).
- J. Where neutral conductors are to be solidly connected as shown on the plans, a 100% fully rated neutral bar should be provided.
- K. Enclosures: Shall be available as designated on the drawings as specified below, complying with NEMA ICS 6 and UL 50, unless otherwise indicated.
1. Type 1 for indoor applications
- L. Design utilizing components which are not intended for continuous duty, repetitive switching, or transfer between two active power sources are not acceptable. Insulated case and molded-case circuit breaker type switches are not acceptable.
- M. The complete transfer switch assembly shall be factory tested to ensure proper operation and compliance with the specification requirements. A copy of the factory test report shall be available upon request.
- N. Control components and wiring shall be front accessible without disassembly of operating linkages and without disconnection of power conductors.
- 2.2 BYPASS/ISOLATION AUTOMATIC TRANSFER Switch
- A. Comply with Level 2 equipment according to NFPA 110.
 - B. Switching Arrangement: Double-throw type, incapable of pauses or intermediate position stops during normal functioning, unless otherwise indicated.

- C. Automatic transfer switches (ATS) shall be available in Open (without stable OFF position) and Delayed (with stable OFF position).
- D. In-phase monitor: ATS shall have embedded feature that when enabled by user, allows transfer from Source 1 (S1) to Source 2 (S2) and back only when phases are sufficiently synchronized (phase angle difference between sources within 5 degrees).
- E. The ATS shall be capable of top and/or bottom feed configurations by allowing easy cable entry from the desired direction of choice, and sufficient wire bending space for typically sized wire.
- F. Bypass/Isolation Features:
 - 1. Bypass/Isolation transfer switch shall be provided to permit convenient manual electrical bypass and isolation of the automatic transfer switch that could not otherwise be tested, inspected, and maintained without interrupting the load. Bypass of the load to either the normal or emergency power source with complete isolation of the automatic transfer switch shall be possible regardless of the status of the automatic transfer switch. The bypass-isolation switch shall permit proper operation by one person through the movement of a separate handle. The entire system shall consist of two elements: the automatic transfer switch and the bypass/isolation switch furnished completely factory interconnected and tested.
 - 2. A bypass-isolation transfer switch shall be provided with the features necessary to allow for isolation of the Automatic Transfer Switch via external means without the need to access the current carrying components of the device. All transitional motion of the Automatic Transfer Switch (Auto / Test / Isolate) shall be accomplished via external means without the need to open the main enclosure door. Included in this requirement is the ability to store all operating handles in a separate compartment that is free and away from the line voltage / line current carrying elements. To ensure that only qualified personnel can access the internal live parts, the design shall be such that all operating handles may be stored and locked in this compartment if required/desired by building/local facilities management.
 - 3. A bypass-isolation transfer switch shall be equipped with an automatic shutter system that will automatically open and close upon installation and removal of the Automatic Transfer Switch portion of the system. The shutter system shall operate in such a manner that will prevent incidental contact with all live bus systems via a moving shutter. During Automatic operation, the shutter system shall remain open allowing for electrical connection between the Automatic Transfer Switch and the Bypass assembly. In Test Mode, the shutter system will automatically adjust, isolating the live bus from the automatic transfer switch. This will ensure a safe operation of the Automatic Transfer Switch with zero current passing through the main contact assemblies. In the Isolate Mode, once again the shutter system will remain closed, isolating the live bus from the automatic transfer switch. Upon removal of the Automatic Transfer Switch from the assembly, there shall be no access or exposure to live bus systems and no risk of accidental or incidental contact between the live bus and the maintenance personnel. The design of this system shall be such that it will provide maximum protection against fault conditions that may occur on the front or rear panels of the bypass assembly.

4. To minimize installation and maintenance activities, the interaction between the front (ATS) and rear (BPI) panels should be smooth and consistent with no unreasonable effort required to re-align the bus systems or other features within the front or rear panels. This applies to new installations as well as replacement of the automatic transferring device relative to the rear panel. Should a spare Automatic Transfer Switch of like ratings be available and need to be installed to replace a damaged unit or device, the installation shall be consistent with the standard operating instructions without the need to readjust components or features within the front or rear panels.
5. The isolation handle shall provide three positions: Automatic, Test and Isolate. The Test position shall permit electrical testing of the automatic transfer switch without disturbing the load. The Isolate position shall completely isolate the transfer switch from both sources and load without actual removal of the line or load conductors and allow its removal for inspection and maintenance. The transfer switch shall be arranged for draw out operation to facilitate its removal. Also, while in the Test or Isolate positions, the bypass-isolation switch shall function as a manual transfer switch to allow load transfer to either source of power regardless of the position or condition of the transfer switch, including the condition when the transfer switch is removed, and without reconnecting the load terminal of the transfer switch.
6. The load shall not be interrupted during bypass-isolation functions. The addition of load-break contacts that cause load interruption is not acceptable. The bypass-isolation switch contacts shall not be in the system current path except during actual bypass operation.
7. The bypass-isolation transfer switch shall be furnished with a detailed step-by-step operating instruction plate, located outside of cabinet door, as well as the following function diagnostic lights:
 - a. S1 available
 - b. S2 available
 - c. Bypass S1 engaged.
 - d. Bypass S2 engaged.
 - e. ATS S1 engaged.
 - f. ATS S2 engaged.
 - g. ATS connected position.
 - h. ATS test position
 - i. ATS isolated position
 - j. ATS inhibit.
8. The bypass-isolation switch shall be equipped with an independent engine start circuit so that, should a utility outage occur while in the bypass-normal/ATS isolated condition, the engine will automatically start and allow immediate selection of emergency bypass.
9. The bypass-isolation transfer switch shall be the product of one manufacturer and completely factory interconnected and tested so that only the services and load connections to the bypass-isolation switch are required for field installation. All interconnections between the transfer switch and the bypass-isolation switch shall be silver-plated copper bus bar. A visual position indicator shall be provided to indicate bypass-isolation switch positions. Enclosure construction shall be in accordance with UL and NEMA standards for industrial controls.

G. Automatic Transfer Switch Features:

1. Functions managed by ATS control shall include adjustable time-delays, which can be bypassed via HMI key control, communications protocol (optional), or programmable digital I/O (optional):
 - a. Override momentary Source 1 Outage adjustable from 0-60 s
 - b. Transfer from Source 1 to Source 2 adjustable from 0-60 min
 - c. Override momentary Source 2 Outage adjustable from 0-60 s
 - d. Transfer from Source 2 to Source 1, adjustable from 0-120 min
 - e. Generators stop delay, adjustable from 0-60 min.
 - f. Center-OFF delay, adjustable from 0-300s (Delay Transition ONLY; cancelled on outage)
 - g. Pre-transfer delay S1 to S2 adjustable from 0-300 s
 - h. Post-transfer delay S1 to S2 adjustable from 0-300 s
 - i. Pre-transfer delay S2 to S1 adjustable from 0-300 s
 - j. Post-transfer delay S2 to S1 adjustable from 0-300 s
 - k. Load shed delay adjustable from 0-60 s
 - l. Elevator pre-signal S1 to S2 adjustable from 0-60 s (cancelled on outage)
 - m. Elevator post-signal S1 to S2 adjustable from 0-60 s (cancelled on outage)
 - n. Elevator pre-signal S2 to S1 adjustable from 0-60 s (cancelled on outage)
 - o. Elevator post-signal S2 to S1 adjustable from 0-60 s (cancelled on outage)
2. Undervoltage sensing for each phase of Source 1 and Source 2, with the following selectable threshold ranges:
 - a. Pick-up: 71-99% of nominal
 - b. Drop out Voltage: 70-98% or nominal.
 - c. Accuracy: 1%
3. Overvoltage sensing for each phase of Source 1 and Source 2, with the following selectable threshold ranges:
 - a. Pick-up: 101-119% of nominal
 - b. Drop out Voltage: 102-120% of nominal.
 - c. Accuracy: 1%
4. Underfrequency sensing for each phase of Source 1 and Source 2, with the following selectable threshold ranges:
 - a. Pick-up: 80.5-99.5% of nominal
 - b. Drop out Voltage: 80-99% of nominal.
 - c. Accuracy: 0.5%
5. Over frequency sensing for each phase of Source 1 and Source 2, with the following selectable threshold ranges:

- a. Pick-up: 100.5-119.5% of nominal
 - b. Drop out Voltage: 101-120% of nominal.
 - c. Accuracy: 0.5%
6. The controller shall meet or exceed the requirements for Electromagnetic Compatibility (EMC) as follows:
- a. CISPR 11:2009 – Radiated Emissions
 - b. IEC 61000-4-2: 2008 - Electrostatic discharge immunity test
 - c. IEC 61000-4-3:2006+A1:2007+A2:2010 - Radiated, radiofrequency, electromagnetic field immunity test.
 - d. IEC 61000-4-4:2012 - Electrical fast transient/burst immunity test.
 - e. IEC 61000-4-5:2005 - Surge immunity test
 - f. IEC 61000-4-6:2008 - Immunity to conducted disturbances, induced by radiofrequency fields.
 - g. IEC 61000-4-11:2006 – Voltage dips immunity test
 - h. IEC 61000-4-13:2009 – Harmonic voltage immunity test – Class 3

H. HMI Characteristics

1. ATS shall be equipped with 3” by 2” graphical color touch screen LCD HMI display.
2. ATS shall have a display module/HMI mounted to the ATS panel door mounting with one single standard Cat 5/Ethernet/RJ45 cable connection.
3. The controller shall have the ability to log data and to maintain the last 250 events stored in nonvolatile memory. Event log should record the date, time, reason, and action taken.
4. Auxiliary power supply shall be available to power controller and HMI throughout outage via an alternate 12-24 Vdc source.
5. ATS shall be equipped with a large multi-line display and supporting the following languages:
 - a. English
6. ATS shall be fully operational even when the HMI is disconnected.
7. Source Connected Status LED's – Controller display shall have industrial grade LED's, to indicate when the ATS is connected to each source (Green – Source 1, Green – Source 2).
8. Availability Status LED's – Controller display shall have industrial grade LED's, to indicate the availability of each source (Green – Source 1, Green – Source 2).
9. ATS HMI shall indicate via LED when switch in or not in AUTO mode, and whether there are any alarm or warning conditions.
10. ATS HMI shall display system status as a main screen that is the default screen and readily accessible from any menu screen by pressing ESC key. The screen shall clearly show the following:
 - a. S1 and S2 status
 - b. Which source is connected to load
 - c. Current alarms, warnings, or information

- d. Generators start/stop contact status
 - e. Time of day
 - f. Active time delay and remaining time
 - g. Aux power connected
- 11. ATS HMI shall have an optional main screen that displays line to line and line to neutral (if applicable) voltage.
 - 12. ATS alarms, warnings, and information shall be clearly communicated from the main screen and shall provide meaningful information for detecting and diagnosing system errors that may be preventing load transfer commands from being executed.
 - 13. ATS HMI shall display statistical information (switch diagnostics) to assess the conditions and operational history of the switch:
 - a. Total operations
 - b. Number of load transfers
 - c. Transfer time (last transfer: total time from source failure to close-on alternate source)
 - d. Source fail transfers (number of times ATS has transferred due to source failure)
 - e. Days energized
 - f. Total time on S1
 - g. Total time on S2
 - h. Time S1 available
 - i. Time S2 available
 - j. Last generators start
 - k. Generator starting time
 - l. In-phase time (last transfer: how long it took for sources to sync for transfer)
- I. Auxiliary Contacts: ATS shall be offered with (NC) and (NO) contacts for position indication rated 6A at 240Vac, with the ability to place four contacts per position of each source.
 - J. Generator Start/Stop Contacts: One single pole double throw form C; rated 5A at 250Vac/30Vdc.
 - K. Standard Digital I/O: Standard (open, ZBTS) transition ATS shall include two programmable digital input and one programmable output contact. Delayed transition (ZBTSD) ATS shall include three programmable digital inputs and one programmable output contact. The number of I/O is expandable per 2.04.A.2. All input and output functions may also be utilized via communications protocol. The programmable functions shall be possible as stated below:
 - 1. Input functions:
 - a. Emergency Stop – Transfers to O position in delayed transition I-O-II type switches. Disables automatic control mode in both delayed and open transition types.
 - b. Remote Test on Load – Start/stop test-on-load sequence (simulates S1 failure).
 - c. Remote Test off Load – Start/stop test-off-load sequence (engine start/stop).

- d. Inhibit Auto Mode – Prevent switch control operations, configuration, test sequences and generator start in case of priority source failure.
- e. Manual Retransfer – Disables automatic transfer back to priority source.
- f. Priority S1 – Sets priority for source 1 in transformer-transformer application
- g. Priority S2 – Sets priority for source 2 in transformer-transformer application
- h. Inhibit Transfer - Disables automatic transfer from priority source to non-priority source.
- i. Bypass Running Time Delays – Bypass any currently running time delay.
- j. Remote Control to S1 – Transfer to S1 when active. Overridden by activated 'Remote Control to OFF' signal.
- k. Remote Control to Off – Transfer to O position when active (Delayed Transition, ZBTSD only).
- l. Remote Control to S2 – Transfer to S2 when active. Overridden by activated 'Remote Control to OFF' or 'Remote Control to S1' signals.
- m. Alarm Reset – Reset any active switch control alarms (open I failure, close I failure, open II failure, close II failure).
- n. Manual-Auto Mode – Toggle automatic/HMI control mode (The controller shall allow the operator to select the option of Auto/Manual transfer via front display, input contacts, or communications to allow the transfer switch to function in a non-automatic mode)

2. Output functions:

- a. Alarm/Product Availability – Signals any active alarms or ATS being disabled for automatic transfer operations (generated when ATS is not capable of auto operation).
- b. ATS in Position I – Indicates switch in position I.
- c. ATS in Position O – Indicates switch in position O (Delayed Transition, ZBTSD only).
- d. ATS in Position II – Indicates switch in position II.
- e. Pre-transfer Signal – Signal is activated, and transfer is delayed according to pre-transfer delay. Signal is kept activated according to post-transfer delay after transfer.
- f. Source 1 Available – No anomalies in S1 voltage supply per configured set points.
- g. Source 2 Available – No anomalies in S2 voltage supply per configured set points.
- h. Load Shed – Used for shedding non-essential loads before transferring to non-priority source. Signal is activated before transferring to non-priority source according to load shed delay and kept activated until load is transferred back to priority source.
- i. Elevator pre-signal – Signal is activated, and transfer is delayed according to Elevator pre-signal delay. Signal is kept activated according to Elevator post-signal delay after transfer.

- L. Engine-Generator Exerciser: Programmable function starts engine generator and transfers load to it from normal source for a preset time, then retransfers and shuts down engine after a

preset cool-down period. Initiates exercise cycle at preset intervals adjustable between daily or 7, 14, or 28 days. Running periods can be adjustable in minutes. On-load or off-load exercising is selectable.

- M. Commit Transfer (Off/On): If set to “On,” Load is transferred to non-priority source after priority source failure even if the priority source returns before the non-priority source is ready to accept the load.
- N. Test: Ability to simulate normal source failure and test on-load or off-load either direct from HMI, Ekip connect software (optional), communications protocol (optional), or digital programmable I/O (optional).
- O. Position Indication: reliable indication of contact position shall be visible on the ATS unit via a mechanical indicator directly driven by the switching mechanism.
- P. Operational Requirements:
 - 1. The complete ATS solution shall be compatible with the following temperature conditions:
 - a. Operating temperature without derating: -20°C to +40°C
 - b. Operating temperature maximum with derating: +70°C
 - c. Transportation and storage temperature: -40°C to +70°C
 - 2. ATS shall be capable of operating in 200 to 480Vac voltage range without additional devices like external voltage transformers.
 - 3. The display module/HMI shall be communicating with the ATS controller via local communication bus and shall be completely isolated from the dangerous line voltages.
 - 4. Generator start time delay shall be adjustable up to maximum 60 secs without using additional batteries, external power supplies or similar accessories.

2.3 OPTIONAL FEATURES

- A. Connectivity and Communication
 - 1. ATS shall be capable of communicating, without external gateways and data converters, with the following listed communication protocols. Use of two modules/protocols shall be possible.
 - a. Modbus RS485
 - b. Modbus/TCP
 - c. Profibus DP
 - d. Profinet
 - e. DeviceNet
 - f. Ethernet/IP

2. ATS shall have expandable programmable digital I/O, capable of adding up to 6 additional inputs and 6 additional outputs. These shall be capable of any of the I/O functions described in section 2.03 K. of this document.
3. Accessorizing with communication or I/O modules shall not take additional space inside the panel.

B. Laptop Programming

1. It shall be possible to program the ATS without any power (no mains, generator, or auxiliary power supply) via laptop with Ekip Connect software and Ekip programming module (USB).
2. With this software and programming module it shall be possible to import, and export saved settings files.

C. Aux Power Supply

1. Control system shall be suitable to accept 12-24VDC external power supply to keep the controller, display, I/O, and communications modules live during power outages.

D. Metering

1. ATS shall have power metering capabilities embedded.
2. ATS shall have capability to show on panel face: the metering values in numeric format with bright, long-life, LED display.
3. The following metering functions shall be available but not limited to:
 - a. Current (A); phase and neutral
 - b. Voltage (V); L-N and L-L for each pole of S1 and S2
 - c. Frequency (Hz)
 - d. Power (kW); active, apparent, and reactive

E. Proactive Outage Prevention

1. ATS shall use embedded switch sensing system to provide:
 - a. Contact wear status as a percentage of life (100% = end of life)
 - b. Predicted contact end of life date computed based on recent switch diagnostic history and current conditions.
 - c. Temperature sensing embedded in HMI, mechanism/controller, and load side of ATS power poles.
 - d. Standard HMI-based alerts
 - e. Display of above values on HMI, communications, connectivity software, or optional cloud monitoring system
 - f. Custom alerts via optional cloud monitoring system

F. Enclosure Heater

1. An enclosure heater with thermostat shall be provided as an optional ATS feature for Type 1, 3R, 12, 4, and 4X enclosures.
- G. ATS shall have the ability to embed a cloud-based monitoring system for online real-time supervision.
1. Supervision system shall have a data logging interval of 30 seconds to ensure a fast reaction in case of warning or alerts and continuous measures for reliable efficiency analysis. Supervision system shall be designed to monitor following data, without storage limitation capability.
 2. It shall be possible to monitor status of devices and alarms. It shall be possible for web user to set up alerts, identifying alerts for specific devices or on all devices, in order to schedule maintenance and to check health of installation. Alerts shall include:
 - a. Phase and neutral currents
 - b. Phase to phase and phase to neutral voltages
 - c. Number of operations
 - d. ATS position
 3. It shall be possible to set alarms and define type of notification through SMS or e-mail for each user.
 4. Analytics and reports:
 - a. Supervision system shall be provided with web app with pre-configured widget to allow immediate overlook of plant consumption and analytics based on collection of data on selectable period of one day, one week, one month, one semester, one year or on custom period.
 - b. Widget should be designed to display single or multi-site information and shall include both power utility consumption and power generated on site.
 - c. Web app shall allow the creation and customization of “digital” representation of asset, allowing creation of synoptic representation of switchboard, importation of single line diagram or switchboards’ front view. It shall be possible to activate the graphics by connection with markers or tags, to easily access to device data.
 - d. Export of data and trends in excel shall be possible both on-demand and via automatic report scheduling function. It shall be possible to generate reports for all information managed or generate customize reports selecting specific measures and devices. Benchmark on multi-site level shall also be possible in order to compare plants and systems and identify best practices.
 5. Commissioning and maintenance:
 - a. System shall allow final user or installing contractor to execute the commissioning with the simple use of free software provided by manufacturer OR simply utilizing HMI. Automatic recognition of devices shall be ensured so that there is no need of programming and free software shall include wizard for commissioning directly from web. Free software provided by manufacturer shall

allow execution of system implementation in conjunction with ABB USB Ekip Programming Module without requiring system integrator.

6. Interface:

- a. System shall be supplied with pre-set graphic pages with dashboard for immediate evaluation and management of power consumption and switch status. It shall be possible to display dashboard on tablet or smartphone.

7. Security:

- a. Authentication system shall be provided to access to data. Encrypted communication channel and certification for communication to cloud and from cloud to web app shall be guaranteed. Encrypted communication channel and certification shall follow TSL protocol to ensure maximum safety level available. TSL protocol shall be provided embedded in the module for supervision and cloud connection.

8. Level of users:

- a. It shall be possible to define at least 4 different profiles for users. Only one of the users can be identified as owner. The owner shall sign up the EULA to start the data transmission and has the rights to renew license of use. Only owner and administrator can send invitation to other users and have rights to change roles.
9. It shall be possible to define staff profile with the rights to access to asset and device view, alert's view, analytics view and control view. It shall be possible to assign visitor profile for enabling users to access only to alerts view.

H. Advanced ATS Controller Features

1. ATS shall have auto configuration feature for automatically detecting the source 1 and source 2 rated voltage, rated frequency, phase distribution system, location of neutral and phase rotation (ABC, ACB)
2. ATS shall have capability to be equipped with real time clock (RTC) with a capacitor back-up to maintain time and date for minimum 48 hours if both source 1 and source 2 become unavailable. RTCs with battery back-up shall not be allowed.
3. It shall be possible to program the generator to utilize either source 1 or source 2 terminations via the HMI.

2.4 ADDITIONAL REQUIREMENTS

A. Withstand and Closing Ratings

1. The ATS shall be rated according to UL 1008 to withstand and close-on the available RMS symmetrical short circuit current at the provided ATS terminals according to these

maximum ratings with specified overcurrent protection on drawings. Minimum UL listed withstand and close into fault ratings shall be as follows:

2.

ZBTS T-series coordinated WCR									
ATS frame	ATS rating	Transition types	Coordinated fuse ratings			Coordinated breaker ratings			
			480V Max withstand	Class	Max fuse size	240V Max withstand	Max breaker size	480V Max withstand	Max breaker size
R3B	100-600A	OT, DT	200kA	Class J or T	400A	200kA	600A	100kA	600A
			100kA	Class J or T	600A				
			200kA ¹	Class J or T	800A			200kA ¹	600A
			200kA ¹	Class L	800A			65kA ¹	800A
R4B	100-600A	OT, DT	200kA	Class J or T	400A	200kA	600A	100kA	600A
			100kA	Class J or T	600A				
			200kA ¹	Class J or T	800A			200kA ¹	600A
			200kA ¹	Class L	800A			65kA ¹	800A
	800-1200A	OT, DT	100kA ¹	Class L	2000 A	200kA	1600 A	100kA ¹	1200 A
			200kA ¹	Class J or T	800A			65kA ¹	1600 A
			200kA ¹	Class L	1200 A				
R5B	1600-4000A	OT, DT, CT	200kA	Class L	4000 A	100kA	no max	100kA	no max

1: 3 phase applications only

ZBTS T-series Time-based WCR and STR						
ATS frame	ATS rating	Transition types	Time-based ratings		Short-time ratings	
			480V Max withstand	Time-period	480V Max withstand	Time-period
R2	30-200A	OT, DT	18kA	0.1 sec	18kA	0.3 sec
R2	260A	OT, DT	25kA	0.1 sec	25kA	0.3 sec
R3	400A	OT, DT	35kA	0.1 sec	30kA	0.3 sec
R3	600A	OT, DT	42kA	0.1 sec	30kA	0.3 sec
63L	100-1200A	CT	50kA	0.05 sec	-	-

R4	800-1200A	OT, DT	50kA	0.1 sec	50kA	0.5 sec
			65kA	0.05 sec		
R5	1600-3000A	OT, DT, CT	100kA	0.05 sec	65kA	0.5 sec

1: 3 phase applications only

2.5 TESTS AND CERTIFICATION

- A. The complete ATS/BPS shall be factory tested to ensure proper operation of the individual components and correct overall sequence of operation and to ensure that the operating transfer time, voltage, frequency, and time delay settings are in compliance with the specification requirements.
- B. Upon request, the manufacturer shall provide a notarized letter certifying compliance with all of the requirements of this specification including compliance with the above codes and standards and withstand and closing ratings. The certification shall identify, by serial number(s), the equipment involved. No exceptions to the specifications, other than those stipulated at the time of the submittal, shall be included in the certification.
- C. The ATS/BPS manufacturer shall be certified to ISO 9001 International Quality Standard and the manufacturer shall have third party certification verifying quality assurance in design/development, production, installation, and servicing in accordance with ISO 9001.

2.6 SERVICE REPRESENTATION

- A. The ATS/BPS manufacturer shall maintain a national service organization of company-employed personnel located throughout the contiguous United States. The service center's personnel must be factory trained and must be on call 24 hours a day, 365 days a year.
- B. The manufacturer shall maintain records of each switch, by serial number, for a minimum of 20 years.

2.7 DATA MONITOR

- A. Furnish data monitors at locations shown to monitor all functions specified below. The Data Monitors shall be listed to UL 3111-1, CSA, CE Mark, and industrially rated for an operating temperature range of -20°C to 60°C. The Data Monitor shall be accurate to 1% measured, 2% computed values and display resolution to .1%. Voltage and current for all phases shall be sampled simultaneously to assure high accuracy in conditions of low power factor or large waveform distortions (harmonics).
- B. The Data Monitor shall be capable of operating without modification at nominal frequencies of 45 to 66 Hz and over a control power input range of 20 – 32VDC.
- C. Each Data Monitor shall be capable of interfacing with an optional communications module to permit information to be sent to central location for display, analysis, and logging.

- D. The Data Monitor shall accept inputs from industry standard instrument trans-formers (120 VAC secondary PT's and 5A secondary CTS.) Direct phase voltage connections, 600 VAC and under, shall be possible without the use of PT's.
- E. The Data Monitor shall be applied in single, 3-phase, or three & four wire circuits. A fourth CT input shall be available to measure neutral or ground current.
- F. All setup parameters required by the Data Monitors shall be stored in non-volatile memory and retained in the event of a control power interruption.
- G. The following metered readings shall be communicated by the Data Monitor, via serial communication, when equipped with optional serial communications module:
 - 1. Current, per phase RMS and neutral (if applicable)
 - 2. Current Unbalance %
 - 3. Voltage, phase-to-phase and phase-to-neutral
 - 4. Voltage Unbalance %
 - 5. Real power (KW), per phase and 3-phase total
 - 6. Apparent power (KVA), per phase and 3-phase total
 - 7. Reactive power (KVAR), per phase and 3-phase total
 - 8. Power factor, 3-phase total & per phase
 - 9. Frequency
 - 10. Accumulated Energy, (MWH, MVAH, and MVARH)

The following energy readings shall be communicated by the Data Monitor:

- 11. Accumulated real energy KWH.
- 12. Accumulated reactive energy KVAH.
- 13. Accumulated apparent energy KVARH
NOTE: For real and reactive energy reported values, separate total for energy flow from each source shall be stored, including the arithmetic sum.
Data Monitor Input/Output Options.
- 14. Data Monitors shall be equipped with the following I/O:
 - a. Provide (8) solid state status inputs.
 - b. Provide four (4) relay output contacts.
- H. The Data Monitor shall flush mount to an enclosure.
The Data Monitors shall be equipped with an optional continuous duty, long-life, 4 line x 20 character LCD backlit display to provide local access to the following metered quantities:
 - 1. Current, per phase RMS and neutral (if applicable)
 - 2. Current Unbalance %
 - 3. Voltage, phase-to-phase and phase-to-neutral
 - 4. Voltage Unbalance %
 - 5. Real power, per phase and 3-phase total
 - 6. Apparent power, per phase and 3-phase total
 - 7. Reactive power, per phase and 3-phase total
 - 8. Power factor, 3-phase total & per phase
 - 9. Frequency
 - 10. Accumulated Energy, (MWH, MVAH, and MVARH)
- I. Displaying each of the Data Monitor quantities shall be accomplished through the use of menu scroll buttons.

For ease in operator viewing, the display shall remain on continuously, with no detrimental effect on the life of the Data Monitor.

Setup for system requirements shall be allowed from the front of the Data Monitor. Setup provisions shall include:

1. CT rating, factory sized as applicable.
 2. PT rating, factory sized as applicable.
 3. System type (single; three phases; 3 and 4 wire)
 4. Communication parameters
- J. Reset of the following electrical parameters shall also be allowed from the front of the Data Monitor:
1. Real energy (MWH), apparent energy (MVAH) and reactive energy (MVARH).
- K. All reset and setup functions shall have a means for protection against unauthorized/accidental changes.\

2.8 ACCESSORIES

- A. ATS Engine Start Monitor Module
- B. Generator Module.
- C. Monitor Mode Selector Switch.
- D. Auxiliary contacts for elevator control.
- E. UL 1448 Surge Protection Device.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide housekeeping pad.
- B. Provide engraved plastic nameplates under the provisions of Section 16075 26 05 53.

3.2 WIRING CONNECTORS

- A. Compression type termination lugs: Tin plated copper high-compression type lugs for installation with hand or hydraulically operated crimping tools and dies. Provide 2-hole lugs for size #4/0 AWG and larger wire where terminated to bus bars.

3.3 FIELD QUALITY CONTROL

- A. Provide visual and mechanical inspection in accordance with NETA ATS, 7.22.3A.
- B. Perform electrical tests in accordance with NETA ATS, 7.22.3B.

3.4 INDEPENDENT TESTING ORGANIZATION AND PERSONNEL

- A. Obtain the services of an independent third party testing organization to perform electrical tests.

- B. Independent testing organization and personnel shall meet the requirements of NETA ATS 3.1 and 3.2.
- C. Provide written test results and a final report of electrical tests per NETA ATS 5.4 to Architect.

3.5 MANUFACTURER'S FIELD SERVICES

- A. Check out transfer switch connections and operations and place in service.

3.6 ADJUSTMENTS

- A. Tighten assembled bolted connections with appropriate tools to manufacturer's torque recommendations prior to first energization.

3.7 DEMONSTRATION AND TRAINING

- A. Demonstrate operation of transfer switch in bypass, normal and emergency modes.

END OF SECTION

SECTION 265100 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes interior luminaires, lamps, ballasts, and accessories.
- B. Related Sections:
 - 1. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
 - 2. Section 26 05 33 - Raceway and Boxes for Electrical Systems.

1.2 REFERENCES

- A. Underwriters Laboratory
 - 1. UL 8750-09 - Light Emitting Diode (LED) Light Sources for Use in Lighting Products.

1.3 SUBMITTALS

- A. Shop Drawings: Indicate dimensions and components for each luminaire not standard product of manufacturer.
- B. Product Data: Submit dimensions, ratings, and performance data.
- C. Provide lighting fixtures complete with lamps, completely wired, controlled and securely attached to supports.
- D. Contractor shall provide entire lighting specification (including fixture catalog cuts and sketches) for each specified manufacturer with complete information about the fixtures they will supply.
- E. Type of fixtures shall be as indicated alphanumerically and as specified.

1.4 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

1.5 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

PART 2 - PRODUCTS

2.1 INTERIOR LUMINAIRES

- A. Product Description: Complete interior luminaire assemblies, with features, options, and accessories as scheduled.

2.2 LED LIGHT FIXTURES

- A. General:

1. LED light fixtures shall be in accordance with IES, NFPA, UL, as shown on the drawings, and as specified.
 2. LED light fixtures shall be Reduction of Hazardous Substances (RoHS)-compliant.
 3. LED drivers shall include the following features unless otherwise indicated:
 - a. Minimum efficiency: 85% at full load.
 - b. Minimum Operating Ambient Temperature: -20° C. (-4° F.)
 - c. Input Voltage: 120 - 277V (±10%) at 60 Hz.
 - d. Integral short circuit, open circuit, and overload protection.
 - e. Power Factor: ≥ 0.90 .
 - f. Total Harmonic Distortion: $\leq 20\%$.
 - g. Comply with FCC 47 CFR Part 15.
 - h. LED driver shall have Class A sound rating.
 4. LED modules shall include the following features unless otherwise indicated:
 - a. Comply with IES LM-79 and LM-80 requirements.
 - b. Minimum CRI 90 and color temperature 3000° K unless otherwise specified in LIGHTING FIXTURE SCHEDULE.
 - c. Minimum Rated Life: 50,000 hours per IES L70.
 - d. Light output lumens as indicated in the LIGHTING FIXTURE SCHEDULE.
 5. LED lamps shall be capable of continuous dimming, without flicker or noise, from 10-100 percent.
- B. LED Downlights:
1. Housing, LED driver, and LED module shall be products of the same manufacturer.
- C. LED Troffers:
1. LED drivers, modules, and reflector shall be accessible, serviceable, and replaceable from below the ceiling.
 2. Housing, LED driver, and LED module shall be products of the same manufacturer.

PART 3 - EXECUTION

3.1 EXISTING WORK

- A. Disconnect and remove abandoned luminaires, lamps, and accessories.
- B. Extend existing interior luminaire installations using materials and methods compatible with existing installations, or as specified.
- C. Clean and repair existing interior luminaires to remain or to be reinstalled.

3.2 INSTALLATION

- A. Provide mounting accessories as required for ceiling construction. Fixture catalog numbers do not necessarily denote specific mounting accessories for type of ceiling in which a fixture may be installed.
- B. Provide adequate and sturdy support for each lighting fixture. Verify weight and mounting method of fixtures and furnish and install suitable supports. Fixture mounting assemblies shall comply with local seismic codes and regulations.
- C. Install suspended luminaires using pendants supported from swivel hangers. Install pendant

length required to suspend luminaire at indicated height.

- D. Support luminaires independent of ceiling framing.
- E. Locate recessed ceiling luminaires as indicated on Reflected Ceiling Plan.
- F. Install surface mounted luminaires plumb and adjust to align with building lines and with each other. Secure to prevent movement.
- G. Exposed Grid Ceilings: Support surface-mounted luminaires on grid ceiling directly from building structure.
- H. Install recessed luminaires to permit removal from below.
- I. Install recessed luminaires using accessories and firestopping materials to meet regulatory requirements for fire rating.
- J. Install clips to secure recessed grid-supported luminaires in place.
- K. Install wall-mounted luminaires at height as indicated on Drawings.
- L. Install accessories furnished with each luminaire.
- M. Connect luminaires to branch circuit outlets provided under Section 26 05 33 using flexible conduit not exceeding 6 feet.
- N. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
- O. Install specified LED diodes in each luminaire.
- P. Lighting fixtures recessed in ceilings which have a fire resistive rating of 1 hour or more shall be enclosed in a box which has a fire resistive rating equal to that of the ceiling.
- Q. Interface with existing air handling accessories.
- R. Ground and bond interior luminaires in accordance with Section 26 05 26.

3.3 FIELD QUALITY CONTROL

- A. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.4 ADJUSTING

- A. Aim and adjust luminaries as directed.

3.5 CLEANING

- A. Remove dirt and debris from enclosures.
- B. Clean photometric control surfaces as recommended by manufacturer.
- C. Clean finishes and touch up damage.

END OF SECTION