

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT



BOOK 1 OF 2 PROJECT MANUAL

SCUSD Serna Center Generator

5735 47th Avenue
Sacramento, CA 95824
Sacramento County

Bid Package #0825-417

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT, PROCUREMENT SECTION

Submitted to the Sacramento City Unified School District by:

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Sacramento, CA 95833

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Section 00 11 13 - NOTICE TO BIDDERS

ARTICLE 1. GENERAL

Section 1.01 Notice is hereby given that the Board of Education of the Sacramento City Unified School District ("District") will receive sealed Bids for

0825-417 SCUSD Serna Center Generator ("Project")

License required: **A and/or B**
Engineer's Estimate: **\$390,000**

Scope of Work including but not limited to: Installation of two new gas powered emergency generators within existing CMU enclosure, new screen wall with gates on the front face of the existing CMU enclosure, construction of a new CMU trash enclosure.

The following is the anticipated schedule for bidding and award of the contract for the Project:

Bidding Documents Released	Wednesday, November 6 th , 2024
Mandatory Bidder's Conference	Thursday, November 14 th , 3:00pm
Bidder question deadline	Tuesday, November 19 th , 2024, 10:00am
Prequalification application deadline	Tuesday, November 19 th , 2024
Addendum responding to questions	Friday, November 22 nd , 2024, 10:00am
Bids due	Tuesday, December 3rd, 2024 by 2:00 pm
Good Faith Efforts documentation due	Wednesday, December 4th, 2024 by 2:00 pm
Notice of Intent to Award	Tuesday, December 10 th , 2024
Board Meeting to Award contract	Thursday, December 19 th , 2024
Anticipated Notice to Proceed	Friday, December 20 th , 2024

All general inquiries regarding the bid or issues with the District's Online Bid Platform are to be directed to Robert Aldama at robert-aldama@scusd.edu, Tina Alvarez-Bevens at tina-alvarez-bevens@scusd.edu, and Ryan Wade at rwade@Kitchell.com It shall be the responsibility of each prospective Bidder, upon discovery of any ambiguity or discrepancy in the Notice to Bidders, Instructions to Bidders, Bid Form, specifications, or drawings, to bring such ambiguity or discrepancy to the attention of the District prior to the Bid date and time. Failure to raise any such ambiguity or discrepancy prior to the Bid deadline shall waive the Bidder's right to object to the ambiguity or discrepancy after bidding.

Notice is hereby given that the Project is a public works project within the requirements of Division 2, Part 7, Chapter 1 of the California Labor Code, and that each bidder and listed subcontractor is required to be registered pursuant to Labor Code section 1725.5 at the time of bidding. **Failure of the bidder to be registered at the time of bidding shall render the bid non-responsive and unavailable for award. Bidder's listing of an unregistered subcontractor may render the bid non-responsive and unavailable for award unless such failure is the result of an inadvertent error and the provisions of Labor Code section 1771.1 apply.**

The plans and specifications may be obtained from the District's Website (<https://www.scusd.edu/construction-projects-bids>) and the District's Online Bid Platform (<https://gateway.app.e-builder.net/app/bidders/landing?accountid=aaf85f30-eade-4a97-af1d-5076c07d8a32&projectid=4b66d6d6-9639-4751-9ff6-c3bce4a29c80&bidpackageid=dddd794c-e361-48c0-aa44-4fd95c973e27>)

Notice is hereby given that the Project is subject to the requirements of Public Contract Code section 20111.6 as a project funded under the Leroy F. Greene School Facilities Act of 1998 or a project that involves a projected expenditure of one million dollars (\$1,000,000) or more and is funded from a state school bond. As such, the District will accept Bids only from prequalified Bidders. In addition, all mechanical, electrical and plumbing ("MEP") subcontractors (as defined by Public Contract Code section 20111.6(k)) must be prequalified prior to the Bid due

1 date. MEP subcontractors subject to these requirements are those with any of the following license classifications:
2 C-4, C-7, C-10, C-16, C-20, C-34, C-36, C-38, C-42, C-43 and C-46.
3

4 **The District's Prequalification Application is done on-line.** The direct link to the on-line application is
5 <https://www.scusd.edu/contractor-prequalification>. Bidders and MEP subcontractors must have submitted their on-line
6 applications no later than ten (10) business days before the due date for Bids or have been prequalified for at least
7 five (5) business days before the due date for Bids. Bids will not be accepted from any Bidder who has not complied
8 with these requirements.
9

10 Every Bid shall set forth information on subcontractors required by Public Contract Code sections 4100 to 4114,
11 inclusive. Failure to list a subcontractor for a portion of work, if required, is a representation that the Bidder will perform
12 that portion of work itself.
13

14 The Project includes a goal that each Bidder commit to provide at least three percent (3%) of the work to one or more
15 Disabled Veteran Business Enterprises ("DVBE") certified by the California Department of General Services. **[If a
16 Bidder does not achieve at least the 3% DVBE goal, then the Bidder must establish Good Faith Efforts ("GFE")
17 to have met the goal,** as addressed more fully in Instructions to Bidders, in order to be eligible for contract award.]
18

19 Bids are due:

20 **BID INFORMATION**

21 Location: 5735 47th Avenue, Sacramento, CA 95824
22 Contact: Tina Alvarez-Bevens
23 Date: Tuesday, December 3rd, 2024
24 Bids Due: 2:00pm
25

26 At this time such Bids will be opened and publicly read. Untimely Bids will not be accepted or opened.
27

28 If Bidders choose to submit GFE documentation, that documentation is due:
29

30 **GOOD FAITH EFFORTS DOCUMENTATION**

31 Location: 5735 47th Avenue, Sacramento, CA 95824
32 Contact: Tina Alvarez-Bevens
33 Date: Wednesday, December 4th, 2024
34 Bids Due: 2:00pm
35

36 Documentation received after that time will not be considered to determine whether a Bidder made GFE to meet the
37 DVBE goal.]
38
39

40 Section 1.02 A **mandatory** pre-bid conference will be held at:

41 **MANDATORY PRE-BID CONFERENCE INFORMATION**

42 Location: 5735 47th Avenue, Sacramento, CA 95824
43 Contact: Tina Alvarez-Bevens
44 Date: Thursday, November 14th, 2024
45 Time: 3:00pm
46

47 Bidders will be required to sign-in to verify attendance. The pre-bid conference will include an in-person site walk to
48 familiarize Bidders with existing site conditions. Attendees shall meet at the flagpole.
49

50 **Attendance for duration of meeting at the site, including the site walk, is mandatory and each prime contract
51 bidder ("Bidder" or "Bidders") shall be required to certify, as part of its Bid, that it attended the entirety of
52 the Pre-Bid conference. Failure to attend the entirety of the pre-bid conference or to include the certification
53 will render the bid non-responsive.** For all Pre-Bid visits (other than the Pre-bid conference), Bidder must make an
54 appointment with the Construction Manager prior to visiting the Site.
55
56

1 Section 1.03 The District's forms shall be used for all Bid documents. Bidders shall read and review the Bidding
2 Documents carefully, and shall familiarize themselves thoroughly with all requirements. To be responsive, a Bid must
3 conform to the requirements of the Bidding Documents.
4

5 Section 1.04 No Bid will be considered unless it is accompanied by Cashier's Check, Certified Check, or Bid Bond
6 from a surety authorized to do business in California for ten percent (10%) of the total amount of the Bid, including
7 additive Alternate Bids (if any), made payable to the District. The above-mentioned check or bid bond shall be given
8 as a guarantee that the Bidder shall, if selected by the District, execute the Contract, in conformance with the Contract
9 Documents.
10

11 Section 1.05 Bids shall not expire for a period of 90 days after the date set for the bid opening. Within ten (10) days
12 after notification of the District's Notice of Intent to Award the Contract, the successful Bidder will be required to furnish
13 a Labor and Material (Payment) Bond, and a Performance Bond in substantially the form set forth in the Construction
14 Forms Manual, proof of insurance (if required), and all other documents and information specified in the Notice of
15 Intent to Award.
16

17 Section 1.06 The District is an equal opportunity employer. The Bidder shall not discriminate against any employee
18 or applicant for employment because of race, religion, color, sex, gender, national origin, or other class protected by
19 Government Code section 12940(a). The District encourages the participation of DVBE businesses.
20

21 Section 1.07 The successful Bidder shall be required to pay its workers on this Project a sum not less than the general
22 prevailing rate (applicable at time of bid advertisement date) of per diem wages and not less than the general prevailing
23 rate for holiday and overtime work for work of a similar character in the locality in which the Project is performed, as
24 provided under California Labor Code Sections 1726-1861. Copies of the prevailing rate of per diem wages may be
25 obtained at <https://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>. The Project is subject to compliance
26 monitoring and enforcement by the Department of Industrial Relations.
27

28 Section 1.08 The District reserves the right to reject any and all Bids and to waive any irregularity in any Bids received.
29

30 Section 1.09 At the request and expense of the successful Bidder, eligible securities shall be accepted in lieu of
31 retention payments to insure performance under the Contract, pursuant to California Public Contract Code Section
32 22300. Said securities shall be deposited prior to the submission of the successful Bidder's first progress payment
33 application.
34

35 Section 1.10 The District participates in all available rebate programs. The successful Bidder agrees to notify the
36 District of any available rebate of which the successful Bidder is aware, and to provide the District with invoices and
37 all other documentation necessary to claim any available rebate. The District will apply for available rebates, and the
38 rebates will be paid directly to the District, not the successful Bidder.
39

40 Section 1.11 The selected contractor shall be required to complete any and all fingerprinting requirements and
41 criminal background checks required by State law and shall also be required to complete a Drug-Free workplace
42 certificate.
43

44 Section 1.12 NOT USED
45

46 Section 1.13 The District has entered into a Project Labor Agreement that is applicable to this Project. A copy of the
47 Project Labor Agreement is available for review at the District Facilities Office and may be downloaded from the
48 District's website, www.scusd.edu, using the <https://www.scusd.edu/pod/project-labor-agreement> link. The successful
49 bidder and all subcontractors will be required to agree to be bound by the Project Labor Agreement.
50

51
52
END OF SECTION

Section 00 21 13 - INSTRUCTIONS TO BIDDERS

Section 1.01 Project Team

The Project Team consists of the following:

The District:	Sacramento City Unified School District
The District Representative:	Kitchell CEM
The Project:	SCUSD Serna Center Generator 0825-417
The Project Address:	5735 47th Avenue, Sacramento, CA 95824

Section 1.02 Bidding Documents

The "Bidding Documents" include the Notice to Bidders, Instructions to Bidders, Proposal Forms, Subcontractor Listing Form, Non-collusion Declaration, Iran Contracting Act Certification, Certification Regarding Russian Sanctions, Post Bid Interview, Agreement for Construction, Bid Security, Performance and Labor & Material (Payment) Bond Forms, the General Conditions, the Special Provisions, the General Requirements, Exhibits, the Technical Specifications, the Contract Drawings and Plans, the Hazardous Materials Requirements (if applicable), Addenda, and the Construction Forms Manual.

↳ Bidders shall use complete sets of Bidding Documents in preparing Bids. Bidders are responsible for ascertaining that the Bidding Documents upon which their Bids are based are complete sets. Failure to fully complete and submit all pages of the Bid Form and Bidding Documents required at the time of the Bid may result in the Bid being rejected as non-responsive.

↳ Bidding Documents are provided to Bidders for bidding only. No other use is permitted.

↳ Should a Bidder find discrepancies, ambiguities, inconsistencies, errors or omissions in the Bidding Documents, Contract Documents and/or applicable Federal, State, and local regulations or requirements, and/or should Bidder have any doubt about the meaning of any of the Contract Documents, the Bidder shall submit questions to Robert Aldama at robert-aldama@scusd.edu, Tina Alvarez-Bevens at tina-alvarez-bevens@scusd.edu, and Ryan Wade at rwade@Kitchell.com. Bidder's questions shall be submitted no later than **Tuesday, November 19th, 2024, 10:00am**.

↳ The District will post to the District Online Bid Platform (all registered bidders will receive notification) and District website all clarifications in the form of Addenda (<https://gateway.app.e-builder.net/app/bidders/landing?accountid=aaf85f30-eade-4a97-af1d-5076c07d8a32&projectid=4b66d6d6-9639-4751-9ff6-c3bce4a29c80&bidpackageid=dddd794c-e361-48c0-aa44-4fd95c973e27>)

↳ Each Bidder shall ascertain, prior to submitting a Bid, that every Addendum issued prior to the Bid Date has been considered, and shall acknowledge receipt of each Addendum on the Bid form. Each Addendum will become a part of the Contract for Construction.

↳ After issuance of the Bid Documents and except as expressly provided, communication with the District regarding the substance of the Bid Documents or Project outside of the Pre-Bid Conference, including without limitation communication with District employees or any Board member, is prohibited until a Notice of Intent to Award is issued. Notwithstanding the foregoing, potential Bidder may direct general questions related to the Bid to: Robert Aldama at robert-aldama@scusd.edu, Tina Alvarez-Bevens at tina-alvarez-bevens@scusd.edu, and Ryan Wade at rwade@Kitchell.com.

Section 1.03 Safety Requirements

In order to be eligible for award, Bidders must have an average Workers' Compensation Experience Modification Rate (EMR) of 1.25 or less over the last five (5) years OR the current published year. In addition, Bidders must have no "serious" and "willful" violations of Labor Code sections 6300 *et seq.* in the past five (5) years. As a condition of award, the selected Bidder will be required to provide its Injury and Illness Prevention Program.

1 Section 1.04 Bid Security
2

- 3 A. Each Bid shall be accompanied by Bid Security, pledging that the Bidder will enter into a contract with the
4 District in accordance with the terms stated in the proposal, and will furnish required payment and
5 performance bonds. The Bid Security will be returned to Bidders within ten (10) days after the successful
6 Bidder has executed and returned the contract for the Project. Should any Bidder awarded a contract fail or
7 refuse to enter into such a contract or fail to furnish required bonds, the Bid Security shall be used to
8 compensate the District for added costs associated with awarding the contract to another Bidder, including
9 any costs of rebidding the Project if the District elects to rebid.
- 10
- 11 B. Bid Security shall be in the amount of ten percent (10%) of the total Bid(s), including additive Alternate Bids.
- 12
- 13 C. Bid Security shall be in the form of a Bid Bond from a surety company authorized to do business in California,
14 Cashier's Check or a Certified Check, or Cash. The District shall be listed as obligee on the bond or payee
15 on the check.
- 16
- 17 D. If a Bid Bond is submitted, the attorney-in-fact who executes the bond on behalf of the Surety shall attach to
18 the Bond a certified, current copy of its Power of Attorney. The bid bond form supplied by the Surety is
19 adequate
20

21 Section 1.05 Subcontractor Listing

22 Pursuant to the Subletting and Subcontracting Fair Practices Act, Sections 4100 to 4114, inclusive, of the California
23 Public Contract Code, every Bidder shall in its bid set forth:
24

- 25 A. The name, contractor license number, DIR registration number, and location of the place of business of each
26 subcontractor that will perform work valued at more than one-half of one percent (0.5%) of the Bidder's total
27 Bid. Only subcontractors required to be listed by Public Contract Code section 4104 are required to be listed.
28
- 29 B. The portion of the Work that will be done by each Subcontractor, including for additive Alternate Bids. If the
30 Bidder fails to specify a Subcontractor for any portion of the Work to be performed under the Contract in
31 excess of one-half of one percent (0.5%) of the Bidder's total Bid, including additive Alternate Bids, the Bidder
32 agrees that it is fully qualified to perform that portion itself, and that the Bidder shall perform that portion itself.
33 The successful Bidder shall not, without the written consent of the District, either:
34
- 35 1. Substitute any person as Subcontractor in place of the Subcontractor designated in the original bid.
 - 36 2. Permit any subcontract to be assigned or transferred or allow it to be performed by anyone other than
37 the original Subcontractor listed in the bid. This requirement shall not prohibit a listed subcontractor from
38 further subcontracting a portion of its work, so long as such subcontracting is otherwise permitted by
39 law.
 - 40 3. Sublet or subcontract any portion of the Work in excess of one-half of one percent (0.5%) of the total
41 Bid, including additive Alternate Bids, as to which its original Bid did not designate a Subcontractor.
42

43 In addition, **Bidders shall list all Disabled Veteran Business Enterprises ("DVBE") for which the Bidder seeks**
44 **credit**, even if the DVBE is not otherwise required to be listed by the Subletting and Subcontracting Fair Practices Act.
45 If the DVBE is a lower tier subcontractor, the Bidder must identify the first tier subcontractor under which the DVBE
46 will be performing its scope of work to avoid listing two subcontractors for the same portion of work.
47

48 Any subcontractor listed in accordance with Public Contract Code section 4104 shall be registered pursuant to Labor
49 Code section 1725.5 at the time of bidding.
50

51 The District has entered into a Project Labor Agreement that is applicable to this Project. A copy of the Project Labor
52 Agreement is available for review at the District Facilities Office and may be downloaded from the District's website,
53 www.scusd.edu, using the <https://www.scusd.edu/pod/project-labor-agreement> link. The successful bidder and all
54 subcontractors will be required to agree to be bound by the Project Labor Agreement.
55

56 Section 1.06 Bid Submittal

1 Bids shall be submitted at the SCUSD Serna Center, 5735 47th Avenue, Sacramento, California 95824. Bids not
2 received by the deadline will not be considered. Please be advised that there may be a heavy demand at the deadline
3 for submitting Bids, and the District assumes no responsibility if the Bidder is unable to timely complete submission
4 of its Bid. Bids will not be opened or reviewed until the Bid deadline.
5

6 By submitting a Bid, each Bidder certifies that:

- 7
- 8 A. The Bidder has read and understands the Bidding Documents,
- 9
- 10 B. The Bid is made in accordance with the Bidding Documents,
- 11
- 12 C. The Bidder has visited the project site and is familiar with the local conditions under which the work will be
13 performed. The Bidder acknowledges that failure to visit the site will not relieve the Bidder of the responsibility
14 for observing and considering those conditions which a contractor would have observed and considered
15 during a site visit, estimating properly the difficulty and cost of successfully performing the work or proceeding
16 to perform the work without additional cost to the District.
- 17
- 18 D. The Bidder agrees that the plans, specifications, and reports are adequate to the best of the Bidder's
19 knowledge and that the work can be performed for the amount bid in strict accordance with the terms of the
20 Contract Documents.
- 21
- 22 E. Bidder has attended the full duration of the mandatory Pre-Bid Conference.
- 23

24 Section 1.07 Bid Opening and Contract Awards

- 25
- 26 A. Bids will be opened publicly and read aloud at the time and date established in the Notice to Bidders. Bid
27 Summaries may be made available to Bidders not sooner than 72 hours after the Bid Date.
- 28
- 29 B. Contract award, if any, will be to the lowest responsive, responsible Bidder. If the Bidding Documents include
30 Bid Alternates, the lowest Bid will be determined based on any combination of Base Bid and Alternates as
31 determined by the District. This process is conducted by the District in a "blind selection" format, i.e., without
32 knowledge of the identity of any of the Bidders before ranking of all Bidders from lowest to highest has been
33 determined. All awards will be made in the District's best interest. No award will be made to a Bidder which
34 is not pre-qualified if pre-qualification is required, and no award will be made to a Bidder that is not registered
35 in accordance with Labor Code section 1725.5.
- 36
- 37 C. The District reserves the right to waive any informality or irregularity in any Bid.
- 38
- 39 D. The District reserves the right to reject any and all Bids.
- 40
- 41 E. If the District elects to award the Contract, then the District will issue a Notice of Intent to Award to the
42 successful Bidder and post the notice on its website and Online Bid Platform. The Notice will require the
43 selected Bidder to submit specified documents to the District prior to the Board meeting at which award will
44 be considered.
- 45

46 Section 1.08 Bid Protests

- 47
- 48 A. Any Bidder may file a protest against the award of the Contract to any other Bidder. The protest must be in
49 writing, filed within five (5) calendar days after the posting of the Notice of Intent to Award the contract, and
50 must set forth all factual and legal grounds for the protest. These requirements are to be strictly construed.
51 Untimely protests and/or grounds not set forth in the protest will not be considered. Further, the failure to
52 comply with these protest requirements will constitute a waiver of the right to challenge and forever bar the
53 Bidder from challenging, whether before the District or any administrative or judicial tribunal, any particular
54 Bid(s), the bidding process, or any ground not set forth in the protest.
- 55
- 56 B. The District will provide a written response to any timely bid protest.

1
2 Section 1.09 Post-Bid Interviews
3

- 4 A. Bidders in contention for contract awards may be asked to attend a Post-Bid interview and submit Post-Bid
5 submittals in rough draft form for review.
6

7
8 Section 1.10 Post-Bid Submittals
9

10 The successful Bidder shall submit all required Post-Bid documents by the date identified in the Notice of Intent
11 to Award. The Post-Bid documents include:

- 12 1. Payment Bond
- 13 2. Performance Bond
- 14 3. Local contact for Surety
- 15 4. Insurance Certificates
- 16 5. Agreement: To be executed by successful Bidder. Submit two (2) original, hard copies, each
17 bearing an original signature.
- 18 6. Criminal Background Investigation/Fingerprinting Certification.
- 19 7. Worker's Compensation Certification
- 20 8. Prevailing Wage and Related Labor Requirements Certification.
- 21 9. Drug-Free Workplace Certification.
- 22 10. Tobacco-Free Environment Certification.
- 23 11. Hazardous Materials Certification.
- 24 12. Lead-Based Materials Certification.
- 25 13. Imported Materials Certification.
- 26 14. Disabled Veteran Business Enterprise Participation Certification.
- 27 15. List of all Subcontractors and suppliers with their contractor license numbers, contractor registration
28 number (DIR), addresses, telephone and fax numbers (2 copies required)
- 29 16. Name of the full-time superintendent
- 30 17. Emergency contact names and numbers
- 31 18. The name of the safety supervisor
- 32 19. Copy of Safety Manual (Illness and Injury Prevention Program)
- 33 20. Name of the person(s) authorized to sign documents for this project
- 34 21. Resume for full time superintendent
- 35 22. W9
- 36 23. Escrow Agreement in Lieu of Retention (Contractor's Option)

37
38 The contract will not be submitted to the District's Board for approval and award until all required pre-award
39 documents are received. If the intended awardee fails to submit the required documents in the time specified, the
40 District may reject its Bid and award to the next lowest responsive, responsible Bidder.
41

42
43
44
45
END OF SECTION

Section 00 21 16 - BID FORM INSTRUCTIONS

ARTICLE 1. INSTRUCTIONS

Section 1.01 Bid Forms

Bidders are required to use the Bid Form provided.

The "Bid" stated in the Bid Form is the total amount for which the Bidder proposes to perform the Work.

Where bid Alternates are required, "Base Bid" is the total amount stated on the Bid Form for which the Bidder offers to perform Work that necessarily is part of any contract awarded, and from which "Alternates" may be added or deleted at the District's discretion. The "Total Base Bid Amount" stated on the Bid Form is the total of the Base Bid plus the required allowances, if any. Where the Bid Form requests unit prices, "Unit Prices" are amounts bid by unit measure of materials and/or services, as required in the Bidding Documents; amounts paid under a contract will be based on actual units multiplied by the unit price. Estimated units stated in the Bid Form are for evaluation purposes only, and are not a guarantee of any specific amount of units of work.

Section 1.02 Bids

A. A responsive Bid must include all of the following:

1. Completion of all sheets of the Bid Form, Section 00 42 00, as required
2. Bid Security (see Section 00 21 13, Article 1.06)

B. Bids shall be submitted at the SCUSD Serna Center, 5735 47th Avenue, Sacramento, California 95824

C. All spaces provided on the Bid Forms shall be filled in. If any space provided is not utilized by the Bidder, that space shall be filled in with the notation "NA" (Not Applicable).

D. Complete Bid Forms legibly, preferably by typewriter or computer. At the District's discretion, if any bid amount on the Bid Form is not legible, the District may reject the Bid as uncertain and unavailable for award.

E. Where indicated, all amounts shall be expressed in words and in figures. In case of discrepancy, the words shall govern. In the case of a discrepancy between the Total Bid Amount stated on the Bid Form and the actual total, the actual mathematical total will govern. In the case of a discrepancy between a Unit Price and an extended price, the unit price shall govern. Failure to list a Unit Price or lump sum price for a type of work where indicated shall be understood to be a unit price/lump sum price of \$0.

F. Bidders shall not make unsolicited notations or statements on the Bid Forms. If the District determines that any notation indicates a conditional Bid, the Bid shall be rejected as being non-responsive.

G. All changes to and erasures or crossing out of the Bidder's entries shall be initialed by the signer of the Bid.

H. Each Bid shall include the legal name of the Bidder and a statement regarding whether the Bidder is a sole proprietor, a partnership, a corporation, a limited liability company, or other type of legal entity. Bids submitted by corporations shall have the state of incorporation noted. Any Bid submitted by an agent shall have a current Power of Attorney attached, certifying the agent's power to bind the Bidder.

I. If the Bid Form includes Bid Alternates, all requested Alternates shall be bid or the Bid will be incomplete and non-responsive.

1 Section 1.03 Completion of Bid Form
2

- 3 A. Submit only one Bid Form for each Bid Package.
4
5 B. List Contractor's License number, contractor registration number (DIR), and expiration dates of both. Sign
6 and date this section in the space provided.
7
8 C. Fill in the numbers and dates of all Addenda received and considered in the Proposal. Bids must include
9 acknowledgment of all Addenda issued prior to the Bid Date. Failure to acknowledge any Addendum
10 containing substantive information about, or changes to, the Bidding Documents shall make the Bid
11 non-responsive and unavailable for award.
12
13 D. Fill in the amount of Bid Alternates, as applicable.
14
15 E. Fill out and sign the Non-Collusion Declaration, Iran Contracting Act certification (if applicable), Certification
16 Regarding Russian Sanctions, and Site Visit Certification.
17
18 F. Fill in Subcontractors list, **including all DVBEs for which the Bidder claims credit**; if there will not be any
19 Subcontractors, check the appropriate blank. State whether the DVBE goal was met [or good faith efforts
20 documentation will be submitted].
21
22 G. Type or print the signer's name and title in the spaces provided below the signature.
23
24 H. Date the form in the spaces provided.
25
26 I. Sign in the spaces provided.
27
28

29 Section 1.04 Submission of Bids
30

- 31
32 A. Bids shall be submitted at the SCUSD Serna Center, 5735 47th Avenue, Sacramento, California 95824.
33
34 B. Bids shall be submitted by the time and date stated in the Notice to Bidders. Late Bids will not be accepted.
35
36 C. If the DVBE participation goal is not met, submit documentation of DVBE Good Faith Efforts ("GFE") **within**
37 **24 hours after the proposal deadline**. Bidders are encouraged to submit GFE documentation even if they
38 believe they have met the DVBE goal in the event there is a problem with a listed DVBE. Late GFE
39 documentation will not be accepted and will result in any Bid that fails to meet the DVBE goal being rejected
40 as non-responsive.
41
42 D. Bidders shall bear full responsibility for ensuring that Bids are received by the time and date designated for
43 receipt of Bids. There may be a heavy demand at the deadline for submitting Bids, and the District assumes
44 no responsibility if the Bidder is unable to complete the submission of its Bid by the deadline.
45
46 E. No telephones, fax machines, scanners, or computers will be provided by the District or the District
47 Representative.
48

49 Section 1.07 Modification or Withdrawal of Bids
50

- 51 A. A Bid may not be withdrawn by the Bidder following the time and date designated for the receipt of Bids,
52 except in accordance with Sections 5100 - 5108 of the Public Contract Code.
53
54 B. Prior to the time and date designated for receipt of Bids, Bids may be withdrawn and a revised Bid may be
55 submitted before the Bid deadline. Withdrawals shall be through the Online Bid Platform. Telephone, fax,
56 and email withdrawals will not be accepted.

- 1
- 2 C. Withdrawn Bids may be resubmitted up to the time and date designated for receipt of Bids.
- 3

4 END OF SECTION

Section 00 42 00 - BID FORM

PROPOSAL FOR: Sacramento City Unified School District

TO: Sacramento City Unified School District
5735 47th Avenue, Sacramento, California 95824

COVERING BID PACKAGE: 0825-417 SCUSD Serna Center Generator

SUBMITTED BY: _____
Name of Bidder

Address

Phone #/Fax #:

License number: _____. License type: _____. License expiration date: _____.

Public Works Contractor DIR Registration # _____ Expiration date: _____

Average EMR (past 5 years): _____ Total "serious" and "willful" OSHA violations (past 5 years): _____

Bidder:

On behalf of Bidder, the undersigned represents that Bidder's authorized representative attended the full duration of the Pre-Bid Conference, and that Bidder has carefully examined the Site, the proposed Contract Documents consisting of the Notice to Bidders, the Instructions for Bidders, the Proposal Form, the Agreement for Construction, the Bid Bond, the Performance Bond, the Payment Bond, the General Conditions, the Special Provisions, the General Requirements, Exhibits, the Technical Specifications, the Contract Drawings and Plans, any and all Addenda prepared by the Architect pertinent to the construction of the above-referenced Project, the Contractor's Guarantee and Bond, the Hazardous Materials Requirements (if any), and the Construction Forms Manual, and further, being reasonably familiar with all other conditions affecting the Work, Bidder hereby proposes and agrees to furnish and provide all labor, materials, supervision, transportation, tools, equipment, services and other facilities necessary and required for the expeditious completion of the Work included in the Bid Package indicated above, in strict conformity with said conditions and Contract Documents. Bidder agrees to comply with all requirements of the Project Labor Agreement.

Bidder has reviewed the Work outlined in the Bid Package and fully understands the Scope of Work encompassed by this Bid, and acknowledges that its Bid includes the Work of all trades within the Bid Package covered in the Bid and understands that, if awarded the Contract, Bidder shall be the Prime Contractor to the District and agrees that its Bid, if accepted by the District, will be the basis for a contract with the District in accordance with the intent of the Contract Documents.

Bidder agrees to complete the Work required within the Bid Package within the time indicated in the Special Provisions, subject to liquidated damages as specified in the Special Provisions.

The undersigned has the authority to so bind Bidder to these representations and agreements.

Affix Corporate Seal Here

Signed Date

Print Name

Title

1 Enclosed is a certified check, cashier's check, or bid bond for ten percent (10%) of the amount of the Base Bid including
2 additive Alternates (if any), made payable to the District to be left in escrow with the District as a guarantee that Bidder
3 will enter into a contract and will furnish specified insurance and bonds. It is understood that refusal to do so will result
4 in the forfeit of this guarantee. If this Bid is not accepted within the time set for acceptance of bids, or any extension
5 thereof, or if the contract is fully executed with another Bidder, or if the District elects not to award a contract, then the
6 check or bid bond shall be returned to the Bidder.

7
8 Bidder has notified the District of any discrepancies, ambiguities, inconsistencies, errors or omissions in the Bidding
9 Documents, Contract Documents, applicable Federal, State, and local regulations or requirements, and/or of any
10 doubt about the meaning of any of the Contract Documents, and has contacted the District before bid date to verify
11 the issuing of any clarifying Addenda.

12
13 The undersigned further acknowledges receipt of the following Addenda, which are a part of the Contract Documents:

14
15 NO. _____ DATE _____ NO. _____ DATE _____
16 NO. _____ DATE _____ NO. _____ DATE _____
17 NO. _____ DATE _____ NO. _____ DATE _____
18 NO. _____ DATE _____ NO. _____ DATE _____

(Include All Addenda)

19
20
21
22
23
24
25 _____
26 Signed

27
28
29 _____
30 Print Name

31
32
33 _____
34 Title

1 AGREEMENT

2
3 It is understood and agreed that if written notice of the District's acceptance of this Bid is mailed, emailed, or otherwise
4 delivered to the undersigned Bidder after the opening of the Bid, and within the time in which the District may accept
5 the Bid, the undersigned Bidder will execute and deliver to the District a contract in the form included with the Bidding
6 Documents within ten (10) days after receipt of the Notice of Intent to Award or other notification of award, and that
7 the Work under the Contract shall be commenced by the undersigned Bidder, if awarded the Contract, on the date to
8 be stated in a Notice to Proceed and shall be completed in the time specified in the Contract Documents. In the event
9 the Bidder to whom an award is made fails or refuses to timely execute the Contract, the District may declare the
10 Bidder's bid security forfeited.

11
12 Enclosed herewith is a listing of Subcontractors and major materials suppliers in accordance with Sections 4100 to
13 4114 of the California Public Contract Code and the Instructions to Bidders and a listing of Disabled Veteran Business
14 Enterprises, including any DVBE acting as a material supplier, lower tier subcontractor, or other entity not required to
15 be listed by the Subletting and Subcontracting Fair Practices Act.

16
17 Also enclosed herewith are the Non-Collusion Affidavit, Iran Contracting Act certification, and Certification regarding
18 Russian Sanctions, as required by law. Site Visit Certification shall also be enclosed herewith if pre-bid site visit was
19 mandatory.

20
21 The undersigned Bidder agrees that the information and representations provided herein are made under penalty of
22 perjury.

23
24 NOTE: If Bidder is a corporation, the legal name of the corporation shall be set forth below, together with the signatures
25 of authorized officers or agents, who shall be either a) the president or b) any vice president and the secretary, any
26 assistant secretary, the chief financial officer, or any assistant treasurer. If Bidder is a partnership or limited liability
27 company, the true name of the firm shall be set forth below together with the signature of a partner or member
28 authorized to sign contracts on behalf of the partnership or LLC. If Bidder is an individual, his/her signature shall be
29 placed below.

30
31 NAME OF BIDDER:
32 _____
33 _____

34
35
36 BY: _____
37 Signature _____ Title _____
38 _____
39 Type/Print Name _____
40
41 _____
42 Signature _____ Title _____
43 _____
44 Type/Print Name _____
45
46 _____
47 Signature _____ Title _____
48 _____
49 Type/Print Name _____

50
51 DATE: _____

NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

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STATE OF _____)
) ss.
County of _____)

I, _____, declare that I am _____ of _____ 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 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 to refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other Bidder. All statements contained in the bid are true. The Bidder has not, directly or indirectly, submitted its 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], California..

Signature of Bidder

Print Name

Date

IRAN CONTRACTING ACT CERTIFICATION FORM

Pursuant to California Public Contract Code (PCC) section 2204, an Iran Contracting Act certification is required for solicitations of goods or services of \$1,000,000 or more.

To submit a proposal to the District, you must complete ONLY ONE of the following two paragraphs. To complete paragraph 1, check the corresponding box and complete the certification for paragraph 1. To complete paragraph 2, simply check the corresponding box.

1. We are not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services (“DGS”) pursuant to PCC 2203(b), and we are not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

OR

2. We have received written permission from the District to submit a proposal pursuant to PCC 2203(c) or (d). A copy of the written permission from the District is included with our Bid.

CERTIFICATION FOR PARAGRAPH 1:

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY, that I am duly authorized to legally bind the Bidder to the clause in paragraph 1. This certification is made under the laws of the State of California.

<i>Company Name (Printed)</i> Click here to enter text.		<i>Federal ID Number</i> Click here to enter text.	
<i>By (Authorized Signature)</i> 			
<i>Printed Name and Title of Person Signing</i> Click here to enter text.			
<i>Date Executed</i> Click here to enter text.		<i>Executed in the County of _____ in the State of _____</i>	

CERTIFICATION REGARDING RUSSIAN SANCTIONS

On March 4, 2022, Governor Gavin Newsom issued Executive Order N-6-22 regarding Economic Sanctions against Russia and Russian entities and individuals. "Economic Sanctions" hereunder refers to sanctions imposed by the United States government in response to Russia's actions in Ukraine, as those sanctions may be updated from time to time, as well as any sanctions imposed under state law. By its signature below, the Respondent represents that it is not a target of Economic Sanctions.

Should the District determine that the Respondent is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for rejection of the Respondent's Proposal **for lack of responsibility** any time prior to contract execution, or, if determined after contract execution, shall be grounds for termination for default by the District. The Contractor will be required to obtain a similar certification from all proposed trade contractors subject to the protections of Public Contract Code section 4100 *et seq.*; failure to obtain such certification and/or a determination that any such proposed subcontractor is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities will be grounds for rejection of the proposed subcontractor.

I, the official named below, declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this certification is executed on _____ at _____, California.

[Date]

[City]

RESPONDENT: _____

BY: _____
Signature

Type/Print Name

Title

SITE VISIT CERTIFICATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID
IF SITE VISIT WAS MANDATORY

Check option that applies:

I certify that I visited the Site of the proposed Work, received the attached _____ pages of information, and became fully acquainted with the conditions relating to construction and labor. I fully understand the facilities, difficulties, and restrictions attending the execution of the Work under contract.

I certify that _____ (Bidder's representative) visited the Site of the proposed Work, received the attached _____ pages of information, and became fully acquainted with the conditions relating to construction and labor. The Bidder's representative fully understood the facilities, difficulties, and restrictions attending the execution of the Work under contract.

Bidder fully indemnifies the Sacramento City Unified School District, its Architect, its Engineers, its Construction Manager, and all of their respective officers, agents, employees, and consultants from any damage, or omissions, related to conditions that could have been identified during my visit and/or the Bidder's representative's visit to the Site.

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

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

ATTACHMENTS:

1.

2.

3.

INSTRUCTIONS TO SUBCONTRACTOR AND DVBE LISTING FORM

1. Insert Bidder's name where indicated. Note: Bidder's name is to be inserted below the table on the second page as well as at the top of the first page.
2. Check next to either the Bidder is not using any Subcontractors/DVBES OR all Subcontractors required to be listed and DVBEs for which credit is claimed have been listed.
3. For each listed entity, identify the portion of work to be performed by the subcontractor/DVBE. Where not all work will be performed by a single subcontractor, Bidder may designate "partial" and further define the portion of the work to be performed. The "portion" of work must specify which subcontractor will be responsible for applicable mechanical, electrical, and plumbing (MEP) work, even if that work will be further subcontracted to a lower-tier subcontractor. **If any first-tier subcontractor identified for MEP work is not prequalified, then the bidder must identify the prequalified lower-tier subcontractor who will perform the work;** failure to do so will result in the bid being deemed non-responsive. If the portion of work does not identify one or more MEP subcontractors, if required for the work, then the prime contractor must perform that work with its own forces.
4. **All DVBEs** for which the Bidder is claiming credit must be listed on the form and identified as DVBEs, even if the work to be performed is less than one-half of one percent (0.5%) of the bid amount, involves supply of materials, or is to be performed by a lower-tier subcontractor. **Note:** Equipment Brokers, as defined in the DVBE Requirements, are not eligible for credit towards the DVBE participation goal.
5. In the column for "portion of work," if the listed entity is a DVBE, state **both** a description of the portion of work **and** a dollar amount. Subcontractors that are not DVBEs are not required to, but may, include a dollar amount of work. For DVBE entities that will not be contracting directly with Bidder (second tier or lower subcontractors), identify the subcontractor with which the DVBE will be contracting.
6. For each listed entity, fill in its name, license number and DIR registration number, and location of the place of business. For all DVBEs, also include the DVBE certification number assigned by the California Department of General Services.
7. For each listed entity, indicate either Y (yes) or N (no) in the column to specify whether the listed entity is a certified DVBE.
8. Ensure that Bidder's name is inserted where indicated. Mark the box for **either** the Bidder is a DVBE, **or** the Bidder will meet the DVBE goal with the listed DVBEs, **or** the Bidder has not met the goal. If the Bidder has not met the goal, state the percentage of DVBE participation achieved.
9. Sign the form where indicated.
10. Additional pages may be copied if necessary. Signature is only required once.

1 LIST OF SUBCONTRACTORS FOR _____ (BIDDER)

2
3 PROJECT: **0825-417 SCUSD Serna Center Generator**

4
5 Pursuant to the provisions of Sections 4100 to 4114 inclusive, of the California Public Contract Code, and as set forth
6 in Instructions to Bidders, and the General Conditions, the above named Contractor hereby designates below the
7 portion of work to be performed by each Subcontractor and DVBE and the names, contractor license numbers, DIR
8 registration numbers, and locations of the place of business of each Subcontractor and DVBE. Listed subcontractors
9 shall be entitled to the protections of Public Contract Code sections 4100 to 4114. Please check one of the boxes and
10 sign below:

11 We are not using any Subcontractors or DVBEs.

12 All of our Subcontractors who are performing at least 1/2 of 1% of the Work, including for
13 any additive Alternates, **and** any DVBEs for which the Bidder claims credit, are listed below.
14
15
16

<u>PORTION OF WORK TO BE PERFORMED (1)</u>	<u>NAME OF SUBCONTRACTOR</u>	<u>LICENSE, DIR AND DVBE NUMBERS</u>	<u>DVBE [Y/N]</u>	<u>LOCATION OF PLACE OF BUSINESS</u>
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		

<u>PORTION OF WORK TO BE PERFORMED (1)</u>	<u>NAME OF SUBCONTRACTOR</u>	<u>LICENSE, DIR AND DVBE NUMBERS</u>	<u>DVBE [Y/N]</u>	<u>LOCATION OF PLACE OF BUSINESS</u>
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		
		<u>CSLB:</u> <u>DIR:</u> <u>DVBE #:</u>		

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_____ (Insert Bidder name):

- Is a certified DVBE.
- Will meet the stated DVBE participation goal and has listed all DVBEs above.
- Has not met the goal but will achieve ____ % DVBE participation based on the DVBEs listed above.

By the signature below, the Bidder certifies under penalty of perjury under the laws of the State of California that, in performing the portion of work identified above, each listed DVBE shall perform a commercially useful function, as defined in Military & Veterans Code section 999(b)(5)(B)(i).

Signed

(1) For DVBE subcontractors or suppliers, the work must be identified by description and a dollar amount. For second tier or lower subcontractors, identify the subcontractor with which the DVBE will be contracting.

END OF SECTION

DVBE AND GOOD FAITH EFFORTS REQUIREMENTS

Section 1.01 DVBE Policy

Definitions:

The term "Disabled Veteran Business Enterprise" (DVBE) means a business concern that is certified as a DVBE by the Department of General Services, Office of Small Business and Disabled Veteran Business Enterprise Services (OSDS).

The term "Bidder" means any person or persons, firm, partnership, corporation, or combination thereof making an offer, a proposal, or submitting a response to the Bidding Documents with the intent of forming a Contract with the District on the Project.

The term "Contractor" means the Bidder to whom the Contract is awarded.

The term "Participation Goal" or "Goal" means a numerically expressed DVBE objective that Bidders are required to make efforts to achieve in accordance with Section 17076.11 of the Education Code.

The term "Equipment Broker" means a DVBE that rents equipment **unless** one or more disabled veterans has at least a 51% ownership of the equipment. If the equipment is owned by one or more disabled veterans, then, to avoid being an Equipment Broker, each disabled veteran owner shall, prior to performance, submit a declaration signed by the disabled veteran owner stating that the owner is a disabled veteran and providing the name, address, telephone number, and tax identification number of the disabled veteran owner.

The term "Good Faith Efforts" or "GFE" means that the Bidder took all necessary and reasonable steps to achieve the DVBE Participation Goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DVBE participation, even if they were not fully successful. Good Faith Efforts are further delineated in Section 1.02 below.

DVBE Goals:

In accordance with Education Code section 17076.11, the District has a Participation Goal for DVBEs of three percent (3%). Prior to, and as a condition precedent for, final payment, the Contractor shall provide documentation to the District identifying the amount paid to DVBEs under the Contract, so that the District can assess its success at meeting this Participation Goal.

For any work performed by a prime contractor or subcontractor (including materials suppliers) to be counted toward meeting the DVBE Participation Goal, such business concern must possess current and valid certification as a DVBE through the OSDS. In addition, the work must conform to the most current regulations and requirements as published by the California Department of General Services (DGS) and/or OSDS. For additional information see <http://www.dgs.ca.gov/pd/Programs/OSDS.aspx>.

Section 1.02 Requirements; Good Faith Efforts (GFE)

The Participation Goal for this contract is 3%. Rental of equipment from an Equipment Broker shall not be credited towards the DVBE goal.

The Bidder shall either commit to meeting the Participation Goal or demonstrate Good Faith Efforts to do so, as described below. If the Bidder is a DVBE, then the Bidder must clearly identify that fact in its bid. If the Bidder is not a DVBE, then all DVBEs for which the Bidder is claiming credit must be listed on the Subcontractor listing form and identified as DVBEs, even if the work to be performed is less than one-half of one percent (0.5%) of the bid amount, involves supply of materials, or is to be performed by a lower-tier subcontractor. Work to be performed by a lower tier subcontractor must be identified as such on the listing form to avoid the Bidder listing two subcontractors for the same scope of work.

Although GFE have been eliminated from Public Contract Code sections 10115 *et seq.*, the District's obligation is separately stated under Education Code section 17076.10 and its OPSC grant, so the District may find a Bidder to

1 have complied with the DVBE requirements if it establishes GFE. To establish GFE, the Bidder must demonstrate at
2 least the following:

- 3
4 1. Select portions of the work for which to solicit DVBEs in order to increase the likelihood that the DVBE
5 goals will be achieved. This may include breaking out contract work items into smaller units or soliciting
6 DVBEs for portions of the work that the Bidder might otherwise prefer to perform itself. **Identify the**
7 **selected portions of work in the GFE documentation.**
- 8
9 2. Search at least the OSDS DVBE database to identify DVBEs to solicit to perform the portions of work
identified. **Print the search results to include with the GFE documentation.**
- 10
11 3. Advertise for DVBE participation in focus or trade publications reasonably expected to reach DVBEs in
12 the region as early in the process as is practicable. Depending on the project and results, multiple
13 advertisements may be appropriate. Generally, the first publication should occur **no later than** one week
after the pre-bid conference. **Submit a copy of the advertisement(s) with the GFE documentation.**
- 14
15 4. Solicit interest from identified DVBEs (from the OSDS database or otherwise) as early in the bidding
16 process as practicable to allow the DVBEs to respond to the solicitation and submit a timely bid.
17 Solicitations may be by phone, fax, email, letter, or other reasonable means, but must be documented.
18 **Submit documentation of all outreach efforts with the GFE documentation. Include copies of all**
DVBE responses.
- 19
20 5. Follow up initial solicitations. **Document all such efforts and DVBE responses as part of the GFE**
documentation.
- 21
22 6. Work with interested DVBEs, including providing adequate information about the Project and portions of
23 work available and negotiating in good faith with interested DVBEs to assist them with being able to bid.
Document all such efforts with the GFE documentation.

24 All documentation of GFE must be submitted within 24 hours following the bid deadline. Documentation submitted
25 after that time will not be considered.

26
27 Bidders planning to meet the Participation Goal may still want to document GFE in the event of a shortfall in planned
28 DVBE participation or other disqualification of a listed DVBE.

29
30 Section 1.03 Substitutions

31
32 The Contractor must use the DVBE subcontractor(s) and/or supplier(s) proposed unless the Contractor requests and
33 receives authorization to substitute from the District. A DVBE subcontractor or supplier shall be replaced by another
34 DVBE, if possible. The DVBE will be given the rights afforded by Public Contract Code section 4107 prior to the District
35 acting on a requested substitution.

36
37 FAILURE TO ADHERE TO THE DVBE PARTICIPATION PROPOSED BY THE SUCCESSFUL BIDDER MAY BE
38 CAUSE FOR CONTRACT TERMINATION AND/OR RECOVERY OF DAMAGES UNDER THE RIGHTS AND
39 REMEDIES UNDER THE DEFAULT SECTION OF THE CONTRACT.

Good Faith Effort Checklist

The following checklist is provided to assist Bidders in compiling their good faith efforts documentation. Bidders are encouraged, but not required, to submit the checklist with their documentation. Bidders should not consider the following checklist to identify all actions that can or must be taken to establish good faith efforts, which will depend on the circumstances encountered by the Bidder. Bidders should explain any circumstances that they want the District to consider in evaluating the good faith efforts.

Item #	Description	Items Attached
1.	Identify portions of work for which DVBEs were solicited (can be done below).	<input type="checkbox"/>
2.	Provide copies of printed search results from California Office of Small Business & Disabled Veterans' (OSDS) DVBE Database Recommendation: If the bidder does not solicit substantially all of the DVBEs identified on the printout(s), explain how the bidder selected the DVBEs to solicit.	<input type="checkbox"/>
3.	Provide copies of DVBE Advertisements	<input type="checkbox"/>
4.	Provide copies of all solicitation efforts including phone calls, fax, email, letter or other reasonable means, as well as all responses. Recommendation: If significant numbers of the solicited DVBEs cannot be reached or indicate that they do not intend to bid, then the Bidder is encouraged to identify additional DVBEs to solicit for participation.	<input type="checkbox"/>
5.	Provide copies of follow-up to initial solicitations and all responses. Identify the date, time, and manner of the follow-up and any responses received. Recommendation: If significant numbers of the solicited DVBEs cannot be reached or indicate that they do not intend to bid, then the Bidder is encouraged to identify additional DVBEs to solicit for participation.	<input type="checkbox"/>
6.	If the Bidder worked with interested DVBEs, describe all such efforts.	<input type="checkbox"/>
7.	Describe any additional circumstances that the Bidder wants the District to consider in evaluating good faith efforts, including any additional actions taken to secure DVBE participation.	<input type="checkbox"/>

1 **POST BID INTERVIEW DOCUMENTATION**

2 The Construction Manager will document the Post Bid Interview on the form attached to this Section. Both the
3 apparent low bidder and the Construction Manager are required to sign the Post Bid Interview Documentation.

4

5 *[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]*

6

7

POST BID INTERVIEW

1

2 **CONSTRUCTION MANAGER**

3 [Name]

4 [Address 1]

5 [Address 2]

6 [Phone]

[Fax]

BIDDER: _____

DATE: _____ TIME: _____ PHONE: _____

1. INTRODUCTIONS:

Present

a.

CONTRACTOR

CONTRACTOR

[CM]

[CM]

2. PROPOSED CONTRACT:

3. PURPOSE OF INTERVIEW IS TO ASSURE A MUTUAL UNDERSTANDING OF THE FOLLOWING:

- a. Do you acknowledge submission of a complete and accurate bid? Yes No
- b. Do you acknowledge the Bid Document submittal timelines after NOA and NTP and can you meet those timelines? Yes No
- c. Do you acknowledge the requirements for the escrow of bid documents? Yes No
- d. Are you comfortable with your listed subcontractors? Yes No

CONTRACTUAL REQUIREMENTS:

4.

- a. Do you understand you are a prime contractor? Yes No
- b. Can you meet specified insurance requirements? Yes No
 - (1) Do any of your policies that require Additional Insured endorsements exceed the minimum coverage requirements? Yes No
 - (2) Are you requesting that the District accept an Excess Liability Insurance Policy to meet the policy limit? Yes No
 - (3) Will there be a gap between the per occurrence amount of any underlying policy and the start of the coverage under the Umbrella or Excess Liability Insurance Policy? Yes No

- c. Will you provide the Performance Bond and Labor and Material Bond for 100% of the Contract Price as stipulated? Yes No
- (1) Cost for bonds: _____% Yes No
- (2) Is the cost of your bonds in your base bid? Yes No
- (3) Is your surety licensed to issue bonds in California? Yes No
- d. Do you understand the fingerprinting requirements? Yes No
- e. Is it understood that all workers must be paid prevailing wage? Yes No
- f. Is it understood that all subcontractors of every tier must be registered as a public works contractor with the Department of Industrial Relations? Yes No

5. SCOPE OF WORK:

- a. Acknowledged Receipt of Addenda #1-___ Yes No
- b. Are the costs for addenda items included in your bid? (if applicable) Yes No
- c. Do you have a complete understanding of your Scope of Work under the proposed Agreement? Yes No
- d. You have re-reviewed the documents and understand the Scope of the Work. Are there any items that require clarification? Yes No
If yes, please identify them.

- (1) _____

- (2) _____

- (3) _____

Is (are) there additional cost(s) for the above item(s)? Yes No

- e. Is the cost for allowance included in your bid? Yes No
- f. Have you reviewed bid alternative(s) #1-___? (if applicable) Yes No
- g. Are the costs for bid alternatives included in your bid? Yes No
- h. Are the plans and specifications clear and understandable to your satisfaction? Yes No
- i. Do you acknowledge that the time to submit notice of requests for substitution of specified materials has expired? Yes No

6. SCHEDULE:

a. Do you acknowledge and agree to the stipulated completion dates and milestones in the contract? Yes No

(1) Will you provide a detailed construction schedule to _____ within the required ten (10) days of the Notice to Proceed, per the contract? Yes No

(2) Can you meet the submittal deadline? Yes No

(3) It is understood that the Project schedule is critical and that that weekend and overtime work may be required to meet the milestones. Yes No

(4) It is understood that if rain does occur, then all dewatering and protection of work is required, per the contract. If not, what do you believe must change and why? Yes No

b. Identify critical materials, deliveries, long lead items and other dependencies, including Owner Furnished items that could affect the completion of your work. Yes No

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

c. Do you understand that there is going to be maintenance and other construction taking place on site during the course of the project? Yes No

7. EXECUTION OF WORK

a. Do you understand the access to the site? Yes No

b. Do you understand the staging area restrictions? Yes No

c. Have you included protection of [asphalt, floors, and roofs]? Yes No

d. Do you understand that the site is occupied by students, teachers, administrators, parents, etc.? Yes No

8. CONTRACTOR COMMENTS/SUGGESTIONS:

- (1) _____
- (2) _____
- (3) _____
- (4) _____
- (5) _____

1

2 9. CONTRACTOR

3 **You agree the information contained herein is part of your contractual obligations. Your signature**
4 **acknowledges your agreement to perform all Work in the Contract Documents, and that costs for all Work**
5 **are included in your bid.**

6 The foregoing information is true and accurate, and I am authorized to sign as an officer of the company I am
7 representing.

8 [Company Name]

9 _____

10 Signature _____ Title: _____

11 Date: _____

12 10. CONSTRUCTION MANAGER

13 Signature _____ Title: _____

14 Date: _____

15 Title of Document: POST BID INTERVIEW
16 Number of Pages: _____
17 Date of Document: _____

1 Section 5 – CONTRACT TIME.

2 The Work shall be commenced on the date specified in the District’s “Notice to Proceed,” and shall be fully
3 completed as described in the Contract Documents, including, without limitation, submittal of all close-out
4 documentation **within 120 calendar days from the commencement date stated in the “Notice to Proceed”**
5 together with such additional time as may be provided by any change order issued pursuant to the Contract
6 Documents.

7
8 Time is of the essence in this Agreement and the Contract Documents. Failure of Contractor to complete the Work
9 by the completion date and in the manner provided for by the Contract Documents, as that time may be extended
10 by Change Order, shall subject Contractor to liquidated damages as hereinafter provided in this Agreement and the
11 Contract Documents.

12
13 Section 6 - NO WAIVER BY PERFORMANCE; REMEDIES.

14 No action by the District or its representatives in performing this Agreement, including without limitation inspection
15 or payment, shall operate as a waiver of any provision of this Agreement or the Contract Documents or of any legal
16 right of District unless such waiver is expressly stated in writing. No waiver of any breach of this Agreement or of
17 the Contract Documents shall waive any other or subsequent breach. In addition to each and every remedy
18 provided in this Agreement and/or the Contract Documents, District shall have any and all equitable and legal
19 remedies otherwise available to it.

20
21 Section 7 - LIQUIDATED DAMAGES.

22 Liquidated damages may be assessed against Contractor in accordance with Article 14 of the General Conditions
23 and the Special Provisions, in the amount of **\$2,000** per calendar day if Contractor fails to substantially complete
24 the Work within the Contract Time, as that time may be extended by change order, and in the amount of \$100 per
25 calendar day after substantial completion and until final completion. The provision for liquidated damages in the
26 Contract Documents shall not act as a limitation upon District if Contractor abandons the Work. In such event,
27 Contractor shall be liable to District for all losses incurred.

28
29 Section 8 - PERFORMANCE AND PAYMENT BONDS.

30 As a condition of award of this Agreement, Contractor was required to file a Performance Bond and a Payment
31 Bond with District. These bonds shall be maintained during the entire life of the Agreement at the expense of
32 Contractor. Each bond shall be in the amount of one hundred percent (100%) of the Contract Sum. Any alteration
33 or alterations made in any provision of the Contract shall not operate to release any surety from any liability on any
34 bond required hereunder and the consent to make such alterations is hereby given, and any surety on said bonds
35 must waive the provisions of Section 2819 of the Civil Code.

36
37 Section 9 - UNFAIR COMPETITION.

38 The following provision is included in this Agreement pursuant to California Public Contract Code section 7103.5.

39
40 “In entering into a public works contract or subcontract to supply goods, services, or materials
41 pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to
42 the awarding body all rights, title, and interest in and to all causes of action it may have under
43 Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2
44 (commencing with Section 16700 of Part 2 of Division 7 of the Business and Professions Code),
45 arising from purchases of goods, services, or materials pursuant to the public works contract or
46 subcontract. This assignment shall be made and become effective at the time the awarding body
47 tenders final payment to the contractor, without further acknowledgment by the parties.”

48
49 Section 10 - ASSIGNMENT.

50 Neither this Agreement nor any rights herein of Contractor shall be assigned without the written consent of District
51 first obtained.

52
53 Section 11 - NO THIRD PARTY BENEFICIARIES.

54 This Agreement is entered into solely between District and Contractor. There are no third-party beneficiaries,
55 intended, unintended, or otherwise to this Agreement.

56
57 Section 12 - AGREEMENT BINDING.

This Agreement shall bind and insure to the heirs, devisees, assignees, and successors in interest of Contractor and to the successors in interest of District in the same manner as if such parties had been expressly named herein.

Section 13 - AGREEMENT CONTROLS.

In the event of a conflict between the terms and conditions set forth in this Agreement and the terms and conditions set forth in the other Contract Documents, the terms and conditions set forth in this Agreement shall prevail.

Section 14 - FINGERPRINTING.

Education Code sections 45125.1 and 45125.2 apply to this Agreement. Contractor shall, prior to commencement of Work, comply with either of the methods of ensuring safety set forth in Education Code section 45125.2(a)(1) (installation of a physical barrier) or 45125.2(a)(2) (continual supervision by an employee of Contractor who has not been convicted of a serious or violent felony). If Contractor elects to provide continual supervision pursuant to Education Code section 45125.2(a)(2), Contractor shall require the person(s) who will provide that continual supervision to be fingerprinted by the Department of Justice ("DOJ"). Upon verification from DOJ that those persons fingerprinted have no record of a serious or violent felony, Contractor will so certify by signing and submitting to District, through the District Representative, the certification form attached as Exhibit A and incorporated by reference. In addition, Contractor shall submit the names of those persons who have received clearance on a form as indicated in Exhibit B. Any person whose name is not on the cleared list may not have such access. In that case, Contractor must make arrangements with District for appropriate access. No person with a violent or serious felony as reported by DOJ may have access to the school campuses.

Failure to comply with this Section of this Agreement at all times, or permitting unsupervised access by an employee whose name has not been cleared by DOJ as certified by Contractor, shall constitute grounds for termination of this Agreement.

Section 15 - GOVERNING LAW.

This Agreement will be governed by and construed in accordance with the laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

Contractors are required by law to be licensed and regulated by the Contractor's State License Board, which has jurisdiction to investigate complaints against contractors if a complaint is filed within three years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

District: Sacramento City Unified School District

By: _____
Name

Its: _____

Contract Amount: _____

By: _____
Name

Its: _____

(Signatures continued on following page)

Board Approval Date: _____

1
2 Contractor: _____

3
4 By: _____

5
6 Its: _____

7
8 Business Address: _____

9
10 License Number: _____

11 Contractor DIR Registration #: _____

12 Federal I.D. #: _____

13
14
15 CORPORATE CERTIFICATE

16
17 I, _____, certify that I am the Secretary of the corporation named as Contractor in the
18 foregoing contract; that _____, who signed said contract on behalf of said corporation is
19 authorized to fully bind the corporation to this Agreement; that said contract was duly signed for and on behalf of
20 said corporation by authority of its governing body and is within the scope of its corporate powers.

21
22
23
24 _____
25 Secretary
26

1 **EXHIBIT A TO FORM OF CONTRACT**

2
4 **CRIMINAL BACKGROUND INVESTIGATION**
5 **/FINGERPRINTING CERTIFICATION**

6 The undersigned does hereby certify to the District that I am a representative of the Contractor currently under
7 contract with the District; that I am familiar with the facts herein certified; and that I am authorized and qualified to
8 execute this certificate on behalf of Contractor.

9 Contractor certifies that it has taken at least one of the following actions (check all that apply):

10 Pursuant to Education Code section 45125.2(a), Contractor has installed or will install, prior to commencement
11 of Work, a physical barrier at the Work Site, that will limit contact between Contractor's employees,
12 Subcontractors or suppliers and District pupils at all times; and/or

13 Pursuant to Education Code section 45125.2(a), Contractor certifies that all employees will be under the
14 continual supervision of, and monitored by, an employee of the Contractor who the California Department of
15 Justice ("DOJ") has ascertained, or as described below, will ascertain, has not been convicted of a violent or
16 serious felony. The name and title of the employee who will be supervising Contractor's and its subcontractors'
17 or suppliers' employees is:

18 Name: _____

19 Title: _____

20 **NOTE:** If Contractor is a sole proprietor, and elects the above option, Contractor must have the above-named
21 employee's fingerprints prepared and submitted by District for submission to the DOJ, in accordance with
22 Education Code section 45125.1(h). No work shall commence until such determination by DOJ has been made.

23 Pursuant to Education Code section 45125.2(a), the District will take appropriate steps to protect the safety of
24 any pupils that may come in contact with Contractor's employees, subcontractors or suppliers so that the
25 fingerprinting and criminal background investigation requirements of Education Code section 45125.2 shall not
26 apply to Contractor under the Contract.

27 The Work on the Contract is either (i) at an unoccupied school site and no employee of Contractor and/or
28 subcontractor or supplier of any tier of the Contract shall come in contact with the District pupils or (ii) if
29 Contractor's employees or any subcontractor or supplier of any tier of the Contract interacts with pupils, such
30 interaction shall only take place under the immediate supervision and control of the pupil's parent or guardian
31 or a school employee, so that the fingerprinting and criminal background investigation requirements of
32 Education Code section 45125.1 shall not apply to Contractor under the Contract.

33 The Contractor, who is not a sole proprietor, has complied with the fingerprinting requirements of Education
34 Code section 45125.1 with respect to all Contractor's employees and all of its Subcontractors' employees who
35 may have contact with District pupils in the course of providing services pursuant to the Contract, and the DOJ
36 has determined (A) that none of those employees has been convicted of a felony, as that term is defined in
37 Education Code section 45122.1 and/or (B) that the prohibition does not apply to an employee as provided by
38 Education Code section 45125.1(e)(2) or (3). When the Contractor performs the criminal background check, it
39 shall immediately provide any subsequent arrest and conviction information it receives to the District pursuant
40 to the subsequent arrest service. No work shall commence until the Department of Justice ascertains that
41 Contractor's employees and any subcontractors' employees have not been convicted of a felony as defined in
42 Government Code Section 45122.1.

43 **A complete and accurate list of Contractor's employees and of all of its subcontractors' employees who**
44 **may come in contact with District pupils during the course and scope of the Contract is attached hereto**
45 **as EXHIBIT B FORM OF CONTRACT" and/or**

1 The Contractor is a sole proprietor and intends to comply with the fingerprinting requirements of Education
2 Code section 45125.1(h) with respect to all Contractor's employees who may have contact with District pupils
3 in the course of providing services pursuant to the Contract, and hereby agrees to the District's preparation and
4 submission of fingerprints such that the DOJ may determine (A) that none of those employees has been
5 convicted of a felony, as that term is defined in Education Code section 45122.1 and/or (B) that the prohibition
6 does not apply to an employee as provided by Education Code section 45125.1(e)(2) or (3). No work shall
7 commence until the Department of Justice ascertains that Contractor's employees and any subcontractors'
8 employees have not been convicted of a felony as defined in Government Code Section 45122.1.

9 Contractor's responsibility for background clearance extends to all of its employees, Subcontractors or suppliers,
10 and employees of Subcontractors or suppliers coming into contact with District pupils regardless of whether they
11 are designated as employees or acting as independent contractors of the Contractor.

12

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EXHIBIT B TO FORM OF CONTRACT

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List of Employees/Subcontractors With DOJ Clearance

- Name/Company:** _____
- Name/Company:** _____
- Name/Company:** _____
- Name/Company:** _____
- Name/Company:** _____
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- Name/Company:** _____
- Name/Company:** _____
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- Name/Company:** _____
- Name/Company:** _____

If further space is required for the list of employees/subcontractors, attach additional copies of this page.

Date: _____
Proper Name of Contractor: _____
Signature: _____
Print Name: _____
Title: _____

EXHIBIT C TO FORM OF CONTRACT

WORKERS' COMPENSATION CERTIFICATION

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Labor Code section 3700, in relevant part, provides:

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

By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state; and/or

By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

I am aware of the provisions of 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 I will comply with such provisions before commencing the performance of the Work of this Contract.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

(In accordance with Labor Code sections 1860 and 1861, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

EXHIBIT D TO FORM OF CONTRACT

**PREVAILING WAGE AND
RELATED LABOR REQUIREMENTS CERTIFICATION**

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I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours' notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, labor compliance monitoring and enforcement by the Department of Industrial Relations.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT E TO FORM OF CONTRACT

DRUG-FREE WORKPLACE CERTIFICATION

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of the Drug-Free Workplace Act of 1990.

Contractor must also comply with the provisions of Health & Safety Code section 11362.3 which prohibits the consumption or possession of cannabis or cannabis products in any public place, including school grounds, and specifically on school grounds while children are present.

Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

- a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition.
- b. Establishing a drug-free awareness program to inform employees about all of the following:
 1. The dangers of drug abuse in the workplace.
 2. The person's or organization's policy of maintaining a drug-free workplace.
 3. The availability of drug counseling, rehabilitation, and employee-assistance programs.
 4. The penalties that may be imposed upon employees for drug abuse violations.
- c. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

1 I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the
2 Drug-Free Workplace Act of 1990 and Health and Safety Code section 11362.3.

3 Date: _____

4 Proper Name of Contractor: _____

5 Signature: _____

6 Print Name: _____

7 Title: _____

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EXHIBIT F TO FORM OF CONTRACT

TOBACCO-FREE ENVIROMENT CERTIFICATION

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This Tobacco-Free Environment Certification form is required from the successful Bidder.

Pursuant to, without limitation, 20 U.S.C. section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350 et seq., Business and Professions Code section 22950 et seq., and District Board policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. The prohibition on smoking includes the use of any electronic smoking device that creates an aerosol or vapor, in any manner or in any form, and the use of any oral smoking device for the purpose of circumventing the prohibition of tobacco smoking. Further, Health & Safety Code section 11362.3 prohibits the smoking or use of cannabis or cannabis products in any place where smoking tobacco is prohibited.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents, to use tobacco and/or smoke on the Project site.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT G TO FORM OF CONTRACT

HAZARDOUS MATERIALS CERTIFICATION

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- 11. Contractor hereby certifies that no asbestos, or asbestos-containing materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations, ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District.
- 12. Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.
- 13. Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.
- 4. Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.
- 5. All Work or materials found to be New Hazardous Material or Work or material installed with equipment containing New Hazardous Material will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.
- 6. Contractor has read and understood the document titled Hazardous Materials Procedures & Requirements, and shall comply with all the provisions outlined therein. Contractor certifies that it is knowledgeable of, and shall comply with, all laws applicable to the Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work.

Date: _____
Proper Name of Contractor: _____
Signature: _____
Print Name: _____
Title: _____

1 imposed on contractors subject to those regulations. The OSHA Regulations define construction work as
2 work for construction, alteration, and/or repair, including painting and decorating. Regulated work
3 includes, but is not limited to, the following:

- 4 a. Demolition or salvage of structures where lead or materials containing lead are present;
- 5 b. Removal or encapsulation of materials containing lead;
- 6 c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof,
7 that contain lead, or materials containing lead;
- 8 d. Installation of products containing lead;
- 9 e. Lead contamination/emergency cleanup;
- 10 f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site
11 or location at which construction activities are performed; and
- 12 g. Maintenance operations associated with the construction activities described in the subsection.

13 Because it is assumed by the District that all painted surfaces (interior as well as exterior) within the
14 District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully
15 and adequately comply with all applicable laws, rules and regulations governing lead-based materials
16 (including title 8, California Code of Regulations, section 1532.1).

17 **Contractor shall notify the District if any Work may result in the disturbance of lead-containing**
18 **building materials. Any and all Work that may result in the disturbance of lead-containing**
19 **building materials shall be coordinated through the District. A signed copy of this Certification**
20 **shall be on file prior to beginning Work on the Project, along with all current insurance**
21 **certificates.**

22 3. Renovation, Repair and Painting Rule, Section 402(c)(3) of the Toxic Substances Control Act

23 The EPA requires lead safe work practices to reduce exposure to lead hazards created by renovation,
24 repair and painting activities that disturb lead-based paint. Pursuant to the Renovation, Repair and
25 Painting Rule (RRP), renovations in homes, childcare facilities, and schools built prior to 1978 must be
26 conducted by certified renovations firms, using renovators with training by a EPA-accredited training
27 provider, and fully and adequately complying with all applicable laws, rules and regulations governing
28 lead-based materials, including those rules and regulations appearing within title 40 of the Code of
29 Federal Regulations as part 745 (40 CFR 745).

30 The RRP requirements apply to all contractors who disturb lead-based paint in a six-square-foot or
31 greater area indoors or a 20-square-foot or greater area outdoors. If a DPH-certified inspector or risk
32 assessor determines that a home constructed before 1978 is lead-free, the federal certification is not
33 required for anyone working on that particular building.

34 4. Contractor's Liability

35 If the Contractor fails to comply with any applicable laws, rules, or regulations, and that failure results in a
36 site or worker contamination, the Contractor will be held solely responsible for all costs involved in any
37 required corrective actions, and shall defend, indemnify, and hold harmless the District, pursuant to the
38 indemnification provisions of the Contract, for all damages and other claims arising therefrom.

39 If lead disturbance is anticipated in the Work, only persons with appropriate accreditation, registrations,
40 licenses, and training shall conduct this Work.

1 It shall be the responsibility of the Contractor to properly dispose of any and all waste products, including,
2 but not limited to, paint chips, any collected residue, or any other visual material that may occur from the
3 prepping of any painted surface. It will be the responsibility of the Contractor to provide the proper
4 disposal of any hazardous waste by a certified hazardous waste hauler. This company shall be
5 registered with the Department of Transportation (DOT) and shall be able to issue a current manifest
6 number upon transporting any hazardous material from any school site within the District.

7 The Contractor shall provide the District with any sample results prior to beginning Work, during the Work,
8 and after the completion of the Work. The District may request to examine, prior to the commencement of
9 the Work, the lead training records of each employee of the Contractor.

10 THE CONTRACTOR HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT IT:

- 11 **1.** HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S
12 PROPERTY;
- 13 **2.** IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES,
14 AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

15 THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND
16 THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

17 Date: _____

18 Proper Name of Contractor: _____

19 Signature: _____

20 Print Name: _____

21 Title: _____

22

EXHIBIT I TO FORM OF CONTRACT

IMPORTED MATERIALS CERTIFICATION

This form shall be executed by all entities that, in any way, provide or deliver and/or supply any soils, aggregate, or related materials ("Fill") to the Project Site and shall be provided to the District at least ten (10) days before delivery. All Fill shall satisfy all requirements of any environmental review of the Project performed pursuant to the statutes and guidelines of the California Environmental Quality Act, section 21000 et seq. of the Public Resources Code ("CEQA"), and all requirements of section 17210 et seq. of the Education Code, including requirements for a Phase I environmental assessment acceptable to the State of California Department of Education and Department of Toxic Substances Control.

Certification of: Delivery Firm/Transporter Supplier Manufacturer
 Wholesaler Broker Retailer
 Distributor Other _____

Type of Entity Corporation General Partnership
 Limited Partnership Limited Liability Company
 Sole Proprietorship Other _____

Name of firm ("Firm"): _____

Mailing address: _____

Addresses of branch office used for this Project: _____

If subsidiary, name and address of parent company: _____

By my signature below, I hereby certify that I am aware of section 25260 of the Health and Safety Code and the sections referenced therein regarding the definition of hazardous material. I further certify on behalf of the Firm that all soils, aggregates, or related materials provided, delivered, and/or supplied or that will be provided, delivered, and/or supplied by this Firm to the Project Site are free of any and all hazardous material as defined in section 25260 of the Health and Safety Code. I further certify that I am authorized to make this certification on behalf of the Firm.

Date: _____

Proper Name of Firm: _____

Signature: _____

Print Name: _____

Title: _____

EXHIBIT J TO FORM OF CONTRACT

**DISABLED VETERAN BUSINESS
ENTERPRISE PARTICIPATION CERTIFICATION**

GENERAL INSTRUCTIONS

Section 17076.11 of the Education Code requires school districts using, or planning to use, funds allocated pursuant to the State of California School Facility Program ("Program") for the construction and/or modernization of school buildings to have a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year by the school district on projects that receive state funding. Therefore, the lowest responsive responsible Bidder awarded the Contract must submit this document to the District with its executed Agreement, identifying the steps contractor took to solicit DVBE participation in conjunction with this Contract. **Do not submit this form with your bids. This Form must be provided to the District no later than 24 hours after bid opening.**

PART I – Method of Compliance with DVBE Participation Goals. Check the appropriate box to indicate your method of committing the contract dollar amount.

YOUR BUSINESS ENTERPRISE IS:	AND YOU WILL	AND YOU WILL
1.01 <input type="checkbox"/> Disabled veteran owned and your forces will perform at least 3% of this Contract	Include a copy of your DVBE letter from Office of Small Business and Disabled Veterans Business Enterprise Services ("OSDS")*	Complete Part 1 of this form and the Certification
1.02 <input type="checkbox"/> Disabled veteran owned but is unable to perform 3% of this Contract with your forces	Use DVBE subcontractors /suppliers to bring the Contract participation to at least 3%	Include a copy of each DVBE's letter from OSDS (including yours, if applicable), and complete Part 1 of this form and the Certification
1.03 <input type="checkbox"/> NOT disabled veteran owned	Use DVBE subcontractors /suppliers for at least 3% of this Contract	
1.04 <input type="checkbox"/> Unable to meet the required participation goals after good faith efforts	Make good faith efforts, including contacts, advertisement and DVBE solicitation	Complete all of this form and the Certification

* A DVBE letter from OSDS is obtained from the participating DVBE.

1 You must complete the following table to show the dollar amount of DVBE participation:

		TOTAL CONTRACT PRICE
1.01	Prime Bidder, if DVBE (own participation)	\$
1.02	DVBE Subcontractor or Supplier	
	A.	
	B.	
	C.	
	D.	
1.03	Subtotal (A & B)	
1.04	Non-DVBE	
1.05	Total Bid	

2 **PART II – Contacts.** To identify DVBE subcontractors/suppliers for participation in your contract, you
3 must contact each of the following categories. You should contact several DVBE organizations.

CATEGORY	TELEPHONE NUMBER	DATE CONTACTED	PERSON CONTACTED
A. The District, if any			*
B. OSDS, provides assistance locating DVBEs at https://caleprocure.ca.gov/pages/PublicSearch/supplier-search.aspx	(916) 375-4940		*
C. DVBE Organization (List)			*

4 *Write “recorded message” in this column, if applicable.

5 **PART III – Advertisement.** You must advertise for DVBE participation in both a trade and focus
6 paper. List the advertisement you place to solicit DVBE participation. Advertisements should be
7 published at least fourteen (14) days prior to bid/proposal opening; if you cannot advertise fourteen (14)
8 days prior, advertisements should be published as soon as possible. Advertisements must include that
9 your firm is seeking DVBE participation, the project name and location, and your firm’s name, your
10 contact person, and telephone number. Attach copies of advertisements to this form.

FOCUS/TRADE PAPER NAME	CHECK ONE		DATE OF ADVERTISEMENT
	TRADE	FOCUS	

1 **PART IV – DVBE Solicitations.** List DVBE subcontractors/suppliers that were invited to bid. Use the
 2 following instructions to complete the remainder of this section (read the three columns as a sentence
 3 from left to right). If you need additional space to list DVBE solicitations, please use a separate page
 4 and attach to this form.

IF THE DVBE.....	THEN.....	AND.....		
was selected to participate	Check "YES" in the "SELECTED" column	include a copy of their DVBE letter(s) from OSDS		
was NOT selected to participate	Check "NO" in the "SELECTED" column	state why in the "REASON NOT SELECTED" column		
did not respond to your solicitation	Check the "NO RESPONSE" column.			
DVBE CONTACTED	SELECTED		REASON NOT SELECTED	NO RESPONSE
	YES	NO		

5 A copy of this form must be retained by you and may be subject to a future audit.

6

7

CERTIFICATION

8 I, _____, certify that I am the bidder's _____ and that I have
 9 made a diligent effort to ascertain the facts with regard to the representations made herein. In making this
 10 certification, I am aware of section 12650 et seq. of the Government Code providing for the imposition of treble
 11 damages for making false claims.

12 Date: _____

13 Proper Name of Contractor: _____

14 Signature: _____

15 Print Name: _____

16 Title: _____

17

EXHIBIT K TO FORM OF CONTRACT

REGISTERED SUBCONTRACTORS LIST
(Labor Code Section 1771.1)

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Date Submitted (for Updates): _____

Contractor acknowledges and agrees that it must clearly set forth below the name and Department of Industrial Relations (DIR) registration number of each subcontractor **for all tiers** who will perform work or labor or render service to Contractor or its subcontractors in or about the construction of the Work **at least two (2) weeks before the subcontractor is scheduled to perform work**. This document is to be updated as all tiers of subcontractors are identified.

Contractor acknowledges and agrees that, if Contractor fails to list as to any subcontractor of any tier who performs any portion of Work, the Contract is subject to cancellation and the Contractor will be subjected to penalty under applicable law.

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

1 **Subcontractor Name:** _____

2 DIR Registration #: _____

3 Portion of Work: _____

4 **Subcontractor Name:** _____

5 DIR Registration #: _____

6 Portion of Work: _____

7 **Subcontractor Name:** _____

8 DIR Registration #: _____

9 Portion of Work: _____

10 **Subcontractor Name:** _____

11 DIR Registration #: _____

12 Portion of Work: _____

13 **Subcontractor Name:** _____

14 DIR Registration #: _____

15 Portion of Work: _____

16 **Subcontractor Name:** _____

17 DIR Registration #: _____

18 Portion of Work: _____

19 **Subcontractor Name:** _____

20 DIR Registration #: _____

21 Portion of Work: _____

22 Date: _____

23 Name of Contractor: _____

24 Signature: _____

25 Print Name: _____

26 Title: _____

27
28
29

Section 00 61 13.13 – PAYMENT BOND FORM

Bond No. _____

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, Sacramento City Unified School District (the "District") has awarded to

_____ as Principal a contract dated the _____ day of _____, 2____, for the furnishing of all labor, materials, equipment, transportation and services for the construction of **0825-417 SCUSD Serna Center Generator**, project located in Sacramento County, California (hereinafter referred to as the "Contract");

AND WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;

NOW THEREFORE, we the undersigned Principal and

_____ as Surety, are held and firmly bound unto the District in the sum of _____ DOLLARS \$_____ for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

1. THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its heirs, executors, administrators, successors, or assigns approved by the District or its Subcontractors shall fail to pay any of the persons named in State of California Civil Code Section 9100, or amounts due under the State of California 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 State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall become and be null and void.

2. This Bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under California law, including but not limited to the persons named in State of California Civil Code Section 9100 so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

3. Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder. Surety further waives the provisions of Section 2845 of the State of California Civil Code.

4. Amounts owed by the District to Principal under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under the Performance Bond. By Principal furnishing and the District accepting this Payment Bond, they agree that all funds earned by Principal in the performance of the Contract are dedicated to satisfy obligations of Principal and Surety under this Bond, subject to the District's priority to use the funds for the completion of the Work or the satisfaction of the District's claims, including liquidated damages, under the Contract.

5. Surety's obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with the Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing the District rights against the other.

Section 00 61 13.16 - PERFORMANCE BOND FORM

Bond No. _____

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, Sacramento City Unified School District hereinafter referred to as "District" and _____ (hereinafter referred to as "Contractor"), have entered into a written contract dated the _____ day of _____, 2____ for furnishing of all labor, materials, equipment, transportation and services for the construction of **0825-417 SCUSD Serna Center Generator**, project located in Sacramento County, California (hereinafter referred to as the "Construction Contract"); and

WHEREAS, Contractor is required by the terms of the Construction Contract to furnish a bond for the faithful performance of all terms and conditions of the Construction Contract;

NOW, THEREFORE, Contractor, as principal, and _____ (hereinafter referred to as "Surety"), as Surety, are held and firmly bound unto District and Claimants, as defined herein, in the penal sum of _____ DOLLARS \$ _____, lawful money of the United States, for the payment of which sum well and truly to be made as provided in this Performance Bond.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to District for the performance of the Construction Contract, which is incorporated herein by reference.
2. If Contractor timely performs each and every obligation under the Construction Contract, including all Guarantee and/or warranty obligations, Surety and Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.
3. Surety's obligation under this Performance Bond shall arise after:
 - 3.1 District has declared a Contractor Default and has notified Contractor and Surety at its address described in Paragraph 10 below that District has declared a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than seven days after receipt of such notice to discuss methods of performing all remaining obligations of Contractor pursuant to the Construction Contract; and
 - 3.2 District has agreed to pay any remaining Balance of the Agreement Price, as calculated under the terms of the Construction Contract, to Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the Construction Contract with District.
4. When District has satisfied the conditions of Paragraph 3, Surety shall promptly and at Surety's expense take one of the following actions:
 - 4.1 Arrange for Contractor, with consent of District, to perform and complete the Construction Contract; or
 - 4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

1 4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to District for a contract
2 for performance and completion of the Construction Contract, arrange for a contract to be prepared
3 for execution by District and the contractor selected with District's concurrence, to be secured with
4 performance and payment bonds executed by a qualified surety equivalent to the bonds issued on
5 the Construction Contract, and pay to District the amount of damages as described in Paragraph 6
6 in excess of the Balance of the Agreement Price, as calculated under the terms of the Construction
7 Contract, incurred by District resulting from Contractor's Default; or
8

9 4.4 Waive its right to perform and complete, arrange for completion, or obtain a new Contractor and with
10 reasonable promptness under the circumstances:

11
12 .1 After investigation, determine the amount for which it may be liable to District and, as soon
13 as practicable after the amount is determined, tender payment thereof to District; or
14

15 .2 Deny liability in whole or in part and notify District citing specific reasons therefore.
16

17 5. If Surety does not proceed as provided in Paragraph 4 within twenty days from receipt of the notice described
18 in paragraph 3.1 (whether or not a conference has been held pursuant to paragraph 3.1), or such longer
19 period upon which District and Surety may agree in writing, Surety shall be deemed to be in default on this
20 Bond. If Surety proceeds as provided in Subparagraph 4.4, and District refuses the payment tendered or
21 Surety has denied liability, in whole or in part, without further notice District shall be entitled to enforce any
22 remedy available to District.
23

24 6. After District has declared a Contractor Default, and if Surety elects to act under Subparagraph 4.1, 4.2, or
25 4.3 above, then the responsibilities of Surety to District shall not be greater than those of Contractor under
26 the Construction Contract, and the responsibilities of District to Surety shall not be greater than those of the
27 District under the Construction Contract. To the limit of the amount of this Performance Bond, but subject to
28 commitment by District of any remaining Balance of the Agreement Price to mitigation of costs and damages
29 on the Construction Contract, Surety is obligated without duplication for:
30

31 6.1 The responsibilities of Contractor for correction of defective Work, materials and equipment and
32 completion of the Construction Contract, including all Guarantee and warranty obligations;
33

34 6.2 Additional legal, design professional, construction management and delay costs resulting from the
35 Contractor's Default, and resulting from the actions or failure to act of Surety under Paragraph 4;
36 and
37

38 6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual
39 damages caused by delayed performance or non-performance of Contractor.
40

41 7. Surety shall not be liable to District or others for obligations of Contractor that are unrelated to the
42 Construction Contract, and the Balance of the Agreement Price shall not be reduced or set off on account
43 of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other
44 than District or its heirs, executors, administrators or successors.
45

46 8. Surety, for value received, hereby expressly agrees that no extension of time, change, modification,
47 alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or
48 to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby
49 waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings,
50 covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder.
51 Surety further waives the provisions of Section 2845 of the State of California Civil Code.
52

53 9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction.
54 The prevailing party in any such action shall be entitled to recover its attorneys' fees, to be taxed as an item
55 of costs.
56

10. Notice to Surety, District or Contractor shall be mailed or delivered to the address, or sent via telecopier to the facsimile number, shown on the signature page.

11. DEFINITIONS

11.1 Balance of the Agreement Price: The total amount payable by District to Contractor under the Construction Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by District in settlement of insurance or other claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Construction Contract.

11.2 Construction Contract: The agreement between the District and the Contractor identified on the first page of this bond, including all Contract Documents and changes thereto.

11.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

CONTRACTOR, as Principal

SURETY

By: _____

By: _____

Its: _____

Its: _____

Address: _____

Address: _____

Phone #: _____

Phone #: _____

Fax #: _____

Fax #: _____

Note: Notary Acknowledgement for Surety and Surety's Power of Attorney must be attached

Address for Owner Notices:

Sacramento City Unified School District
Attn: Chris Ralston, Assistant Superintendent – Facilities
Support Services
5735 47th Avenue,
Sacramento, California 95824

Section 00 65 36 - GUARANTEE FORM

{Print on Contractor/Subcontractor Letterhead}

ARTICLE 1. GUARANTEE FORM

_____ [Contractor's Name] hereby unconditionally guarantees that the Work performed at **0825-417 SCUSD Serna Center Generator**, has been done in accordance with the requirements of the Contract therefore and further guarantees the Work of the Contract to be and remain free of defects in workmanship and materials for a period of two (2) years from and after the recordation of the Notice of Completion of the Project and completion of all Contract obligations by the Contractor, including formal acceptance of the entire Project by the District, unless a longer guarantee period is called for by the Contract Documents, in which case the terms of the longer guarantee shall govern. The Contractor specifically waives any right to claim or rely on the statutory definition of completion set forth in Civil Code section 9200. The Contractor specifically acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, change orders, construction change directives and punch lists, and the District's formal acceptance of the entire Project, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise. The Contractor hereby agrees to repair or replace any and all Work, together with any adjacent Work which may have been damaged or displaced in so doing, that may prove to be not in accordance with the requirements of the Contract or that may be defective in its workmanship or materials within the guarantee period specified, without any expense whatsoever to the District, ordinary wear and tear and unusual abuse and neglect only excepted. The Contractor has provided contract bonds, which will remain in full force and effect during the guarantee period.

The Contractor further agrees that within ten (10) calendar days after being notified in writing by the District of any Work not in accordance with the requirements of the contract or any defects in the Work, it will commence and prosecute with due diligence all Work necessary to fulfill the terms of this guarantee, and to complete the Work within a period of time stipulated in writing. In the event it fails to so comply, Contractor does hereby authorize the District to proceed to have such Work done at the Contractor's expense and it will pay the cost thereof upon demand. The District shall be entitled to all costs, including reasonable attorneys' fees, necessarily incurred upon the Contractor's refusal to pay the above costs.

The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.

Notwithstanding the foregoing paragraph, in the event of an emergency constituting an immediate hazard to the health or safety of the employees of the District, or its property or licensees, the District may undertake at the Contractor's expense without prior notice, all Work necessary to correct such hazardous condition when it was caused by the Work of the Contractor not being in accordance with the requirements of this contract, or being defective, and to charge the same to the Contractor as specified in the preceding paragraph.

The guarantee set forth herein is not intended by the parties, nor shall it be construed, as in any way limiting or reducing the District's rights to enforce all terms of the Contract referenced hereinabove or the time for enforcement thereof. This guarantee is provided in addition to, and not in lieu of, the District's rights on such contract.

Spec Sections: _____

CONTRACTOR'S SIGNATURE

PRINT NAME

Section 00 72 00 - GENERAL CONDITIONS

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ARTICLE 1. DEFINITIONS AND PRINCIPLES OF INTERPRETATION

Section 1.01. Whenever the following terms, titles, or phrases are used in the Contract Documents, the intent and meaning thereof shall be as defined in this article.

Section 1.02. Architect.

The "Architect" is the architectural or engineering firm engaged as an agent by the District to perform the services set forth in the Contract Documents.

Section 1.03. Architect's Instruction Bulletin.

"Architect's Instruction Bulletins" are supplemental drawings or instructions which may be issued as necessary from time to time to make clear or define in greater detail the intent of the Contract Drawings and Specifications.

Section 1.04. Bid.

"Bid" shall mean the offer of the bidder to do the work.

Section 1.05. Board of Education.

"Board of Education" shall mean the duly elected officials constituting the Board of Education of the Sacramento City Unified School District.

Section 1.06. Change Order.

"Change Order" shall mean a written order to the Contractor, issued after execution of the Contract, signed by the District and the Contractor, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time. Change Orders may incorporate CCDs, some of which require DSA approval prior to being incorporated into the Change Order.

Section 1.07. Construction Change Directive.

"Construction Change Directive" or "Directive" shall mean a written order to the Contractor, issued after execution of the Contract, signed by the District or the District Representative directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both, and which shall be used in the absence of total agreement with the Contractor on the terms of a Change Order or when time does not permit processing of a Change Order prior to implementation of the change.

Section 1.08. Construction Forms Manual.

The "Construction Forms Manual" is the District's manual containing sample forms extracted from the District's Project Management Information System which will be used during construction.

Section 1.09. Contract Change Document

"Contract Change Document" or "CCD" shall mean the following documents, which may be required to be submitted to DSA for approval prior to being implemented and incorporated into a Change Order: Architect's Instruction Bulletins, Construction Change Directives, Interpretations, RFIs, or Substitutions.

Section 1.10. Contract Documents.

The "Contract Documents" shall include the Notice to Bidders, the Instructions for Bidders, the Bid, the Agreement for Construction, the Performance Bond, the Payment Bond, these General Conditions, the Special Provisions, the General Requirements, the Project Labor Agreement, Exhibits, the Technical Specifications, the Contract Drawings and Plans, all duly issued pre-bid addenda, Interpretations, Change Orders, Directives, supplemental drawings, Architect's Instruction Bulletins, the Contractor's Guarantee and Bond, the Hazardous Materials Requirements (if any), the Construction Forms Manual, and the Contract Schedule.

Section 1.11. Contract Drawings or Plans.

The "Contract Drawings" (sometimes referred to as "Drawings" or "Plans") are the graphic and pictorial portions of the Contract Documents, showing the design, location, and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams. This information may be developed and stored in a 3D or 4D model of the Project.

Section 1.12. Contract Schedule.

1 The "Contract Schedule" is the schedule produced by the Contractor in response to the requirements of the Contract
2 Documents in accordance with all District milestone and other timing requirements.
3

4 Section 1.13. Contract Sum.

5 "Contract Sum" is the total amount payable by the District to the Contractor for the performance of the Work under the
6 Contract Documents. The Contract Sum is the amount stated in the Agreement for Construction, including authorized
7 adjustments thereto.
8

9 Section 1.14. Contract Time.

10 "Contract Time" shall mean the period specified for completion of the Work, as set forth in the Agreement for
11 Construction and adjusted by any Change Order issued pursuant to the Contract Documents.
12

13 Section 1.15. Contractor.

14 "The Contractor" shall mean the entity that has entered into the Agreement for Construction of the Work with the
15 District. The Contractor is required by law to be licensed and will perform work or render services as a prime contractor
16 in or about the construction of the Work.
17

18 Section 1.16. Date of Commencement.

19 "Date of Commencement" is the date established in the Notice to Proceed.
20

21 Section 1.17. Date of Completion.

22 The "Date of Completion" for the purpose of determining when the Work is complete is the date certified by the District
23 Representative when construction of the Work is 100% complete, including acceptance by the Architect of all punch
24 list corrections.
25

26 Section 1.18. Day.

27 Unless otherwise expressly defined, a "day" shall mean a calendar day of 24 hours.
28

29 Section 1.19. Disabled Veteran Business Enterprise.

30 "Disabled Veteran Business Enterprise" or "DVBE" shall mean a business concern that is certified as a DVBE by the
31 Department of General Services, Office of Small Business and Disabled Veteran Business Enterprise Services
32 (OSDS).
33

34 Section 1.20. District.

35 "District" shall mean the Sacramento City Unified School District, a California school district. The District is sometimes
36 designated "Owner" in the Contract Documents.
37

38 Section 1.21. District Representative.

39 "District Representative" shall mean the District's designated agent engaged to perform all functions delegated to the
40 District Representative by the Contract Documents. The District Representative may or may not be a construction
41 manager. The District Representative will be the Contractor's primary contact during construction of the Project.
42

43 Section 1.22. Division of the State Architect.

44 "Division of the State Architect" or "DSA" is the California State agency responsible for checking contract documents
45 for compliance with Title 24, California Code of Regulations, and monitoring compliance on the construction site.
46

47 Section 1.23. Equal (as in "or equal").

48 "Equal" shall mean a system, process, product or material which is similar in all respects to that shown or specified
49 but produced by a manufacturer not listed in the specification.
50

51 Section 1.24. Interpretations.

52 "Interpretations" are all clarifications, additional instructions, and explanations issued by the Architect after award of
53 the Contract.
54

55 Section 1.25. Materials and Equipment.

1 “Materials” is a generic term which shall include all building materials, articles, supplies, and equipment delivered to
2 the project for incorporation in the Work. “Materials” includes everything incorporated into the Work except labor,
3 unless otherwise noted.
4

5 “Equipment” shall mean all pre-manufactured or partially preassembled products or components, assembled or
6 partially assembled before delivery to the Site.
7

8 Section 1.26. Notice to Proceed.

9 “Notice to Proceed” is the notice given to the Contractor following execution of the Agreement for Construction and
10 receipt of all required preconstruction submittals as itemized in the Notice of Intent to Award. The Notice to Proceed
11 establishes the start of the Work and authorizes the Contractor to begin construction.
12

13 Section 1.27. Project.

14 “Project” shall mean the total design and construction of the work of improvement described in the Contract
15 Documents, of which the Work may be the whole or a part and which may include construction by District or by
16 separate contractors.
17

18 Section 1.28. Project Inspector.

19 The “Project Inspector” shall mean the person or persons employed or engaged as (an) independent contractor(s) by
20 the District to inspect the performance of the Work by the Contractor for compliance with the Contract Documents.
21 The Project Inspector is hereby designated as an agent of the District for such purpose and no other. The Project
22 Inspector is supervised by, and reports to, the Architect. The authority of the Project Inspector to monitor the work
23 shall be strictly limited to that authority specified herein and in Title 24, California Code of Regulations, and no
24 additional authority has been granted nor shall be inferred.
25

26 Section 1.29. Project Labor Agreement (or “PLA”).

27 A prehire collective bargaining agreement in accordance with Public Contract Code section 2500 et seq. that
28 establishes terms and conditions of employment for a specific construction project or projects and/or is an agreement
29 described in Section 158(f) of Title 29 of the United States Code.
30

31 Section 1.30. Project Management Information System (PMIS).

32 The District owned, web based, software platform equipped with a suite of applications to manage data, generate
33 reports, schedule tasks, allocate resources, assign responsibilities, and streamline workflows throughout the project
34 lifecycle.
35

36 Section 1.31. Proposed Change Order/Work Order.

37 A “Proposed Change Order/Work Order” or “PCO” is the name given to a document issued by the Contractor
38 proposing a change to the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract
39 Time, or both. A PCO shall be used by the Contractor to respond to a Request for Proposal, a Request for Information,
40 or an Architect’s Instructional Bulletin. A PCO is not effective to authorize the proposed change to the Work, to the
41 Contract Sum or to the Contract Time unless it is accepted in writing by the District.
42

43 Section 1.32. Reference to Codes.

44 Unless otherwise noted, all references to statutes are to the laws of the State of California and/or of the United States
45 as codified in the various specified codes.
46

47 Section 1.33. Request for Information.

48 “Request for Information” or “RFI” is the name given to a document issued by the Contractor seeking clarification
49 and/or additional information regarding an aspect of the Work. The response to the RFI does not constitute
50 authorization or direction to proceed with any changed or additional work. Changed or additional work must be
51 separately authorized by the District.
52

- 53 1. Should the Contractor require clarification or additional information of the Contract Documents, the
54 Contractor will direct the request to the District Representative through the RFI Application within the
55 District’s PMIS.
56

2. RFIs shall be submitted to the District Representative through the District's PMIS. The Contractor shall describe on the RFI the problem or clarification being requested. The description provided should be complete and adequate to permit a written response without additional communications with the Contractor. The Contractor shall attach any related information or correspondence that may have been received from Subcontractors or vendors on the subject. In instances where the Contractor believes there may be a conflict between elements of the plans and specifications, the Contractor should identify the conflict and indicate the manner in which it interprets the Contract Documents.
3. The District Representative will review the request and take one or more of the following steps:
 - a. Return the request to the Contractor for additional information.
 - b. Forward the request to the Architect for response, copying the Project Inspector.
 - c. Provide response and return to the Contractor with copies to the Architect and Project Inspector.
4. The Architect or other appropriate party receiving the RFI, will attempt to provide a response to the District Representative within seven (7) calendar days of receipt. The District Representative will in turn review the response and forward it to the Contractor. Should the response to an RFI be required by a specific critical date the Contractor shall indicate that date on the RFI.
5. If the Architect's review indicates a change or revision is necessary to the Contract Documents, the Architect will prepare the appropriate drawings and/or specifications required to define the change or revision and obtain DSA approval, if necessary. These documents will be transmitted to the District Representative for review and incorporation into the Contract Documents. The District Representative will transmit the revised documents to the Contractor.
6. If the Contractor believes the clarification or direction provided by the response to the RFI will impact the cost or schedule of the Project, the Contractor shall provide prompt notification to the District Representative, according to the General Conditions. After consultation with the Architect, the District Representative may prepare a Request for Proposal, PCO/Work Order, and/or Change Order.

Section 1.34. Request for Proposal.

A "Request for Proposal" or "RFP" is the name given to a document issued by the District Representative requesting pricing information and/or an adjustment in Contract Time for a described scope of work. An RFP is not a Change Order, a Directive, or a direction to proceed with the scope of work described in the RFP. The Contractor's response to the RFP shall be in the form of a Proposed Change Order.

Section 1.35. Samples.

"Samples" shall mean physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

Section 1.36. Shop Drawings.

"Shop Drawings" shall mean drawings, diagrams, schedules and other data specifically prepared by the Contractor or any subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

Section 1.37. Site.

"Site" is the area within which the Project is to be constructed and may include a laydown area or other area for use by Contractor in connection with the Contractor's Work.

Section 1.38. Special Provisions.

The "Special Provisions" are specific clauses setting forth conditions or requirements peculiar to the Work, and supplementary to the General Conditions and Technical Specifications.

Section 1.39. Specifications.

"Specifications" include the Special Provisions, these General Conditions, general requirements and technical specifications applicable to the Work as they may be modified by duly executed and issued pre-bid addenda, interpretations, and other modifications approved by the District pursuant to a Change Order.

Section 1.40. Subcontractor.

1 "Subcontractor" shall mean each person or firm who is required by law to be and who is licensed to and will perform
2 work, labor, or render services to the Contractor in or about the construction of the Work, or who, under subcontract
3 to the Contractor, fabricates and installs a portion of the work or improvement.
4

5 Section 1.41. Submittal.

6 "Submittal" shall mean all product data, shop drawings, manufacturers' instructions, samples, substitution requests,
7 and all other submissions that the Contractor is required to provide to the District and/or the Architect.
8

9 Section 1.42. Substitution.

10 "Substitution" shall mean a request to approve a system, process, product, or material similar in form or function and
11 equal in quality and performance to that shown or specified, but differing in some element, e.g., manufacturer, chemical
12 composition, mechanism of action, surface finish, dimensions, durability, or other requirements.
13

14 Section 1.43. Work.

15 The "Work" shall mean that scope of work to be performed by the Contractor, including all labor, materials, equipment,
16 and services provided or to be provided by the Contractor to fulfill its obligations. The Work may constitute the whole
17 or a part of the Project.
18

ARTICLE 2. CONTRACT DOCUMENTS

Section 2.01. The Contract.

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the District and the Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Change Order. Nothing contained in the Contract Documents shall create any contractual relationship between the District, the District Representative, or the Architect and any Subcontractor or sub-subcontractor, or between the District Representative or the Architect and the Contractor.

Section 2.02. General Intent of Contract Documents.

It is the overriding intent of the Contract Documents that the work performed shall result in a complete and operable project in satisfactory condition for occupancy, with all mechanical equipment in functional operating condition and fit for the use for which it is intended, and which complies in all respects with the Contract Documents. No extra compensation will be allowed for anything omitted but fairly implied to be included in the Contract Documents. The prices paid for the various items in the bid shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and doing all items necessary to complete the Work as provided by the Contract Documents.

Section 2.03. Labor and Materials.

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, light, heat, utilities, transportation and other facilities and services necessary for the execution and completion of the Work in accordance with the Contract Documents and any applicable code or statute, whether or not specifically described herein, as long as same is reasonably inferable there from as being necessary to produce the intended results, whether temporary or permanent, and whether or not incorporated or to be incorporated in the Work.

Section 2.04. Complementary Feature of Various Parts of Contract Documents.

The Contract Documents, including the Specifications and Plans and Drawings, are complementary and what is called for by any one shall be as binding as if called for by all. In case of conflict, large scale (detail) Drawings shall govern over small-scale Drawings, the Specifications shall govern over both the Construction Administrative Procedures Manual and the Contract Drawings except as noted below, special provisions shall govern over both the Contract Drawings and the general conditions, and subsequent addenda, Interpretations, or approved change orders shall govern over the original documents, unless a different order of precedence is noted elsewhere in conjunction with a specific portion of the documents.

In case of conflict between the Drawings and Specifications, the Drawings shall govern in matters of quantity and size, the Specifications in matters of quality. In case of conflict within the Drawings involving quantities or within the Specifications involving quality, the greater quantity and the higher quality shall be provided.

Where on any Drawing a portion of the Work is drawn out and the remainder is indicated in outline, the drawn-out parts shall apply to all other like portions of the Work. Where ornament or other detail is indicated as starting, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to other similar parts in the Work, unless otherwise indicated.

Scale drawings, full-size details, and specifications are intended to be fully coordinated and to agree. Where not specifically stated otherwise, all work and materials necessary for each unit of construction, even though only briefly mentioned or indicated, shall be furnished and installed fully and completely, including, but not limited to, the manufacturer's instructions and/or recommendations, as part of this Contract.

Any material specified by reference to the number, symbol, or title of a specified standard such as a Commercial Standard, a Federal Specification, a trade association standard, or other similar standards, shall comply with the requirements in the latest approved revision thereof and any amendments or supplements thereto in effect on the date of Notice to Bidders, except as limited to type, class, or grade, or modified in such reference. The standards referred to, except as modified in the Specifications, shall have full force and effect as though printed in these Specifications.

Section 2.05. Ownership and Use of Documents.

1 All original Drawings and Specifications prepared by the Architect are and shall remain the property of the District.
2

3 Section 2.06. Successors and Assigns.

4 The District and the Contractor each binds itself, its partners, successors, assigns and legal representatives to the
5 other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to
6 all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the
7 Contract or sublet it in whole or part without the written consent of the District, which consent is granted for
8 Subcontractors listed in Contractor's Bid for the portion of Work for which they were listed, nor shall the Contractor
9 assign any moneys due or to become due to it hereunder without the prior written consent of the District.
10

11 Section 2.07. Written Notice.

12 Written notice may be accomplished by personal delivery, overnight mail, or delivery receipt email with a copy by U.S.
13 Mail. The written notice shall become effective upon delivery. Delivery is complete when the notice is hand delivered
14 to Contractor's home office, job-site office, or to Contractor's superintendent; or one business day after mailing by
15 overnight mail; or upon actual delivery as evidenced by a delivery receipt.
16

17 Section 2.08. Rights and Remedies.

18 The duties and obligations of the Contractor imposed by the Contract Documents and the rights and remedies of the
19 District available there under shall be in addition to and not a limitation of any duties, obligations, rights, and remedies
20 otherwise imposed or available by law.
21

22 The failure of the District, the District Representative, the Project Inspector or the Architect to insist in any one or more
23 instances upon the strict performance of any one or more of the provisions of this Contract or to exercise any right
24 herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such
25 provision or right(s) or of the right to subsequently demand such strict performance or exercise such right(s) and the
26 rights shall continue unchanged and remain in full force and effect.
27

28 The Contractor agrees that it can be adequately compensated by money damages for any breach of this Contract
29 which may be committed by the District and hereby agrees that no default, act, or omission of the District, the District
30 Representative, the Project Inspector, or the Architect, shall constitute a material breach of the Contract entitling the
31 Contractor to cancel or rescind the provisions of the Contract or to suspend or abandon performance of all or any part
32 of the Work. **The Contractor hereby waives any and all rights and remedies to which it might otherwise be or
33 become entitled, saving only its right to money damages.**
34

35 Section 2.09. Unenforceability of any Clause.

36 If any clause or provision of the Contract Documents is held to be unenforceable or invalid, then that provision of the
37 Contract shall be stricken and the remaining portion shall remain in full force and effect.
38

1 ARTICLE 3. BONDS AND BONDING; INDEMNIFICATION AND INSURANCE

2
3 Section 3.01. Bonds: Time to Submit.

4 Within ten (10) days after receipt of Notice of Intent to Award, and before the District will execute the Agreement for
5 Construction, the Contractor to whom the Work is awarded shall furnish and deliver to the District bonds as set forth
6 below in Sections 3.03, 3.04 and 3.05, except that contracts for amounts less than \$25,000 will not be required to be
7 accompanied by bonds.

8
9 Section 3.02. Qualifications of Surety.

10 All bonds shall be duly executed by a responsible corporate surety listed in the current version of the United States
11 Department of the Treasury circular entitled "Companies Holding Certificates of Authority as Acceptable Sureties on
12 Federal Bonds and as Acceptable Reinsuring Companies," admitted by the State of California Department of
13 Insurance to do business in the State of California and acceptable to District.

14
15 Section 3.03. Performance Bond.

16 The Contractor shall submit a faithful Performance Bond in substantially the form provided with the Contract
17 Documents, conditioned upon the faithful performance by the Contractor of all requirements of the Contract
18 Documents, and in an amount of no less than one hundred percent (100%) of the total Contract Sum.

19
20 Section 3.04. Labor and Materials Payment Bond.

21 The Contractor shall also submit a payment bond in substantially the form provided with the Contract Documents,
22 which in all respects complies with California Civil Code sections 9550, 9552, and 9554 ("Payment Bond"), in an
23 amount of no less than one hundred percent (100%) of the Contract Sum.

24
25 Section 3.05. Not Used.

26
27 Section 3.06. Additional Bonding Requirements.

28 All bonds submitted shall include the following:

- 29
- 30 1. Full name and address of the Contractor, Surety, and District
 - 31 2. Contract Date
 - 32 3. Exact Contract Sum
 - 33 4. Bid package number.
 - 34 5. Signature of the Contractor
 - 35 6. Signature of authorized Surety representative.
 - 36 7. Notarization of the Contractor and Surety
 - 37 8. Power of Attorney
 - 38 9. Local contact for Surety, with name, phone number, and address to which legal notices may be sent
- 39

40 Section 3.07. Bond Costs in Bids.

41 All costs for applicable Payment Bonds and Performance Bonds shall be included in the Bid amount, and shall be
42 included in the base bid if bid alternates are used.

43
44 Section 3.08. Indemnification.

45 To the fullest extent permitted by law, the Contractor shall defend with counsel acceptable to the District, indemnify
46 and save harmless the District, the District Representative, and the Architect and any of their respective officers,
47 agents, and employees ("Indemnified Parties") from and against, any and all losses, claims, demands, damages,
48 costs, expenses, attorney's fees, or liability of every nature arising out of or in any way connected with the performance
49 or attempted performance of the provisions hereof, or in any way arising out of or connected with this Contract,
50 including but not limited to, equitable relief, stop notice actions, or any acts or omissions, any wrongful act, or any
51 negligent act or omission to act, whether active or passive, on the part of the Contractor or any of its agents,
52 employees, independent contractors, subcontractors or suppliers; provided, further, without limiting the foregoing, that
53 the defense and indemnity is intended to apply to any wrongful acts, or any actively or passively negligent acts or
54 omissions to act, committed jointly or concurrently by the Contractor and the Contractor's agents, employees,
55 independent contractors, or subcontractors or suppliers, and the District, its agents, employees, or independent
56 contractors. Nothing contained in the foregoing indemnity provisions shall be construed to require the Contractor to

1 indemnify any of the Indemnified Parties in contravention of Section 2782 of the Civil Code for the active or sole
2 negligence or willful misconduct of the District.
3

4 To the fullest extent permitted by law, the Contractor's duty to defend shall extend, without limitation, to any suit or
5 action founded upon any losses, claims, demands, damages, costs, expenses, attorney's fees, or liability of every
6 nature arising out of or in any way connected with the performance or attempted performance of the provisions hereof,
7 or in any way arising out of or connected with this Contract.
8

9 The defense and indemnity obligations expressly extend to and include any and all claims, demands, damages, costs,
10 expenses, or liability occasioned as a result of damages to adjacent property caused by the conduct of the Work.
11

12 The defense and indemnity obligations expressly extend to and include any and all claims, demands, damages, costs,
13 expenses, or liability occasioned as a result of the violation by the Contractor, the Contractor's agents, employees, or
14 independent contractors, subcontractors of any level, or suppliers of any provisions of federal, state or local law,
15 including applicable administrative regulations.
16

17 The defense and indemnity obligations also expressly extend to and include any claims, demands, damages, costs,
18 expenses, or liability occasioned by injury to or death of any person, or any property damage to property owned by
19 any person while on or about the Site or as a result of the Work, whether such persons are on or about the Site by
20 right or not, whenever the Work is alleged to have been a contributing cause in any degree whatsoever.
21

22 In claims against any person or entity herein indemnified that are made by an employee of the Contractor or an
23 employee of any of the Contractor's agents, independent contractors, subcontractors or suppliers, a person indirectly
24 employed by the Contractor or by any of the Contractor's agents, independent contractors, subcontractors or suppliers,
25 or anyone for whose acts the Contractor or any of the Contractor's agents, independent contractors, subcontractors
26 of any level, or suppliers may be liable, the defense and/or indemnification obligation herein shall not be limited by any
27 limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or the Contractor's
28 agents, independent contractors, subcontractors of any level, or suppliers under workers' compensation acts, disability
29 acts, or other employee benefit acts.
30

31 The defense and indemnification obligations herein shall not be limited by any assertion or finding that the person or
32 entity indemnified is liable by reason of a non-delegable duty.
33

34 The defense and indemnities set forth herein shall not be limited by the insurance requirements set forth in the Contract
35 Documents.
36

37 The defense and indemnification requirements herein set forth shall extend to claims occurring after this Contract is
38 terminated as well as while it is in force.
39

40 Section 3.09. Indemnification of Adjacent Property Owners.

41 In the event the Contractor enters any agreement with the owners of any adjacent property to enter upon or adjacent
42 to such property for the purpose of performing this Contract, the Contractor shall fully indemnify, defend, and save
43 harmless such person, firm, corporation, or state or other governmental agency which owns or has any interest in the
44 adjacent property. The form and content of the indemnification agreement shall be approved by the District prior to
45 commencement of any work on or about such property. These provisions shall be in addition to any other requirements
46 of the owners of adjacent property.
47

48 Section 3.10. Insurance.

49
50 The Contractor shall obtain and maintain, at its sole cost and expense, all insurance required by Sections 3.13 through
51 3.15. The required insurance shall be maintained by Contractor in full force and effect at all times during prosecution
52 of the Work and, with the exception of Builder's Risk, for two (2) years after the final completion and acceptance thereof
53 by District. Certificates of such insurance and copies of the insurance policies and required endorsements, including
54 but not limited to Additional Insured Endorsements and Waivers of Subrogation in favor of District, the Architect, the
55 Construction Manager, and any other District consultants and their officers, directors, agents, employees, and
56 volunteers ("Additional Insureds"), shall be delivered to the District within ten (10) days of the Notice of Intent to Award
57 the Contract, and before execution of the Agreement for Construction by the District. Insurance Certificates must

1 indicate Bid Package number and school name. If District requests copies of any insurance policy, Contractor agrees
2 to provide certified copies within thirty (30) days of the District's request.
3

4 Every policy shall be endorsed to state that it shall not be assigned, canceled, or materially reduced in coverage
5 without thirty (30) days' prior written notice to District, or ten (10) days' written notice for non-payment of premium.
6 The required insurance shall be with carriers and on forms acceptable to the District and shall be subject to the
7 approval of the District.
8

9 Failure of Contractor to maintain all required insurance during the entire Contract Time shall constitute a default
10 entitling the District to all rights and remedies that exist in the Contract Documents and/or by law.
11

12 The requirements as to the types and limits of insurance coverage, and any approval of said insurance by the District,
13 is not intended and shall not in any manner limit or qualify the liabilities and obligations pursuant to this Agreement.
14

15 Section 3.11. Subcontractor's Insurance.

16 The Contractor shall not allow any Subcontractor to commence work on its subcontract until the Subcontractor has
17 provided the insurance specified below. The Contractor shall require each of its Subcontractors to procure and to
18 maintain, during the life of the subcontract and for two (2) years after completion of the Project, bodily and personal
19 injury liability and property damage insurance, and workers' compensation insurance, of the type and in the same
20 amount as specified herein, including, without limitation, the requirement that the Subcontractor's policy shall be
21 endorsed (1) to include by name the Additional Insureds and shall provide that they are primary, with any insurance
22 maintained by District as non-contributory and will have severability of interest endorsement, and (2) to waive all rights
23 of subrogation against the Additional Insureds for losses arising from work performed by the Contractor for the District
24 .
25

26 Should any subcontractor's work include any elements that may give rise to a pollution claim, the subcontractor shall
27 be required to carry Pollution Liability coverage with limits of at least \$2,000,000 per pollution event. The District may
28 require higher limits by written request. The policy shall be endorsed to include by name the Additional Insureds as
29 additional insureds and shall include a waiver of subrogation endorsement in favor of the Additional Insureds.
30

31 Should any Subcontractor maintain broader coverage and/or limits than those required herein, those limits/coverages
32 shall be made available to the District. Upon written request by Contractor on behalf of any identified subcontractor(s),
33 the District may, in its sole and absolute discretion, agree in writing to CGL limits for the identified subcontractor(s)
34 that are half of that required from the Contractor.
35

36 Contractor shall not allow any subcontractor to commence work until the subcontractor has provided Contractor with
37 a signed statement acknowledging compliance with Section 3700 of the Labor Code, as required in Section 3.13.
38

39 It shall be the responsibility of the Contractor to ensure that all subcontractors comply with all insurance requirements,
40 and to verify their compliance when requested by the District.
41

42 If requested by the District, the Contractor shall deliver certificates of insurance or copies of the insurance policies and
43 endorsements of all Subcontractors; provided, however, that this authority shall not relieve the Contractor of its
44 obligation to ascertain the existence of such insurance.
45

46 Section 3.12. Not Used.
47

48 Section 3.13. Workers' Compensation and Employers' Liability Insurance.

49 In accordance with the provisions of Section 3700 of the Labor Code, the Contractor, and each subcontractor, shall
50 secure the payment of compensation to its employees. The Contractor and each subcontractor shall provide workers'
51 compensation insurance and occupational disease insurance as required by law and employers liability insurance with
52 minimum limits of \$1,000,000 covering all workplaces involved in the Contract Documents.
53

54 The Contractor shall sign and file with the District the following certificate on the form provided by the District:
55

56 I am aware of the provisions of Section 3700 of the Labor Code which require every employer
57 to be insured against liability for workers' compensation or to undertake self-insurance in

1 accordance with the provisions of that Code, and I will comply with such provisions before
2 commencing the performance of the work of this Contract.
3

4 The Contractor shall require each subcontractor to file such statement prior to allowing that subcontractor to
5 commence work.
6

7 The Contractor shall furnish a certificate of insurance or a certificate of permission to self-insure under the Workers'
8 Compensation and Employers' Liability Insurance statutes of the State of California. The certificate shall provide that
9 at least thirty (30) days' prior written notice shall be served on District prior to the cancellation or change of such
10 insurance or self-insurance. Said certificate shall also provide that the insurer shall waive all rights of subrogation
11 against the Additional Insureds for losses arising from work performed by the Contractor for the District. Such
12 insurance shall be delivered to the District Representative within ten (10) days of being notified of the intent to award
13 the Contract, and before the District will execute the Agreement for Construction.
14

15 Section 3.14. Liability Insurance.

16 Insurance is to be placed with insurers approved by the State of California Department of Insurance and with a Bests'
17 rating of no less than (A-) Level VII.

18 A. The Contractor and its Subcontractors shall procure and maintain insurance on all of their operations during
19 the progress of the Work, with reliable insurance companies, on forms acceptable to District, for the following
20 minimum insurance coverages:
21

- 22 1. **Commercial General Liability:** Occurrence form insurance policy (ISO CG 00 01 or equivalent) covering
23 all operations by or on behalf of Contractor, not excluding coverage for:
 - 24 a. Premises and Operations
 - 25 b. Products and Completed Operations
 - 26 c. Contractual Liability insuring the obligations assumed by the Contractor in this Agreement or
27 Blanket Contractual Liability Coverage
 - 28 d. Broad Form Property Damage (including Completed Operations)
 - 29 e. Explosion, Collapse, Subsidence, and Underground Hazards
 - 30 f. Personal Injury Liability

31 Commercial General Liability Limits shall not be less than:

- 32 \$2,000,000 Each Occurrence (Combined Single Limit for Bodily Injury & Property Damage)
- 33 \$2,000,000 Personal Injury Liability Each Occurrence
- 34 \$4,000,000 Aggregate for Products and Completed Operations
- 35 \$4,000,000 General Aggregate

36 The required General Liability limits must be present on the primary General Liability policy and cannot
37 be met with Excess Liability limits.
38

- 39 2. **Commercial Automobile Liability:** Insurance policy (ISO CA 00 01 or equivalent) covering Bodily Injury,
40 Property Damage, and Contractual Liability coverage for "Any Auto" (Symbol 1) which includes coverage
41 for all owned, hired, borrowed, and non-owned automobile, trailer, and equipment with combined bodily
42 injury and property damage liability of not less than \$1,000,000.
43
- 44 3. **Pollution Liability:** Should the scope of work include any elements that may give rise to a pollution claim,
45 the Contractor shall be required to carry Pollution Liability coverage with limits of at least \$5,000,000. The
46 District may require higher limits by written request. The policy shall be endorsed to include by name the
47 Additional Insureds as additional insureds and shall include a waiver of subrogation endorsement in favor
48 of the Additional Insureds.
49
- 50 4. Additional coverages and/or limits may be required in the Special Provisions, Section 00 73 00. If the
51 Special Provisions require limits of general liability and automobile liability insurance exceeding those
52 stated above, the Contractor shall carry excess or umbrella liability insurance providing excess coverage
53 at least as broad as the underlying coverage with a limit equal to the amount stated in the Special
54 Provisions per occurrence and aggregate.
55
56
57

- 1 5. Any excess liability coverage used to supplement the general and automobile liability must either (1) be
2 from the same carrier as the primary insurance, or (2) include the policy statement wherein it describes
3 what the underlying primary coverage must be before the excess liability coverage takes effect.
4

5 B. The following terms shall be included in the General Liability and Auto Liability insurance, either within the
6 policy or by endorsement:
7

- 8 1. All policies shall be endorsed to include by name the Additional Insureds and shall provide that they are
9 primary with any insurance, self-insurance, or Memorandum of Liability Coverage maintained by District
10 as non-contributory. Such policies will have severability of interest endorsement.
11
12 2. Except with respect to bodily injury and property damage included within the Products and Completed
13 Operations hazards, the aggregate limit established under Section 3.14 shall apply separately to the
14 Contractor's Work under this agreement. All liability insurance shall be written on an occurrence basis.
15 "Modified Occurrence" and "Sunset" type clauses are not acceptable.
16
17 3. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the
18 Additional Insureds.
19
20 4. General Liability Coverage shall state that the Contractor's insurance shall apply separately to each
21 insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's
22 liability, and shall contain a severability of interest/cross liability clause to the effect that each Insured and
23 Additional Insured is covered as if separate policies had been issued to each.
24
25 5. Each insurer(s) issuing the required policies shall, by policy provisions or by separate endorsement, agree
26 to waive all rights of subrogation against the Additional Insureds for losses arising from work performed
27 by the Contractor for the District. The General Liability waiver of subrogation must apply to Ongoing
28 Operations as well as Completed Operations.
29
30 6. The policy(ies) shall provide, by policy provisions or endorsement, that it is primary insurance and that
31 any insurance or self-insurance fund maintained by or available to the Additional Insureds shall be in
32 excess of the Contractor's insurance and shall not be called upon to contribute to a loss covered by the
33 policy.
34
35 7. The policy(ies) must provide, by policy provisions or endorsement, that it shall not be canceled,
36 suspended, voided, or materially changed, nor may the "retroactive date" of the policy or any renewal or
37 replacement policy be changed, without thirty (30) days' prior written notice to the District (ten [10] days
38 for non-payment of premium). The standard cancellation clause on the certificate shall read:
39

40 Should any of the above-described policies be canceled before the expiration date
41 thereof, the issuing company will mail 30 days written notice to the certificate holder.
42

- 43 8. The contractual liability coverage may be either on a blanket basis or a policy which specifically identifies
44 this Agreement with a contractual liability endorsement.
45
46 9. Any deductibles or self-insured retentions must be declared to and approved by the District; the District
47 generally will not approve deductibles or self-insured retentions greater than \$50,000. Any and all
48 deductibles or self-insurance retentions in the above-described liability insurance policies shall be
49 assumed by and be for the account of, and at the sole risk of the Contractor.
50
51 10. All policies and endorsements are subject to approval at the sole discretion of the District. Endorsements
52 with expiration dates will not be accepted.
53

54 Section 3.15. Builder's Risk Insurance.

55 The Contractor shall, at its sole expense, purchase, maintain, and keep in force at all times during the term of the
56 Contract and until the date of transfer of the insurable interest to and acceptance by the District, a Builder's
57 Risk/Installation Floater policy (Property Insurance). Such insurance shall protect the District, the Contractor,

1 Subcontractors, sub-subcontractors, and material suppliers at every tier, as their interests may appear, from loss or
2 damage to work in the course of construction. Property insurance shall be on a "Special Form" or equivalent policy
3 and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or
4 damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, flood, windstorm,
5 falsework, mechanical breakdown or electrical damage including testing and startup, magnetic disturbance, changes
6 in temperature or humidity, temporary buildings, loss that ensues from defective material or workmanship, explosion,
7 and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall
8 cover reasonable compensation for the District's Representative's, District Architect's, Construction Manager's, other
9 District Consultants' and Contractor's services and expenses required as a result of such insured loss in the amount
10 of one hundred percent (100%) of the replacement cost of the Project. In addition there shall be coverage in the
11 amount of twenty percent (20%) of the replacement cost for Extra Expense and Loss of Use and thirty percent (30%)
12 of the replacement cost for Soft Costs coverage. Unless expressly required in the Special Provisions, Property
13 Insurance **shall not** include coverage for earthquake or other losses caused by "Acts of God," as defined by California
14 Public Contract Code section 7105.

15
16 A. The following terms shall apply to such coverage:

- 17
18 1. Coverage shall be written on a completed value, non-reporting form, on a replacement cost basis, and
19 shall cover the property against all risks of physical loss or damage identified above.
- 20
21 2. The property covered shall include the Work, including any materials, equipment, or other items to be
22 incorporated therein while the same are located at the construction site, with reasonable sub-limits for
23 materials stored offsite or while in transit. The policy shall contain a provision that Contractor and the
24 District are Named Insureds under this policy and that the Subcontractors, sub-Subcontractors, and
25 Material Suppliers at every tier are Named Insureds or Additional Insureds as their interest may appear.
26 A loss insured under the Builder's Risk/Installation Floater policy shall be adjusted by Contractor as
27 fiduciary and made payable to Contractor as fiduciary for the insureds, as their interests may appear,
28 subject to requirements of any applicable mortgagee clause. Contractor shall pay subcontractors their
29 just shares of insurance proceeds received by Contractor, and by appropriate agreements, written where
30 legally required for validity, shall require subcontractors to make payments to their sub-subcontractors in
31 similar manner.
- 32
33 3. When stated in the Special Provisions (Section 00 73 00), Builder's Risk insurance shall include Delay in
34 Opening coverage with limits of liability, and for the period of time, as set forth in the Special Provisions.
35 Coverage shall include interest and/or principal payments that become due and payable by the District
36 upon completion of construction or other date as set forth in the Special Provisions, debt service, expense,
37 loss of earnings or rental income or other loss incurred by the District, without deduction, due to the failure
38 of the Project being completed on schedule.
- 39
40 4. The policy shall be endorsed to name the District as an additional payee.
- 41
42 5. The maximum deductible under this policy shall be one hundred thousand dollars (\$100,000). All
43 deductibles shall be borne solely by Contractor, and the District shall not be responsible to pay any
44 deductible in whole or in part.

45
46 B. If not covered by Builder's Risk insurance or any other property or equipment insurance required by the
47 Contract Documents, the Contractor shall, at its sole expense, purchase, maintain and keep in force at all
48 times during the term of the Contract property insurance (equal to one hundred percent (100%) of the contract
49 value) for portions of the Contractor's work and/or equipment to be incorporated therein stored offsite or in
50 transit.

51
52 C. The insurer shall, by separate endorsement or policy provisions, agree to waive all rights of subrogation
53 against the District, the Additional Insureds, the Contractor, Subcontractors, sub-Subcontractors, and material
54 suppliers at every tier for losses covered by the policy. If the policies of insurance referred to in this Section
55 require an endorsement or consent of the insurance company to provide for continued coverage where there
56 is a waiver of subrogation, the owners of such policies will cause them to be so endorsed to obtain such
57 consent.

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- D. Contractor shall provide a copy of the Builder's Risk/Installation Floater policy to the District for approval.
- E. The District shall maintain in effect during the time for performance under the Contract Documents property insurance, including the perils of fire and flood on all pre-existing utilities, buildings, structures, paving, and equipment on the Site.

1 ARTICLE 4. PERMITS, LICENSES, ORDINANCES, AND REGULATIONS

2
3 Section 4.01. Basic Standard.

4 The Contractor shall conduct the Work so that all laws and ordinances for the protection of the public and the workers
5 shall be obeyed fully both by the Contractor and by all subcontractors on the Site.
6

7 The Contractor shall comply with the requirements of the California State Licensing Board and have a valid contractor's
8 license which is to be active as to the date of the receipt of bids and maintained in "Good Standing" from the receipt
9 of bids throughout the Project.

10
11 The Contractor, and any subcontractor of any level, shall be registered pursuant to Labor Code section 1725.5 prior
12 to engaging in the performance of any Work, and shall maintain current registration throughout the term of this
13 Contract.
14

15 Section 4.02. Permits.

16 The District will pay all fees required by the Division of the State Architect, Department of General Services, State of
17 California. The District will reimburse the Contractor for utility connection fees, encroachment permits, and utility
18 service charges other than temporary utility charges, unless otherwise indicated, that are necessary for the completion
19 of the Work. All other fees and permits shall be at the expense of the Contractor. Proper documentation of fee, permit,
20 and utility service charges shall be submitted to the District through the District Representative. No mark-up shall be
21 allowed the Contractor on these reimbursable charges.
22

23 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, or orders of any public
24 authority bearing on the performance of the Work.
25

26 Except as provided above, the District shall secure and pay for necessary approvals, easements, assessments, and
27 charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing
28 facilities.
29

30 Section 4.03. Compliance with Laws and Regulations.

31 The Contractor shall keep itself fully informed of and shall observe and comply with, and shall cause any and all
32 subcontractors employed by it or under it to observe and comply with all federal and state laws, and county or municipal
33 ordinances, regulations, orders, and decrees which in any manner affect those engaged or employed on the Work, or
34 the materials used in the Work, or in any way affect the conduct of the Work.
35

36 All work shall be performed in accordance with the rules and regulations, Title 24, Parts 1-5 and 9, California Code of
37 Regulations, and Division of the State Architect, and a copy shall be kept on the job at all times during construction.
38

1 ARTICLE 5. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

2
3 Section 5.01. Familiarity with Project Site Conditions and Contract Documents.

4 By submitting its Bid, Contractor represented that it had visited the Site, was satisfied as to the nature and location of
5 the Work, was satisfied as to the character, quality and quantity of the Work, had become familiar with the local
6 conditions under which the Work is to be performed, had made whatever contact and investigation with utility
7 companies that it deemed necessary, and had correlated its Site observations with the requirements of the Contract
8 Documents. Failure to visit the Site does not relieve the Contractor of responsibility for observing and considering
9 those conditions which a qualified contractor would have observed.

10
11 Section 5.02. Subsurface Conditions.

12 Where investigations of subsurface conditions have been made by or on behalf of the District with respect to
13 subsurface conditions, utilities, foundations, or other structural designs, and that information is shown on the Drawings
14 or Plans, it represents only a statement by the District as to the character of the materials which have been
15 encountered by the District's investigation. If provided during bidding, this information was only included for the
16 convenience of bidders, including the Contractor.

17
18 Investigations of subsurface conditions are made for the purpose of design only. The District assumes no
19 responsibility with respect to the sufficiency or accuracy of borings or of the log of test borings or other preliminary
20 investigations or of the interpretation thereof. There is no guaranty, express or implied, that the conditions indicated
21 are representative of those existing throughout the Project or the Work, or any part of the Project or the Work, or that
22 unanticipated conditions may not occur. When a log of test borings, soils studies, and/or any other report of subsurface
23 conditions is included with the Drawings or Plans, it is expressly understood that such log, soils studies, and/or report
24 of subsurface conditions does not constitute a part of the Contract Documents, represents only an opinion of the
25 District as to the character of the materials to be encountered, and is included in the Drawings or Plans only for the
26 convenience of bidders, including the Contractor. Making such information available to bidders, including Contractor,
27 is not to be construed in any way as a waiver of the provisions of these General Conditions, and bidders, including
28 Contractor, must satisfy themselves through their own investigations as to the conditions to be encountered.

29
30 Section 5.03. Sections of Drawings and Specifications.

31 For convenience, the specifications and drawings in the Contract Documents are arranged in several sections, but
32 this separation shall not be considered as the limits of the work required of any separate trade. The scope of work is
33 that indicated in Specification 00 73 00 Special Provisions, Article 1, Scope of Work. The terms and conditions of the
34 work to be performed by any Subcontractor are strictly between the Contractor and the Subcontractor.

35
36 Section 5.04. Diagrammatic Drawings.

37 Drawings showing the locations of equipment, wiring, piping, etc., unless dimensioned, are diagrammatic, and
38 conditions will not always permit their installation in the exact location shown. In such event, the Contractor shall
39 submit an RFI and obtain a response before proceeding with the work in question. Unless there is a material increase
40 in the Contractor's scope of work, installation as specified in the response to the RFI shall be without any additional
41 compensation to the Contractor and without any increase in the Contract Time. Any work done after discovery of the
42 issue, until authorization to proceed based on the response to the RFI, will be done at the Contractor's risk.

43
44 Section 5.05. Interpretation and Additional Instructions.

45 Should the Contractor discover any conflicts, omissions, or errors in the Contract Documents, or have any question
46 concerning interpretation or clarification of the Contract Documents, or if it appears that the Work to be done or any
47 matters relative thereto are not sufficiently detailed or explained in the Contract Documents, then, before proceeding
48 with the work affected, the Contractor shall notify the District Representative in writing and request interpretation,
49 clarification, or additional detailed instructions and/or drawings concerning the work. All such questions shall be
50 resolved and instructions to the Contractor issued by the Architect.

51
52 Should the Contractor proceed with the work affected before receipt of instructions from the Architect, and, in the case
53 of a change to the Work, before receipt of authorization to proceed, it shall remove and replace or adjust any work
54 which is not in accordance therewith, and it shall be responsible for any resultant damage, defect, or added cost
55 without an extension of the Contract Time or increase in the Contract Sum.

1 Section 5.06. Architect's Instruction Bulletins and Drawings.

2 In addition to the Drawings incorporated in the Contract Documents, the Architect, through the District Representative,
3 may furnish such supplemental drawings or instructions from time to time as may be necessary to make clear or to
4 define in greater detail the intent of the Contract Drawings and Specifications. In furnishing additional drawings or
5 instructions, the Architect shall have the authority to make minor changes in the Work, not involving any extra cost,
6 and not inconsistent with the overall design of the Project. If extra cost is known to be involved, these instructions will
7 be accompanied by an RFP. These supplemental drawings and instructions shall become a part of the Contract
8 Documents; the Contractor shall make its work conform to them.
9

10 Section 5.07. Notification of Disagreement Regarding Scope of Work.

11 If agreement cannot be reached as to cost, and the Contractor does not agree that work due to an interpretation or
12 supplemental drawing or instruction is within the scope of the Contract Documents, the Contractor shall, within seven
13 (7) days after receipt of the interpretation or instruction, submit a Proposed Change Order to the District Representative
14 specifying in detail in what particulars the contract requirements were exceeded and the change in cost resulting
15 therefrom. The District Representative shall then determine whether a Change Order shall be issued in accordance
16 with Article 15 of these General Conditions. If the District Representative disagrees that a Change Order is appropriate,
17 then, in its response to Contractor, the District Representative shall direct the Contractor in writing whether to proceed
18 with the Work that the Contractor contends is changed. If so directed, Contractor shall perform such work without
19 delay.
20

21 The time during which the District Representative is considering the Proposed Change Order shall not affect the
22 Contract Time.
23

24 Section 5.08. As-Built Drawings and Specifications.

25 The Contractor shall maintain a PDF master set of red line Drawings and Specifications at the Site which shall be
26 updated weekly to reflect current as-built conditions of the Work as the Work progresses. The information to be
27 recorded by the Contractor will be determined by the Architect, who will be responsible for preparing the final,
28 reproducible record drawings based upon the information submitted by the Contractor. The Contractor's as-built
29 information shall be clear and legible, and at a minimum, the following information shall be inserted and dimensioned
30 on those Drawings and Specifications, in RED, by the Contractor: the exact horizontal and vertical location of all
31 installations in their finished condition, including all electrical, plumbing and mechanical installations; all changes in
32 construction, materials, and installed equipment; posting of all issued addenda, Request for Information (RFI)
33 signed by the Architect, and Architect's Instruction Bulletins with back-up to the bid documents in all applicable
34 locations along with adequate dimensional data, both horizontal and vertical, to allow location of covered
35 installations; the identification of each change authorized by Directive, and the number of that Directive. The
36 updated drawings and specifications shall be available for review by the District Representative and the Inspector.
37 If as-builts are marked up in PDF format, the file shall be made available on the District's PMIS.
38

39 Written confirmation from the Project Inspector that the as-builts have been properly updated weekly shall be submitted
40 with each pay application request, and the existence of such properly updated as-builts shall be a condition precedent
41 to payment. Failure to comply with the preparation and submission of as-builts may result in the District withholding
42 the current progress payment.
43

44 As a condition to certification of final completion, the Contractor shall provide signed and dated original as-built
45 drawings and specifications in a PDF color format, with a resolution of at least 600 DPI and each plan sheet and
46 specification section bookmarked by name, number, or title, together with all additional information requested by the
47 Architect to enable the Architect to prepare a set of final, reproducible as-built drawings and specifications. Timely
48 submission of complete as-built documents shall be a condition precedent to certification of final completion and to
49 final payment. Delays in the submission of complete as-built documents may subject the Contractor to liquidated
50 damages.
51

ARTICLE 6. SUBCONTRACTOR LISTING AND SUBSTITUTION

Section 6.01. Subcontracting.

If the Contractor subcontracts any work to be performed or materials to be supplied pursuant to this agreement, the Contractor shall be as fully responsible to the District for the acts and/or omissions of such Subcontractor or supplier and of the persons either directly or indirectly employed or engaged as subcontractors by such Subcontractor or supplier as it is for its own acts and omissions.

The Contractor shall bind every Subcontractor or supplier, and every subcontractor of a Subcontractor, by the terms of the Contract Documents.

The Contractor shall cause each of its Subcontractors by contract to have an active contractor's license pertaining to its classification of work maintained in "good standing" from commencement of the Subcontractor's work through final completion of the Project.

All subcontractors shall be registered pursuant to Labor Code section 1725.5 prior to engaging in the performance of any Work and shall maintain current registration throughout the term of this Contract.

The Contractor shall not perform work on the Project with a Subcontractor who is ineligible to perform work on public works project pursuant to Labor Code sections 1777.1 or 1777.7.

Section 6.02. Disputes Between Subcontractors and/or the Contractor.

Contractor shall promptly take reasonable action to resolve any and all disputes with its subcontractors or suppliers at any level to ensure that such dispute does not interfere with the Work or the Project.

Section 6.03. Compliance With Listing of Subcontractors.

The Contractor shall comply with the requirements of the Subletting and Subcontracting Fair Practices Act, Public Contract Code Sections 4100 *et seq.* with respect to all listed Subcontractors and all DVBEs listed in Contractor's Bid. If the Contractor requests to substitute a listed DVBE, then the Contractor shall make all reasonable efforts to identify a DVBE as the replacement subcontractor or supplier. Violation any of the provisions of that statute is a material breach of this Contract and the District shall have all remedies provided by California law, including but not limited to those provided in Public Contract Code Section 4110, allowing termination of the Contract or a penalty assessment of up to ten percent (10%) of the subcontract amount.

In listing DVBE subcontractors and suppliers, the Contractor represented that the DVBE would perform a "Commercially Useful Function" ("CUF"). In the performance of the Work, the Contractor and any Subcontractor that contracts with a DVBE for which the Contractor claimed DVBE credit shall ensure that the DVBE: (a) is responsible for the execution of a distinct element of the Work; (b) actually performs, manages, and/or supervises the Work; (c) performs Work that is normal for its business services and functions; (d) for material suppliers, that the supplier negotiates price, determines quality and quantity, orders, installs (if applicable), and pays for the materials; and (e) does not further subcontract a portion of the Work greater than expected to be subcontracted by normal industry practices. A DVBE that is an extra participant in a transaction through which funds are passed to obtain the appearance of DVBE participation will not be considered to perform a CUF.

Section 6.04. Dealings with Subcontractors.

The District and its representatives will deal only with the Contractor, and the Contractor shall be responsible for the proper execution of the Work. Any and all discussions between any subcontractor or supplier and the District or any of its representatives shall be initiated through the Contractor or its representative.

Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor or supplier and the District or any of its representatives, nor shall this Contract be construed to be for the benefit of any subcontractor or supplier.

1 Section 6.04. Subcontractor List.

2 No later than ten (10) days following award of the Agreement, Contractor shall provide the District with a list of all
3 subcontractors performing work on the Project, including their address, contractor license number, and DIR registration
4 number, telephone number, email address, and contact person(s), regardless of subcontract amount and regardless
5 of whether the subcontractor is under contract with the Contractor or under contract with a Subcontractor. At the same
6 time, Contractor shall provide the District with a list of all known material suppliers. The list shall identify all
7 subcontractors of any level and all suppliers that are DVBEs, and the Contractor shall provide the DGS DVBE
8 certification number for all identified DVBEs. It shall be the Contractor's responsibility to notify the District of any
9 additions or deletions to this subcontractor and supplier list from the commencement of the Work through final
10 payment.

11 Section 6.05. Termination of Unsatisfactory Subcontractors.

12 When any portion of the Work that has been subcontracted by the Contractor is not being prosecuted in a satisfactory
13 manner, or when materials supplied do not conform to the Contract Documents, and these deficiencies form the basis
14 of a default notice issued pursuant to Article 16, the District may direct the Contractor to discharge the subcontractor
15 or supplier. The District shall not be responsible for any added costs associated with such termination.

16
17 Any subcontractor or supplier which is discharged shall not again be employed on this Project.

18
19 Any termination of a Subcontractor pursuant to this Section shall be in strict conformity with the requirements of the
20 Subletting and Subcontracting Fair Practices Act, Part 1 of Division 2 of the Public Contract Code, commencing with
21 Section 4100.

22
23 Section 6.06. Payment of Subcontractors and Suppliers.

24 The Contractor shall make all payments to Subcontractors and suppliers as expeditiously and timely as possible,
25 consistent with any applicable law so as to prevent any stop notices or claims from being filed against the District or
26 the Project. Without limiting the generality of the foregoing, Contractor shall pay all undisputed amounts to
27 Subcontractors and material suppliers within seven (7) days of receipt of payment by District.
28
29

1 ARTICLE 7. STATE REQUIREMENTS REGARDING WAGES, HOURS, AND EQUAL OPPORTUNITY

2
3 Section 7.01. Prevailing Wage Rate; Notice.

4 As provided under Labor Code Sections 1726-1861, the Director of the Department of Industrial Relations (DIR) of
5 the State of California has determined the prevailing rate of wages in the locality in which the work on the project is to
6 be performed for each craft, classification, or type of worker needed to execute this Contract. The prevailing rates so
7 determined are on file with the District, and they are available for public inspection. They may also be obtained on the
8 internet at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>. Those prevailing wage rates hereby are
9 incorporated in this agreement and made a part hereof.

10
11 The Contractor shall obtain and post copies of these prevailing wage rates in a prominent place at the job site, in
12 accordance with the regulations of the Department of Industrial Relations.

13
14 The Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

15
16 The Contractor shall post on the jobsite a Notice containing the following language:

17
18 This public works project is subject to monitoring and investigative activities by the
19 Department of Industrial Relations ("DIR"), State of California. This Notice is intended to
20 provide information to all workers employed in the execution of the contract for public work
21 and to all contractors and other persons having access to the job site to enable the DIR to
22 ensure compliance with and enforcement of prevailing wage laws on public works projects.

23
24 The prevailing wage laws require that all workers be paid at least the minimum hourly wage
25 as determined by the Director of Industrial Relations for the specific classification (or type of
26 work) performed by workers on the project. These rates are listed on a separate job site
27 posting of minimum prevailing rates required to be maintained by the public entity which
28 awarded the public works contract. Complaints concerning nonpayment of the required
29 minimum wage rates to workers on this project may be filed with the DIR at any office of the
30 Division of Labor Standards Enforcement ("DLSE").

31 Local Office Telephone Number: 916-263-1811

32
33 Complaints should be filed in writing immediately upon discovery of any violations of the
34 prevailing wage laws due to the short period of time following the completion of the Project
35 that the DIR may take legal action against those responsible.

36
37 Complaints should contain details about the violations alleged (for example, wrong rate paid,
38 not all hours paid, overtime rate not paid for hours worked in excess of 8 per day or 40 per
39 week, etc) as well as the name of the employer, the public entity which awarded the public
40 works contract, and the location and name of the project.

41
42 For general information concerning the prevailing wage laws and how to file a complaint
43 concerning any violation of these prevailing wage laws, you may contact any DLSE office.
44 Complaint forms are also available at the DIR website found at:
45 www.dir.ca.gov/dlse/PublicWorks.html.

46
47 Section 7.02. Payment of Prevailing Wage Rates.

48 Pursuant to Labor Code Section 1772, workers employed by contractors or subcontractors in the execution of any
49 contract for public work are deemed to be employed upon public work as defined in Labor Code Sections 1720-1725.
50 Therefore, the Contractor shall pay, and shall cause all subcontractors, whether under contract with the Contractor or
51 under contract with any Subcontractor, to pay not less than the specified prevailing wage rates to all workers employed
52 in the execution of this Contract.

53
54 In accordance with Labor Code Section 1775, the Contractor shall monitor the payment of the specified general
55 prevailing rate of per diem wages by subcontractors to employees by periodic review of the certified payrolls of the
56 subcontractors.

1 Section 7.03. Wage Rate for Crafts Not Listed.

2 The responsibility to check prevailing wage rates is the Contractor's. Pursuant to Labor Code Section 1773, the
3 Contractor may file with the Director of DIR or the Chief of the Division of Labor Standards Enforcement ("DLSE") a
4 petition to review a determination of any rate or rates made by the Director of DIR. The Contractor may also petition
5 the Director of DIR to make a determination for a particular craft, classification or type of work not covered by a general
6 determination. Pending the review or determination, the wages may be assumed to be those in the applicable
7 collective bargaining agreement, but no adjustment in the bid or Contract Price shall be made if such assumption is
8 incorrect.
9

10 Section 7.04. Records of Hours Worked and Wages.

11 The Contractor shall keep, and shall cause all subcontractors on the Project to keep, certified payroll records of the
12 hours and wages of all employees employed on the Project, and those records shall be open at all times for inspection
13 by the District and/or the Division of Labor Statistics and Enforcement, in accordance with Sections 1776 and 1812 of
14 the Labor Code. The certified payroll records shall contain at least the following information: the name, address, social
15 security number, work classification, dates of payroll period, straight time, and overtime hours worked each day and
16 week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by
17 the Contractor and/or each subcontractor in connection with the Work.
18

19 In the event that the Contractor and/or any subcontractor fails to submit certified payroll records to the District within
20 ten (10) calendar days of a request from the District for the records, the Contractor and/or the subcontractor shall, as
21 a penalty, forfeit one hundred dollars (\$100) per calendar day, per worker, until strict compliance is effectuated. These
22 penalties shall be withheld from progress payments then due and/or to become due. The Contractor is not subject to
23 this penalty assessment due to the failure of a subcontractor to comply with these requirements if the Contractor can
24 demonstrate that it has fully complied with the provisions of Labor Code Section 1776.
25

26 The Contractor shall not carry on its payrolls any person not actually employed by the Contractor, nor shall it carry on
27 its payrolls employees of any subcontractor. The Contractor shall show on its payrolls all persons actually employed
28 by the Contractor on the Project, in any capacity. The Contractor shall cause all subcontractors on the Project, whether
29 under contract with the Contractor or under contract with any Subcontractor, to comply with this Section.
30

31 In accordance with Government Code Section 8546.7, or any amendments thereto, all books, records, and files of the
32 Contractor, or any subcontractor connected with the performance of this Contract, shall be subject to examination and
33 audit by the Auditor General for a period of three (3) years after final payment. Contractor shall preserve and cause
34 all subcontractors to preserve such books, records and files for the audit period.
35

36 Section 7.05. Additional Requirements for Labor Compliance.

37 The Contractor shall comply with the following additional requirements and shall cause all subcontractors on the
38 Project, whether under contract with the Contractor or under contract with any Subcontractor, to comply. The records
39 kept by the Contractor and all subcontractors of the hours and wages of all employees employed on Project also shall
40 be open at all times for inspection by the DIR and DLSE, in accordance with Sections 1776 and 1812 of the Labor
41 Code. Such records shall be furnished electronically to the Labor Commissioner of the DIR monthly, unless more
42 frequent submission is required herein, and shall be furnished within 10 days of any separate request by the DIR or
43 DLSE. Payroll records shall be furnished in a format prescribed by the DIR and uploaded into the electronic certified
44 payroll reporting (eCPR) system.
45

46 On a random basis and at such other times as it deems appropriate, the DIR also may confirm the accuracy of payroll
47 reports, including by corroboration of information in payroll reports through independent sources, including without
48 limitation worker interviews, examination of any time and pay records found within the definition of "Payroll Records"
49 in section 16000 of Title 8 of the California Code of Regulations, direct verification of "Employer Payments" (as defined
50 at section 16000 of Title 8 of the California Code of Regulations) through third-party recipients of those payments, or
51 any other legal and reasonable method of corroboration. As part of its confirmation process, the DIR may require
52 Contractor and any of its subcontractors to furnish for inspection itemized statements prepared in accordance with
53 Labor Code Section 226. The DIR may conduct random confirmation based on a recognized statistical sampling of
54 the records submitted.
55

56 The DIR may conduct in-person inspection(s) at the site or sites at which the Work of the Project is being performed
57 ("On-Site Visits"). On-Site Visits may include visual inspection of required job site notices, including but not limited to

1 (1) the determination(s) of the Director of DIR of the prevailing wage rate of per diem wages required to be posted at
2 each job site in compliance with Labor Code Section 1773.2; (2) the Notice of pay days and time and place of payment
3 required by Labor Code Section 207; and (3) any other notices prescribed by law. On-Site Visits may also include
4 inspections of records, inspections of the work site and observation of work activities, interviews of workers and others
5 involved with the Project, and any other activities deemed necessary by the DIR to ensure compliance with prevailing
6 wage requirements. In accordance with Labor Code Section 90, the Labor Commissioner and his deputies and agents
7 shall have free access to any construction site or other place of labor and may obtain any information or statistics
8 pertaining to the lawful duties of the Labor Commissioner, including but not limited to evidence of compliance with
9 Labor Code Section 226 (itemized wage statements for employees) and any other laws enforced by the Labor
10 Commissioner.

11
12 In accordance with Section 16463 of Title 8 of the California Code of Regulations ("8 CCR Section 16463"), the District
13 may, on its own or if required by the Labor Commissioner, withhold funds due to the Contractor when payroll records
14 are delinquent or inadequate. The amount withheld shall be those payments due or estimated to be due to the
15 Contractor or subcontractor whose payroll records are delinquent or inadequate, plus any additional amount that the
16 Labor Commissioner has reasonable cause to believe may be needed to cover a back wage and penalty assessment
17 against the Contractor or subcontractor whose payroll records are delinquent or inadequate. The Contractor shall
18 cease all payments to a subcontractor whose payroll records are delinquent or inadequate until the Labor
19 Commissioner provides notice that the subcontractor has cured the delinquency or deficiency. When payments are
20 withheld under 8 CCR Section 16463, the Labor Commissioner will provide the Contractor and subcontractor, if
21 applicable, with immediate written notice that includes all of the following: (1) a statement that payments are being
22 withheld due to delinquent or inadequate payroll records, and that identifies what records are missing or states why
23 records that have been submitted are deemed inadequate; (2) specifies what amounts the District has been directed
24 to withhold; and (3) informs the Contractor or subcontractor of the right to request an expedited hearing to review the
25 withholding of payments under Labor Code Section 1742, limited to the issue of whether the records are delinquent
26 or inadequate or the Labor Commissioner has exceeded his or her authority under 8 CCR Section 16463. Where the
27 violation is by a subcontractor, the Contractor shall be notified of the nature of the violation and reference shall be
28 made to Contractor's rights to withhold or recover payments from the subcontractor under Labor Code Section 1729.
29 The withholdings under 8 CCR Section 16463 do not preclude assessment of penalties under Labor Code Section
30 1776(g) for failure to timely comply with a written request for certified payroll records, as set forth below.

31
32 Section 7.06. Underpayment of Wages.

33 The Contractor agrees that in the event of underpayment of wages to any employee on the Project, whether by the
34 Contractor or any subcontractor on the Project, the District may retain from payments due to the Contractor, an amount
35 sufficient to pay such worker the difference between the wages required to be paid by the DIR, and the wages actually
36 paid such worker for the total number of hours worked, plus any penalties and forfeitures. The District may disburse
37 such retention to such employees.

38
39 Section 7.07. Apprentices.

40 Attention is directed to the provisions of Sections 1777.5, 1777.6 and 1777.7 of the Labor Code concerning the
41 employment of apprentices by the Contractor or any subcontractor.

42
43 The Contractor and all subcontractors on the Project shall comply with the requirements of Sections 1777.5 and
44 Section 1777.6 of the Labor Code in the employment of apprentices. Violation of these requirements shall subject the
45 Contractor and/or subcontractor to the penalties set forth in Section 1777.7 of the Labor Code and/or otherwise
46 provided by law or Contract.

47
48 Information relative to apprentice standards, wage schedules, and other requirements may be obtained from the
49 Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, from the
50 Division of Apprenticeship Standards or its branch offices, and/or on the DLSR website at www.dir.ca.gov/DLSR/PWD.
51 Apprentices employed on the Project must at all times work with or be under the direct supervision of a journeyman
52 or journeymen.

53
54 Section 7.08. Penalties.

55 In accordance with Articles 2 and 3, Chapter 1, Part 7, Division 2 of the Labor Code, particularly Sections 1775, 1776,
56 1777.7 and 1813, the Contractor shall forfeit to District as a penalty the sum specified below, over and above any
57 retention or withholds otherwise authorized by the agreement, as follows:

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- A. Up to two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wages for any work done by him/her under this Contract or under any subcontract on the Project, with the amount to be determined by the Labor Commissioner in accordance with the considerations set forth in Labor Code section 1775. If a worker employed by a subcontractor on the Project is paid less than the prevailing wages by the subcontractor, the Contractor is not subject to this penalty assessment if the Contractor can demonstrate that it did not have knowledge of that failure of the subcontractor to pay the prevailing wages and that it strictly complied with the requirements of Labor Code Section 1775(b).
 - B. Twenty-five dollars (\$25) for each worker employed in the execution of this agreement by the Contractor or by any subcontractor on the Project for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of Article 3.
 - C. Failure to provide certified payroll records to the District or to the Labor Commissioner within ten (10) calendar days of a request, shall, in addition to resulting in a withholding of payments due or estimated to be due, result in a penalty in the amount of one hundred dollars (\$100) for each calendar day, or portion thereof, for each worker until strict compliance is effectuated. The Contractor is not subject to this penalty assessment due to the failure of a subcontractor to comply with these requirements if the Contractor can demonstrate that it has fully complied with the provisions of Labor Code Section 1776.
 - D. Knowing violation of Labor Code Section 1777.5 shall yield a penalty in an amount not exceeding one hundred dollars (\$100) for each full calendar day of non-compliance. A Contractor or subcontractor who knowingly commits a second or subsequent violation of Section 1777.5 within a three-year period, where noncompliance results in apprenticeship training not being provided as required, shall forfeit as a civil penalty the sum of no more than three hundred dollars (\$300) for each full calendar day of noncompliance.

29 Section 7.09. Hours of Work; Approval of Schedules.

30 Eight (8) hours of labor constitutes a legal day's work, and forty (40) hours constitutes a legal work week. No worker
31 employed at any time by the Contractor, or by any subcontractor upon the Project, shall be required or permitted to
32 work more than eight (8) hours in any one calendar day or forty (40) hours in any one week, except as provided in
33 Labor Code Sections 1810 through 1815.

34
35 Overtime shall be paid at the rate of not less than one and one-half (1-1/2) times the basic rate of pay, or at such other
36 rate as stated on the applicable Determination issued by the DIR, or as may be required by applicable statutes or
37 collective bargaining agreements.

38
39 The District reserves the right to approve or disapprove the days scheduled for work, and the hours during which work
40 is in progress.

41
42 Section 7.10. Compliance with State Anti-Discrimination Laws.

43 The Contractor shall comply with Section 1735 of the Labor Code, which provides as follows:

44
45 "A contractor shall not discriminate in the employment of persons upon public works on any
46 basis listed in subdivision (a) of Section 12940 of the Government Code, as those bases are
47 defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided
48 in Section 12940 of the Government Code. Every contractor for public works who violates this
49 section is subject to all the penalties imposed for a violation of this chapter."
50

ARTICLE 8. SUPERVISION AND LABOR

Section 8.01. Supervision Procedures.

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

The Contractor shall be responsible to the District for the acts and omissions of its employees, subcontractors and their agents and employees and other persons performing any of the Work.

It is prohibited to hire undocumented workers. The Contractor shall secure and cause its Subcontractors to secure proof of eligibility/citizenship to work from all workers.

The Contractor shall not be relieved from its obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Architect or the District Representative in their administration of the Contract or by inspections, tests or approvals (or the lack thereof) required or performed under Article 9 by persons other than the Contractor.

Section 8.02. Skilled Labor.

All non-apprentice labor shall have the skills of a journeyman in the applicable trade. All workmanship shall be of the highest quality and finish in all respects.

Section 8.03. No Tenancy.

All workers, contractors, or contractors' representatives are admitted to the Site only for the proper execution of the Work, and have no tenancy.

Section 8.04. Dismissal of Unsatisfactory Employees.

All employees engaged in the Work will be considered employees of the Contractor.

The Contractor shall at all times enforce strict discipline and good order among all employees including compliance with the District Guidelines for Conduct on School Sites and shall not employ on the Work any unfit person or anyone not skilled in the assigned task as defined in Section 8.02. The Contractor shall remove, or cause a subcontractor to remove from the Project, any incompetent employee, or any employee not skilled for the type of work required as defined in Section 8.02, or any employee who does not comply with the District Guidelines for Conduct on School Sites. The District may require that the Contractor immediately remove from the Work any employee for cause.

Section 8.05. Personal Attention and Superintendence; Contractor's Agent.

The Contractor shall supervise the work to the end that it shall be faithfully prosecuted. The Contractor shall at all times while the Contractor's scope of work is in progress keep a full-time superintendent who is fully empowered to act as agent for the Contractor on the Site. The Contractor shall advise the District in writing of its agent prior to the start of any work. The Contractor shall provide résumés for all of the Contractor's supervisory employees to be assigned to the Project for District review, and the District may reject any supervisory employees not deemed to be qualified at the sole discretion of the District. The Contractor shall be responsible for the faithful observation of all instructions delivered to its authorized agent(s).

If the Contractor's superintendent performs labor on the Project, the Contractor shall cause the superintendent to be paid at the prevailing wage for the classification of work performed. However, no additional compensation will be paid by the District for any work performed by the full-time superintendent.

In the event that the Contractor fails to provide a qualified full-time superintendent on the Site on any given day when work is scheduled to be performed, Contractor shall not be authorized to perform Work on that day. Contractor shall not be entitled to an extension of time for any suspension of work due to lack of a qualified superintendent.

Section 8.06. Inspection of the Work of Other Contractors.

It shall be the duty of the Contractor and all subcontractors, before beginning any work, to examine all construction and work of other contractors and/or subcontractors that may affect their work, and to satisfy themselves that everything is in proper condition to receive such work. The Contractor shall notify the District Representative in writing

1 prior to starting work of any discrepancies or conditions which deviate from the Contract Documents or are otherwise
2 unacceptable. Failure on the part of the Contractor to so notify the District Representative shall constitute an
3 acceptance by the Contractor and all subcontractors of all construction in place as being suitable in all respects to
4 receive further work by the Contractor or subcontractors.
5

6 Section 8.07. Contractor's Coordination of Work.

7 The District reserves the right to do other work in connection with the Project by separate contract or otherwise. The
8 Contractor shall at all times conduct its work so as to impose no hardship on the District or others engaged in the
9 Work. The Contractor shall adjust, correct and coordinate its work with the work of others so that no delays or
10 discrepancies shall result in the whole Project.
11

12 Section 8.08. Daily Reports.

13 No less than on a weekly basis, the Contractor's superintendent shall submit to the District Representative daily reports
14 through the District's PMIS, which daily reports shall include, without limitation, the identity of subcontractors on the
15 Site; an accurate headcount of workers on the Site; materials and equipment delivered to the Site; visitors to the Site;
16 work performed; and any problems encountered.
17

18 Section 8.09. Fingerprinting.

19 Education Code section 45125.1 and 45125.2 apply to this Agreement. The Contractor shall, prior to
20 commencement of Work, comply with either of the methods of ensuring safety set forth in Education Code section
21 45125.2(a)(1) (installation of a physical barrier) or 45125.2(a)(2) (continual supervision by an employee of
22 Contractor who has not been convicted of a serious or violent felony). If the Contractor elects to provide continual
23 supervision pursuant to Education Code section 45125.2(a)(2), Contractor shall require any person affiliated with
24 Contractor (or, in appropriate cases, himself or herself) to be fingerprinted by the Department of Justice ("DOJ") if
25 that person will have unsupervised access to school campuses. Upon verification from DOJ that those persons
26 fingerprinted have no record of a serious or violent felony, the Contractor will so certify by signing and submitting to
27 the Governing Board of District the certification form attached as Exhibit A to the Agreement for Construction. In
28 addition, Contractor shall submit the names of those persons who have received clearance and are authorized to
29 have unsupervised access to school campuses on a form as indicated in Exhibit B to the Agreement for
30 Construction. Any person whose name is not on the cleared list may not have such access. In that case, Contractor
31 must make arrangements with District for appropriate access. No person with a violent or serious felony as reported
32 by DOJ may have access to the school campuses.
33

34 Failure to comply with these terms, or permitting unsupervised access by an employee whose name has not been
35 cleared by DOJ as certified by the Contractor shall constitute grounds for termination of this Agreement.
36

ARTICLE 9. INSPECTION AND TESTING

Section 9.01. Inspection.

Inspection shall be provided as required under CCR Title 24, current edition. All inspection costs will be paid for by the District, including special inspection required by Title 24, except as noted otherwise below. A list of required inspections for the Project is included in the Contract Documents.

The Inspector shall be approved by the District, DSA, and the Architect. The Inspector will be employed by the District and will perform all inspections in accordance with Title 24, parts 1-5.

Section 9.02. Authority of Project Inspector; Stop Work Notices.

The designated Project Inspector shall be considered to be a representative of the District. It is the inspector's duty to inspect the Work.

The Project Inspector shall have the authority to order the work designated for inspection stopped if a determination is made that work is proceeding in violation of the Contract Documents or any orders issued by the District, its representatives, or the Architect. The failure of the Project Inspector to order the work stopped does not excuse the Contractor from complying with the Contract Documents for that work.

Upon issuing a stop work notice, the Project Inspector shall notify the Architect, who shall inspect the work in question and determine whether it does or does not comply with the Contract Documents. The decision of the Architect shall be final, subject to the disputes procedures in Article 23. The Contractor shall thereafter comply with the instructions of the Architect regarding corrections needed to cure the defect. The suspended work shall be resumed only when the Architect's instructions are fulfilled. The Contractor shall not be entitled to an extension of time in the event of such suspension of work, provided the stop work notice is determined to be supported by the facts.

Section 9.03. Effect of Inspections.

Neither the final inspection and payment, nor any interim inspection or progress payment, shall relieve the Contractor of its obligation to fulfill the Contract as required by the Contract Documents.

Any work, materials, or equipment not meeting the requirements and intent of the Contract Documents may be rejected, and unsuitable work or materials shall be made good, notwithstanding the fact that such work or materials may previously have been inspected and/or payment therefore may have been made.

Section 9.04. Notice to District of Inspection.

Where the Contract Documents, instructions by the Project Inspector, District Representative, or the Architect, laws, ordinances, or any public authority having jurisdiction require work to be inspected, tested, or approved before the work proceeds, such work shall not proceed, nor shall it be covered up, without inspection. If any part of the Work is covered prior to inspection, the District may order the work to be uncovered so that inspection may be accomplished. The Contractor shall bear all expenses of such examination and satisfactory reconstruction.

The Contractor shall provide written notice to the Project Inspector at least twenty-four (48) hours in advance of the readiness for inspection.

All work shall be available for inspection and the Project Inspector shall have full access to review all work during all working times. The Contractor shall provide all necessary means of safe access (e.g. ladders) for the Project Inspector to perform his/her duties. The Contractor shall furnish the Project Inspector with any information necessary to fully inform him/her of conditions. Inspection does not relieve the Contractor from fulfilling the requirements of the Contract Documents.

Section 9.05. Inspection of Completed Work.

Should the District Representative or the Architect determine that it is necessary or advisable to make an inspection of work already completed at any time before final inspection and acceptance of the Work, by removing or exposing any work, the Contractor shall, upon instruction of the District Representative, promptly furnish all necessary facilities, labor, and materials to do so. If the work is found to be defective in any respect due to the fault of the Contractor or any subcontractor, the Contractor shall bear all expenses of such examination and satisfactory reconstruction. If, however, the work is found to meet the requirements of the Contract Documents, the additional cost of labor and

1 material necessarily involved in the examination and replacement shall be allowed the Contractor and a change order
2 shall be issued for such cost and any time extension justified by delays to the critical path.
3

4 Section 9.06. DSA Field Representative.

5 For contracts requiring DSA approval, the Division of the State Architect will designate a field representative who will
6 visit the Site periodically to review with the Project Inspector compliance of the Project with CCR Title 24 requirements.
7 The DSA field representative may require certain modifications to the Project as constructed. In the event the
8 Contractor believes they are outside the scope of this Contract, it shall proceed as in Section 5.06.
9

10 Section 9.07. Overtime work.

11 Whenever the Contractor arranges to work at night or any time when work is conducted other than the normal 40-hour
12 week, or to vary the period during which work is carried on each day, it shall give the District Representative and the
13 Project Inspector a minimum of 48-hours notice so that inspection may be provided. Additional inspection costs
14 incurred because of overtime or shift work shall be paid by the District. If this overtime work is necessitated by the
15 Contractor's error or failure to perform, the cost of inspection will be borne by the Contractor.
16

17 Section 9.08. Materials Which May be Tested.

18 The District reserves the right to require the Contractor to provide samples, and to perform tests on any materials,
19 articles, equipment, installations, or construction performed by the Contractor in addition to those specified in the
20 Contract Documents. The District shall assume the cost of sampling and testing materials only when the Contract
21 Documents do not require the Contractor to do so.
22

23 Section 9.09. Testing.

24 All tests shall be performed under the supervision of the testing laboratory or consultant employed by the District, and
25 listed on the DSA-approved list, and at such times as are convenient to the District. The Contractor shall provide
26 written notice to the District Representative at least 24 hours prior to the need for off-site tests or inspections, and the
27 District Representative will arrange such tests or inspections. The Contractor shall bear all expenses of tests
28 performed where the Contractor failed to provide this minimum notice.
29

30 Section 9.10. Selection of Samples.

31 All samples and specimens for testing shall be selected by the Project Inspector or by the testing laboratory, but not
32 by the Contractor.
33

34 Section 9.11. Delivery of Samples.

35 The Contractor shall, at the Contractor's sole cost and expense, furnish, package, mark, and deliver all samples to be
36 tested at locations other than the Site. Samples shall be delivered either to the Project Inspector or to the testing
37 laboratory or such other address specified in the Contract Documents.
38

39 Delivery of all samples to the testing laboratory shall be made in ample time to allow the test to be made without
40 delaying construction. No extra time will be allowed for the completion of the Work by reason of delay in testing
41 samples required by the Contract Documents or due to the Contractor's request for substitution.
42

43 The Contractor shall allow free access at all times to the representatives of the testing laboratory to the Work, and
44 shall point out the sources from which samples are taken.
45

46 All test reports shall be sent to all parties specified in the Contract Documents.
47

48 Section 9.12. Approval of Samples.

49 No materials or work of which samples and/or tests are required shall be used or covered until the District
50 Representative or the Project Inspector informs the Contractor that such samples and/or tests have been approved.
51 If the Contractor installs, uses, or covers any such material, article, or work prior to testing and approval, such shall be
52 at the Contractor's sole risk and expense, and it shall bear all costs of uncovering, repair, and replacement thereof.
53

54 The approval of any samples shall be for the characteristics thereof, or for the uses named in such approval, and no
55 other. No approval of any samples shall be deemed a change or modification in any requirement of the Contract
56 Documents. Upon testing of any sample of material or work, no additional sample shall be considered. All material
57 or work installed after the sampling and testing is performed and approved shall be equal to or better than the approved

1 sample in all respects and shall be accompanied by documentary proof that the material and work sampled is actually
2 representative of that installed.
3

4 Section 9.13. Damage Due to Testing.

5 The Contractor shall, at its sole cost and expense, repair all damage resulting from testing specified in the Contract
6 Documents. The District shall issue a Change Order for repair of damage due to sampling or testing other than
7 specified in the Contract Documents.
8

9 The Contractor shall not make any tests upon portions of the Project already completed, except with the prior written
10 consent and under the direction and supervision of the District Representative.
11

12 Section 9.14. Retesting.

13 If as a result of any test, whether originally specified or not, any material or work is found to be unacceptable, it shall
14 be rejected, and all further sampling and testing required by the District or District Representative shall be at the
15 Contractor's expense.
16

17 Section 9.15. Effect of Sampling and Testing.

18 The District assumes no obligation, and the Contractor shall be relieved of no obligation undertaken pursuant to the
19 Contract Documents by virtue of sampling and testing specified in this article.
20

21 The responsibility for incorporating satisfactory materials and workmanship which meet the Contract Documents in
22 the work rest entirely with the Contractor, notwithstanding any prior samples or tests.
23

ARTICLE 10. PROTECTION OF WORKERS, PUBLIC AND PROPERTY

Section 10.01. Safety Precautions and Programs.

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work, for maintaining all safety and health conditions on the Site and for ensuring against and/or correcting any hazardous conditions on the Site. Also, in no case shall the District, the District Representative, the Architect, the Inspector, or their agents, employees or representatives, have either direct or indirect responsibility for the means, methods, techniques, sequences, or procedures utilized by the Contractor, or for safety precautions and programs in connection with the Work, or for maintaining any safety or health conditions on the Site, or for ensuring against or correcting any hazardous conditions on the Site.

Certain work may be ongoing at the time school is in session; therefore, the Contractor shall take precautions to prevent injury and access to children and staff and shall comply with the District's Guidelines for Onsite Safety. Material storage and vehicle access and parking shall be subject to District approval.

The Contractor shall designate a responsible member of its organization at the Site whose duty shall be the prevention of accidents and overall jobsite safety for contractors/subcontractors employees and visitors. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the District Representative.

Section 10.02. Protection of Persons and Property.

The Contractor shall at all times, until final acceptance and payment hereunder, maintain adequate protection against injury to persons, including employees, or damage to property, on or near the Project, or adjacent to the Site. The Contractor shall be responsible for maintaining all safety and health conditions on the Site and for ensuring against and/or correcting any hazardous conditions on the Site. In no case shall the District, the District Representative, the Architect, the Inspector, or their agents, employees, or representatives, have either direct or indirect responsibility for maintaining any safety or health conditions, or for ensuring against or correcting any hazardous conditions, on or near the Site, or adjacent to the Site.

The Contractor shall provide a safe environment for all functions to be performed by the District Representative, Architect and Project Inspector, and a safe place for all employees to work. The use of alcohol, drugs, or tobacco (including e-cigarettes) will not be permitted on District property.

The Contractor shall comply with all Occupational Safety laws, rules and regulations applicable to the work.

Section 10.03. Protection and Repair of Work.

The Contractor shall protect the District's structures, facilities, equipment, tools, materials, and any other property on or adjacent to the Site against damage, loss, or theft by providing adequate security measures for its work. The Contractor shall, until final payment hereunder, maintain protection of all of its work and work performed by others under this Contract from damage, loss, defacement, or vandalism. The Contractor shall provide protection of completed work which may be subject to damage as a result of the Contractor's failure to perform as scheduled.

The Contractor shall repair or replace any damage and remove any damaged or defaced material and/or equipment from the Site at no cost to the District, and Article 17 shall apply to such material or equipment.

Section 10.04. Protection of Workers.

The Contractor shall take every precaution for the safety of all employees and others on the Work, and to comply with all applicable provisions of federal, state, and local safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the Work is being performed.

The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of workers and the public, and shall post danger signs warning against hazards created by construction including, but not limited to, protruding nails or reinforcing steel, hod hoists, elevator hatchways, scaffolding, window openings, stairways, and falling materials.

The Contractor shall immediately replace or repair any unsafe ladder, scaffolding, shoring, or bracing, or correct any other dangerous or hazardous situation that may exist.

1 The responsibility for maintaining a safe working site shall be the Contractor's, and the District and District
2 Representative undertake no obligation to suspend the work or notify the Contractor of any hazardous conditions or
3 noncompliance with safety laws. See hazardous materials exhibit for further information.
4

5 In no case shall the District, the District Representative, the Architect, the Inspector, or their agents, employees or
6 representatives, have either direct or indirect responsibility for maintaining any safety or health conditions, or for
7 ensuring against or correcting any hazardous conditions on the Site.
8

9 Section 10.05. Working Limits and Regulations.

10 The Contractor shall confine its apparatus, storage and materials, and construction operations within the limits
11 established by the District Representative, and shall not unreasonably encumber the Site or adjacent areas with its
12 materials and/or equipment.
13

14 The Contractor shall enforce any instructions from the District Representative or District regarding fires, placement of
15 signs, danger signals, barricades, radios, and noise.
16

17 Section 10.06. Protection of Existing Improvements.

18 The Contractor shall clean the portions of existing improvements and facilities which are used by, traversed, or dirtied
19 by the workers on the Work, normal maintenance due to use by District employees or the public excepted.
20

21 The Contractor shall take all necessary precautions to protect all existing improvements and facilities from any damage
22 resulting from the operations, equipment, or workers of the Contractor during the course of the construction, and
23 Contractor shall be strictly liable for failure to adequately protect any existing improvements and/or facilities.
24

25 The Contractor shall take all necessary precautions to protect existing facilities against the effects of the elements and
26 Contractor shall be strictly liable for failure to adequately protect any facility.
27

28 All damaged improvements and facilities shall be replaced, repaired, and restored to their original condition without
29 additional cost to the District and without an extension of the Contract Time.
30

31 Section 10.07. Traffic Signals and Traffic Control.

32 Existing signs, lights, traffic signals, control boxes, hydrants, meters, and other similar items occurring within the street
33 or sidewalk areas shall be kept free of obstructions and accessible at all times. All such items shall be protected from
34 the Contractor's operations and shall not be obliterated or obscured by its equipment or materials.
35

36 Should it be necessary to cover up, move, or alter such items, this shall be done only with permission of the authorities
37 having jurisdiction over the items involved.
38

39 Should it be necessary to block a street or sidewalk, the Contractor shall first notify the District Representative and the
40 police and fire departments and other agencies with jurisdiction, and shall comply with their instructions, including
41 scheduling limitations.
42

43 Section 10.08. Security of the Site.

44 Contractor shall provide and maintain temporary fencing surrounding the buildings and/or rooms under construction,
45 and staging areas. Set-up/relocation of temporary fencing is included in the Contract Sum. Contractor is responsible
46 for the security of all equipment, material, and completed construction items. Contractor is responsible for maintaining
47 access to any occupied buildings on the school site at all times. Temporary covered walkways and/or barricades may
48 be required. Contractor is responsible for securing any breeches to existing security system/building caused by its
49 Work. Temporary measures may include security guards, temporary doors, temporary alarm, etc.
50

51 Section 10.09. Removal of Barricades.

52 Upon completion of the work, the Contractor shall remove from the Site all materials used for barricades, temporary
53 scaffolding, or any other temporary uses.
54

55 Section 10.10. Protection of Adjacent Property; Notices.

1 In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect as may
2 be necessary all foundations and other parts of all existing structures on the Site or adjacent to the Site which are in
3 any way affected by the excavations or other operations connected with the completion of the Work.

4
5 Prior to excavation, the Contractor shall notify all public utilities and governmental agencies of the work proposed, and
6 shall ascertain from them the exact location of their utilities.

7
8 Prior to commencing any work which in any way affects adjoining or adjacent land or buildings thereon, or public
9 utilities, the Contractor shall notify the District Representative, who will send the District and occupants thereof a notice,
10 which specifies the type of work to be done, the schedule of the work, the impacts expected from the work, and the
11 protective measures being taken by the Contractor. The notice shall also specify that any person receiving notice who
12 has questions regarding it may contact the District Representative.

13
14 Whenever any notice is required to be given to any adjoining or adjacent landowner, utility, governmental agency or
15 other party before commencement of any work, the notice shall be given by the Contractor at least seven days in
16 advance of the work, or longer if required by law or regulation, with a copy delivered to the District Representative.

17
18 The Contractor shall, at the written instruction of the District Representative, meet with any recipient of such notice to
19 explain and discuss the proposed work.

20
21 Section 10.11. Fire Protection.

22 The Contractor shall take all steps necessary to protect all structures from fires and sparks originating from the Work,
23 shall comply with all laws and regulations regarding fire protection, and shall comply with all instructions of the fire
24 department with jurisdiction.

25
26 The Contractor shall notify the District Representative and the fire department in writing at least 72 hours prior to
27 disconnection of either water or electrical service to the Site, and shall comply with the fire department's instructions
28 regarding fire safety.

29
30 The Contractor must keep the fire and intrusion detection systems operational throughout the duration and scope of
31 its work.

32
33 Section 10.12. Repairs or Replacement.

34 Any damage to existing conditions, or to any other improvement or property above or below the surface of the ground,
35 whether private or public, arising from performance of this Contract shall be repaired within 48 hours by the Contractor
36 without expense to the District, unless disruption of school operation or creation of a safety hazard has occurred, in
37 which case damage will be corrected immediately.

38
39 If, in the opinion of the Architect, the best interest of the District requires that repairs be made prior to the execution of
40 any further work, the District Representative will so notify the Contractor who shall delay or discontinue that part of the
41 Work until the necessary repair has been made. Such delay shall be considered non-compensable, and no extension
42 of the Contract Time will be granted therefore.

43
44 Upon the failure of the Contractor to comply with any such order, or upon the Contractor's failure to make immediate
45 emergency repairs which are necessary to protect the Work, the District shall do that work itself as is necessary to
46 protect life and property, in its sole discretion, and deduct the total cost of such work from the next progress payment.
47 No prior notice to the Contractor shall be necessary for the District to take this action.

48
49 Section 10.13. Emergency Safety Actions.

50 In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without previous
51 instructions or authorizations from the District, is authorized and shall act at its discretion and risk to prevent such
52 threatened loss or injury, and the Contractor shall bear all costs of that action. The Contractor shall immediately notify
53 the District Representative of such actions, and thereafter shall comply with any instructions issued by the District
54 Representative.

ARTICLE 11. SUBMITTALS

Section 11.01. Submittals.

The Contractor, at its sole cost and expense, shall furnish to the District Representative all Submittals and other descriptive material as are required by the Specifications or requested by the Architect.

Shop drawings shall be done with sufficient detail to adequately describe items proposed to be furnished or methods of installation to enable the District and Architect to determine compliance with the Specifications and with the design and arrangement shown on the working drawings.

The Contractor shall check and coordinate all Submittals with the Work of all trades involved before they are submitted. The Contractor shall review each Submittal for conformance with the requirements of the Contract Documents.

Unless otherwise agreed in writing by the District in response to the Contractor's schedule of Submittals, all Submittals for the Project shall be made within thirty-five (35) days of Contract Award; however, the Contractor shall coordinate the schedule of its Submittals with the requirements of the Contract Schedule so as not to delay the Project. No delay claims related to Submittals will be entertained on the Project for any Submittal originally received after the Submittal period. If Contractor fails to provide Submittals as an when required, then Contractor agrees to the following:

- (a) District shall not be required to accept limitations in materials, colors, quality, or any other aspect of products or materials due to the Contractor's failure to provide Submittals as required,
- (b) At District's discretion, Contractor may be directed to furnish and install temporary materials until the District-selected material is available, and
- (c) District may require Contractor to install the District-selected materials during non-school hours/days without an increase in the Contract Sum and without an extension of the Contract Time.

Contractor shall submit a schedule of Submittals organized by Specification section required for the Project. It shall delineate whether product data, installation instructions, shop drawings, samples, extra stock, or mock-ups are required. The schedule of Submittals shall indicate whether the Submittal will be in electronic format, as set forth below. In general, other than items requiring color selections, samples and shop drawings, Submittals will be in electronic format.

This schedule of Submittals shall be submitted using the District's PMIS within ten (10) calendar days of Contract Award. Any omissions or inaccuracies shall not relieve the Contractor of the obligation for conforming to the requirements in the Contract Documents. The Contractor's Submittal schedule shall provide sufficient time for delivering the Submittal to the Architect, the Architect's review of each Submittal, delivering the Submittal to the Contractor, and re-submittal as necessary. In no case shall the Contractor allow fewer than fourteen (14) days, exclusive of delivery time, for the District Representative and the Architect to review each Submittal.

Section 11.02. Submission of Submittals.

Most Submittals shall be submitted electronically. Electronic Submittals which are submitted together shall be compiled into a single, bookmarked PDF file, containing links to enable navigation to each item within the Submittal package. The Contractor shall name the electronic Submittal file with a consistent project identifier, composed of the Project name, bid package number, and specification section number. Electronic Submittals shall be transmitted via the District's PMIS. The District Representative will not review the Submittals for technical compliance, but may reject any Submittal found, in the District Representative's judgment, to be incomplete. The District Representative will maintain a Submittal log, and weekly meeting minutes shall note if Submittals have been accepted. Submittals requiring color selections, samples, or shop drawings will be logged.

For mock-ups, color selections and samples, the Contractor shall submit no less than three (3) originals. All Submittals of mock-ups, color selections, and samples shall be marked with the Project name, the Contractor's name, and the specification section number, and shall be accompanied by a letter of transmittal to the District Representative. The letter of transmittal shall list the identifying number of the mock-ups, color selections, and samples submitted and cross-reference them to the page or sheet in the specifications and/or working drawings to which they are related. Photos of mock-ups, color selections, and samples shall be uploaded to the District's PMIS along with the letter of transmittal.

1 By approving and submitting shop drawings, product data, manufacturers' instructions, and samples, the Contractor
2 represents that it has determined and verified all materials, field measurements, and field construction criteria related
3 thereto and that it has checked and coordinated the information contained within those Submittals with the
4 requirements of the Work and to the Contract Documents. The Contractor shall adhere to any supplementary
5 processing and scheduling instructions pertaining to Submittals as may be issued by the District Representative.
6

7 The District Representative will not accept shop drawings, product data, or manufacturers' instructions which are not
8 sufficiently dimensioned and detailed to demonstrate compliance with the Contract Documents.
9

10 The Submittals shall be submitted promptly, and no later than specified in the Submittal schedule, so as to cause no
11 delay in the Work.
12

13 Section 11.03. Review of Submittals.

14 Following submission, the Submittals will be reviewed and returned with one or more of five possible responses by
15 the District Representative or Architect. These possible responses are as follows:
16

- 17 A. Unreviewed: If the Submittal is not required, or if it is not complete, or if it does not meet the form, format, and
18 number requirements specified, it may be returned unreviewed. If the Submittal is not required, Work may
19 commence; if the Submittal was returned due to form requirements, it shall be resubmitted and approval
20 obtained prior to commencement of the Work.
21
- 22 B. Approved, Reviewed for General Conformance Only, or No exceptions taken: In the event the Submittal is
23 acceptable as submitted, it will be returned with this status. Work may proceed upon receipt of approved
24 Submittal.
25
- 26 C. Make Corrections Noted: If the Submittal is acceptable except for certain items which have been noted by
27 the Architect, it will be so designated. Work may proceed with the corrections made, and no resubmittal is
28 necessary.
29
- 30 D. Revise and Resubmit, or Submit Specified Item: This status indicates that revisions are noted on the
31 Submittal, and an additional Submittal is required to reflect those revisions and/or additional information. Work
32 may not commence until the resubmittal is approved.
33
- 34 E. Rejected: A Submittal may be rejected if it is not in compliance with the Contract Documents, or if it proposes
35 an "or equal" or substitution which is not acceptable to the Architect. A superseding Submittal shall be
36 submitted and approved prior to commencement of the Work.
37

38 Should the Contractor proceed with the Work shown on a Submittal before approval is received, it shall remove and
39 replace or adjust any Work which is not in accordance with the Submittal as ultimately approved, and it shall be
40 responsible for any resultant damage, defect, added cost and/or delay. The District shall be under no obligation to
41 pay for Work installed prior to approval of Submittals, until the Submittals are approved and the Work in place is found
42 to be in compliance with the Contract Documents.
43

44 The Contractor shall resubmit Submittals in categories "D" and "E" above after making any changes required so that
45 Submittals will comply with the Contract Documents. When resubmitting, the Contractor shall direct specific attention
46 to corrected or changed areas. Resubmittals shall be made within ten (10) days of return of the previous Submittal,
47 and in any event in sufficient time so as to avoid delay to the Work. No delay claims related to resubmittals will be
48 entertained on the Project for any resubmittal.
49

50 The Architect shall determine the adequacy and completeness of all Submittals. Where the Architect deems a
51 Submittal to be inadequate, incomplete, or otherwise unsuitable for proper review, the Contractor shall submit all
52 additional information requested by the Architect. There shall be no change to the Contract Time or the Contract Sum
53 when such additional information is required.
54

55 Section 11.04. Submittals Showing Variation from Contract.

56 It shall be the responsibility of the Contractor to specifically point out any variation or discrepancy between the
57 Submittals submitted and the Contract Documents, along with an explanation of why they are requested, in its letter

1 of transmittal. Failure by Contractor to identify in its letter of transmittal any variation, discrepancy, or conflict with the
2 Contract Documents shall render the approval null and void, and Contractor shall bear all risk of loss and
3 reconstruction costs or delays.

4
5 If any architectural, plumbing, mechanical, electrical, or structural modifications are required as a result of the approval
6 of Submittals which deviate from or do not comply with the Contract Documents, those modifications shall be made
7 without extra cost to the District, and without extension of the Contract Time. Any other resultant costs, including but
8 not limited to design fees, construction management fees, costs incurred by other contractors, or inspection fees, shall
9 be at the expense of the Contractor.

10
11 Section 11.05. Effect of Approval of Submittals.

12 The approval of Submittals shall not relieve the Contractor of the obligation for accuracy of dimensions and details; for
13 conforming the work to the requirements of the Contract Documents; or from responsibility to fulfill the Contract at no
14 extra cost to the District, within the Contract Time.

15
16 Section 11.06. Equal Materials.

17 Unless otherwise provided in the technical specifications, whenever in the Contract Documents any systems,
18 processes, products, or materials are indicated or specified by the name brand of the manufacturer, or by patent or
19 proprietary names, those specifications shall be deemed to be a measure of quality and utility or a standard, and shall
20 be deemed to be followed by the words, "or equal." It is the intent of this article to comply with Public Contract Code
21 Section 3400.

22
23 If the Contractor desires to use any other brand or manufacturer of equal quality and utility to that specified (an "Equal"),
24 it shall make application to the District Representative in writing, within ten (10) business days after Notice of Intent to
25 Award, and shall submit samples and all other information necessary to substantiate its claim of "or equal." Such
26 application constitutes a certification that the Contractor:

- 27
28 A. Has investigated the proposed Equal and determined that it meets or exceeds, in all respects, the specified
29 system, process, product, or material.
30
31 B. Will provide the same warranty for the proposed Equal as for the specified system, process, product or
32 material.
33
34 C. Will coordinate installation and make other changes which may be required for work to be complete in all
35 respects and at no additional cost to the District.
36
37 D. Waives claims for additional costs and/or Contract Time which may subsequently become apparent based on
38 the approved Equal.
39

40 The Architect then will determine whether or not the proposed system, process, product or material is equal in quality
41 and utility to that specified, and its decision shall be final. The Architect will render its decision within twenty one (21)
42 business days after submission of all required information for the application. If the request is not accepted, the
43 Contractor shall provide the specified system, process, product or material without an increase in the Contract Sum
44 and/or Contract Time.

45
46 Neither the submission of a request for an equal, nor the Architect's review of the application, will extend the time for
47 submission of any required Submittals.

48
49 Requests for equal systems, process, products or materials will be considered only when offered by the Contractor as
50 required by this article.

51
52 Section 11.07. Substitutions.

53 Unless otherwise provided in the technical specifications, the Contractor may make proposals for Substitutions to
54 systems, process, products, or materials shown or specified only under one or more of the following conditions:

- 55
56 A. Unavailability: If the specified system, process, product, or material, or an Equal, is no longer available in the
57 marketplace.

- 1
- 2 B. Delay: If obtaining the specified system, product, process, or material, or an Equal, will delay completion of
- 3 the Work through no fault of the Contractor.
- 4
- 5 C. Better system, process, product, or material: If a better system, product, process, or material is available at
- 6 no additional cost.
- 7
- 8 D. Savings: If a system, process, product, or material which meets all of the performance requirements of that
- 9 specified is available at a savings to the District.

10
11 A proposal for Substitution shall include all information required by the Architect to evaluate the substitute system,
12 process, product or material. All Substitutions shall be submitted with an approved "Substitution Request Form". See
13 Construction Forms Manual. Such proposal constitutes a certification that the Contractor:

- 14
- 15 A. Has investigated the proposed Substitution and determined that it meets or exceeds the performance
- 16 requirements of the specified system, process product or material.
- 17
- 18 B. Will provide the same or better warranty for the proposed Substitution as for specified system, process,
- 19 product, or material.
- 20
- 21 C. Will coordinate installation and make other changes which may be required for the work to be complete in all
- 22 respects at no additional cost to the District.
- 23
- 24 D. Waives claims for additional costs and/or Contract Time, which may subsequently become apparent.
- 25

26 The District Representative and the Architect shall evaluate a timely Substitution request, and shall approve, deny,
27 approve with conditions, or initiate the procedure for a change order in response to the Contractor's request. This
28 decision shall be final. This decision will be rendered within twenty one (21) business days after submission of all
29 required information for the proposal. If the request is not accepted, the Contractor shall provide the specified system,
30 process, product, or material without an increase in the Contract Sum and/or Contract Time.

31
32 Failure by the Contractor to identify all deviations from the Contract Documents in its request for substitution shall
33 render any District action taken thereon null and void. The Contractor shall bear all costs resulting from any error in
34 the request for Substitution.

35
36 Only one request for Substitution will be considered for each product except due to unavailability.

37
38 Substitutions may be subject to DSA approval, in which case the time to review will be extended by the duration of the
39 DSA approval process.

40
41 Neither the submission of a request for substituted systems, processes, products, or materials, nor the District
42 Representative's and/or Architect's review of the application, will extend the time for submission of any required
43 Submittals.

44
45 Section 11.08. Time for Proposing Substitution.

46 Substitution proposals will not be considered prior to bidding. All requests for Substitutions shall be made within the
47 same time requirement for initial Submittals. Failure to timely submit a Substitution request shall constitute a waiver
48 by the Contractor and an acceptance of the specified systems, processes, products, and materials. Late Submittals
49 may be considered only when the District Representative consents in writing, and the District's best interests so
50 require.

51
52 Section 11.09. Samples and Testing of Proposed Substitutions; Costs of Adapting to Work.

53 When the District Representative or Architect determines that samples and testing are required to evaluate a request
54 for a Substitution, the District Representative shall so advise the Contractor, and specify the systems, processes,
55 products, materials or work to be sampled. The Contractor shall, at no cost to the District, provide samples as required
56 by these General Conditions dealing with samples and testing, or the Technical Specifications.

1 The Contractor shall bear all costs of sampling and testing required to decide a request for Substitution, and if a
2 Substitution is accepted, the Contractor shall bear all costs associated therewith, including the cost of the District
3 Representative's, Architect's, and/or engineer's services required to adapt the Substitution to the design to the
4 complete satisfaction of the District, and all costs of mechanical, electrical, structural, or other changes needed to
5 adapt the Substitution to the Work.

6
7 Section 11.10. Effect of Approval of Equal Materials or Substitution Request.

8 If an application for an Equal or Substitution request is approved, the Contractor shall be solely and directly responsible
9 for setting approved Equal or Substitution systems, processes, products, materials, and/or equipment into the available
10 space, and for the proper operation of the Equal or Substitution systems, process, products, materials, and/or
11 equipment with all other systems, processes, products, materials, and/or equipment with which it may be associated,
12 all in a manner acceptable to the District.

13
14 No time extensions nor any increases in the Contract Sum shall be granted on account of an Equal or Substitution. In
15 the event of a savings, the Contract Sum shall be adjusted by the price difference between the approved Equal or
16 Substitution and the originally specified item.

17
18 Section 11.11. Quality of Materials and Products.

19 The Contractor shall, if required by the Architect, Project Inspector, or District Representative, furnish satisfactory
20 evidence as to the kind and quality of materials provided.

21
22 The District Representative may require, and the Contractor shall submit if required, a list designating the source of
23 supply of each item of materials incorporated into the Work, and in such event, those materials or products shall not
24 be delivered to the Work nor installed therein until after the District Representative has approved the list.

25
26 Contractor shall certify that the materials and equipment installed comply with the Contract Documents and to the best
27 of the Contractor's knowledge, no installed materials or equipment contain asbestos.

28
29 Section 11.12. Better Material or Process.

30 In the event that the Contractor furnishes a material, product, process, or article better than that specified in the
31 Contract Documents, the difference in cost of that material, product, process, or article shall be borne by the
32 Contractor.

33
34 Section 11.13. Industry Standards.

- 35
36 A. Any material specified by reference to the number, symbol, or title of a specified standard such as a
37 Commercial Standard, a Federal Specification, a Trade Association Standard, or other similar standard, shall
38 comply with the requirements in the latest revision thereof, including any amendments or supplements thereto,
39 in effect on the date of the Bid, except as limited to type, class, or grade, or modified in that reference.
40
41 B. The standard referred to, except as modified in the specifications, shall have full force and effect as though
42 printed in these specifications. These standards are not furnished to the bidder for the reason that the
43 manufacturers and trades involved are assumed to be familiar with their requirements.
44
45 1. Where Federal Specifications are referred to as a measure of quality and standard, they refer to Federal
46 Specifications established by the Procurement Division of the United States Government and are
47 available from the Superintendent of Documents, U.S. Government Printing Office.
48
49 2. Where Federal Specification numbers are used, they refer to the latest edition including amendments
50 thereto.
51
52 3. Where Commercial Standards (CS) or Product Standards (PS) are referred to as a measure of quality,
53 standard, and method of fabrication, they refer to Commercial Standards and Product Standards issued
54 by the U.S. Department of Commerce.
55

- 1 4. Where ASTM serial numbers are used, they refer to the latest tentative specifications, standard
2 specifications, standard method or standard methods of testing, issued by the American Society for
3 Testing Materials, unless specifically noted.
4

5 Section 11.14. Materials and Products Storage.

6 The Contractor shall confine the on-site storage of all materials, products, and equipment required in the performance
7 of this contract to the areas specified by the District. The Contractor shall obtain prior approval from the District
8 Representative regarding areas for storage and methods of protection. All material, products, and equipment shall be
9 brought and used upon the premises in such manner as to leave driveways and parking areas clear for the regular
10 use of the public and District employees.
11

12 Section 11.15. Original Packages or Containers; Labels.

13 All materials delivered to the Site shall be new, unless otherwise specified, of the type, capacity, and quality specified,
14 and free from defects. All materials shall remain in their original packages or containers until ready for use. The labels
15 of all packages or containers shall remain affixed, and kept legible. No product shall be stored in any container, the
16 label of which does not accurately describe the contents of the container.
17

18 Section 11.16. Protection of Materials and Equipment.

19 The Contractor shall protect the work, materials, and equipment from damage due to the action of the elements,
20 trespassers, or other causes. The Contractor shall properly store materials and equipment and, when necessary,
21 erect temporary structures to protect them from damage. The Contractor shall replace any items damaged as a result
22 of improper protection at no expense to the District.
23

24 Section 11.17. Providing and Paying for Materials.

25 Except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all
26 materials, products, articles, processes, labor, tools, equipment, and installation, and all associated superintendence
27 of every nature whatsoever necessary to execute and complete the Work within the Contract Time.
28

29 Section 11.18. Warranty of Title.

30 No material, article, product, supplies, or equipment for the Work shall be subject to any chattel mortgage, or a
31 conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or
32 supplier.
33

34 The Contractor warrants good and sufficient title to all material, supplies, and equipment installed or incorporated in
35 the Work, and agrees upon completion of the Work to deliver the premises, together with all improvements and
36 appurtenances, constructed or placed thereon by the Contractor, to District, free from any claims, liens, or charges.
37

38 The Contractor agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work
39 covered by this Contract shall have any right to a lien upon the premises or any improvement or appurtenances
40 thereon; provided, however, that nothing contained in this Section shall defeat or impair the rights of persons furnishing
41 materials or labor under the payment bond given by the Contractor, nor any rights under any law permitting such
42 persons to look to funds due to the Contractor but retained by District.
43

44 The Contractor shall cause the provisions of this Section to be inserted in all subcontracts and material contracts
45 executed by the Contractor and notice of this provision shall be given to all persons furnishing materials for the Work.
46

47 This Section shall not disallow the Contractor's installing any devices or equipment of utility companies or of
48 governmental agencies, the title to which is commonly retained by the utility company or the agency.
49

50 Section 11.19. Patents and Royalties.

51 All fees, claims, or royalties for any patented or copyrighted invention, article, arrangement, or plan that may be used
52 upon or in any manner connected with the doing of the work or any part thereof shall be included in the price bid for
53 doing the work. The Contractor and its sureties shall protect, defend, indemnify and hold harmless the District, District
54 Representative, the Project Inspector, the Architect and its consultants, and each of their respective officers, agents,
55 and employees against any and all demands made for such fees or claims and against any and all suits, demands,
56 claims or causes of action brought or made by the holder of any invention, patent, copyright, or trademark, or arising
57 from any alleged infringement of any invention, patent, copyright, or trademark.

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Before final payment is made on account of this Contract, the Contractor shall furnish acceptable proof to District of proper release from all such fees or claims.

Section 11.20. Payment of Federal or State Taxes.

Any federal, state or local tax, specifically including sales and use taxes, payable on materials furnished by the Contractor pursuant to the Contract, shall be included in the Contract Sum and paid by the Contractor.

ARTICLE 12. PROGRESS PAYMENTS

Section 12.01. Schedule of Values.

At least fourteen (14) days prior to the first payment application, the Contractor shall submit to the District Representative a schedule of values broken down by phase, and within each phase by building, in sufficient detail to evaluate progress at any point in the Work. In no event shall an individual line item on a schedule of values exceed five (5) percent of the Contract Sum unless so approved in advance by the District Representative. Labor, material, and subcontract costs shall be shown separately. Cost of Contract closeout shall be shown as individual line items, including, but not limited to, closeout documents, punchlist, and as-built documentation. Each of these line items shall be no less than three (3) percent of the total Contract Sum.

All other General Conditions items should be prorated among the actual construction values. The schedule of values must be prepared in sufficient detail and supported by such data to substantiate its accuracy as the District Representative and the District may require. This schedule, when approved, shall be used as a basis for the Contractor's applications for payment, and the approved schedule of values is an express condition precedent to processing the Contractor's payment application(s).

Section 12.02. Application for Payment.

- A. Prior to the date for each progress payment review established in the Preconstruction Meeting, the Contractor shall submit to the District Representative through the District's PMIS the schedule of values, marked to show the percentage of completion proposed by the Contractor for each line item. No extension of dollar amounts is required.
- B. At a meeting held on or before the assigned billing date of each month, the District Representative, Architect, Project Inspector, and the Contractor will review the Contractor's proposed percentages of completion and agree on a final percentage to be paid for that month. The progress payment will be based on the estimated percentage complete. Upon agreement of the amount due, the Contractor will prepare a final copy of the Application of Payment Summary and transmit it to the District Representative for processing by the assigned day of each month.
- C. Release of Liens: With each final monthly application for payment, Contractor shall submit a conditional lien release in the form provided in Civil Code section 8132. Additionally, Contractor shall submit an unconditional lien release in the form provided in Civil Code section 8134 for all work through the prior progress payment. When a subcontractor completes its scope of work, Contractor shall submit with its pay application either a conditional lien release in the form provided in Civil Code section 8136 if retention has not been paid or an unconditional lien release in the form provided in Civil Code section 8138 if the subcontractor has been paid in full. For final payment, the Contractor and all of its Subcontractors and material suppliers that have not previously submitted unconditional lien releases under Civil Code section 8138 shall submit final conditional lien releases under Civil Code section 8136 and final unconditional lien releases under Civil Code section 8134.
- D. The signing of a certificate of payment will constitute a representation by the District Representative, Project Inspector, and the Architect to the District that, based on their observations at the Site, and the data comprising the application for payment, the Work has progressed to the point indicated and that, to the best of their knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents (subject to any specific qualifications stated in the certificate for payment); and that the Contractor is entitled to payment in the amount certified. However, by signing a certificate for payment, the District Representative and the Architect shall not thereby be deemed to represent that either has made exhaustive or continuous on-site inspections to check the quality or quantity of the work, that either has reviewed the construction means, methods, techniques, sequences, or procedures, or that either has made an examination to ascertain how or for what purpose Contractor has used the monies previously paid on account of the Contract Sum.
- E. No progress payment will be released until District Representative has received all of the following items in acceptable form: as-built updates, schedule updates, certified payroll and other pay records if requested by the District, and lien releases.

1 Section 12.03. Payment for Stored Materials.

2 Payments may be made by the District, at its discretion, on account of materials or equipment not incorporated in the
3 Work but delivered to the Site and suitably stored by the Contractor. Payments for materials or equipment stored shall
4 only be considered upon submission by the Contractor of satisfactory evidence demonstrating that it has acquired title
5 to such material, that the material will be used in the Work, that it is satisfactorily stored, protected, and insured, and
6 that the Contractor has undertaken such other procedures satisfactory to the District Representative, Project Inspector,
7 and Architect, to protect the District's interests. Materials stored off-site, to be considered for payment, shall, in addition
8 to the above requirements, be stored in a bonded warehouse, fully insured, and available to the Architect and District
9 Representative for inspection. The District Representative shall have complete discretion as to the amount of material
10 and equipment that may be stored on the Site at any given time.

11
12 Section 12.04. Payment Time; Retention.

13 There shall be reserved from the monies earned by the Contractor on estimates a sum equal to five percent (5%) of
14 such estimates. It is understood that, if payment requests are made in accordance with established time schedule,
15 payment requests received and approved by District will be processed within forty (40) days following approval.
16 Payment for Change Orders, if any, under this Contract shall be made in like manner after the Change Order is fully
17 executed.

18
19 Section 12.05. Posting Securities in Lieu of Withholds.

20 Pursuant to Public Contract Code Section 22300, at the request and expense of the Contractor, Contractor may elect
21 to deposit securities equivalent to the amount withheld pursuant to Section 12.04 with the District or with a state or
22 federally chartered bank in California as the escrow agent, who shall then pay the retainage to the Contractor. Upon
23 satisfactory completion of the Contract without grounds to withhold as addressed in Section 12.06, the securities shall
24 be returned to the Contractor.

25
26 Alternatively, the Contractor may request, pursuant to Public Contract Code Section 22300, and the District shall
27 make, payment of retentions under Section 12.04 directly to the escrow agent. The Contractor shall receive the
28 interest earned on the investments upon the same terms provided for in Section 22300 for securities deposited by the
29 Contractor. Upon satisfactory completion of the Contract without grounds to withhold as addressed in Section 12.06,
30 the Contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent
31 from the District.

32
33 If Contractor elects to receive interest on moneys deposited with an escrow agent in lieu of retention, Contractor shall
34 provide written notice to all subcontractors performing at least five percent (5%) of the Work of Contractor's option
35 within fifteen (15) days of electing to receive interest. Contractor shall, at the request of any such subcontractor, make
36 that option available to the subcontractor regarding any moneys withheld in retention by Contractor from the
37 subcontractor. The subcontractor shall receive the identical rate of interest received by Contractor, less any actual
38 *pro rata* costs associated with administering and calculating that interest, as provided for in section 22300. If Contractor
39 elects to substitute securities in lieu of retention, then, by mutual consent of Contractor and the subcontractor, the
40 subcontractor may substitute securities in exchange for the release of moneys held in retention by Contractor.

41
42 Securities eligible for investment under this Section shall include those listed in Government Code Section 16430 or
43 bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, stand-by letters of credit,
44 or any other security mutually agreed to by the Contractor and the District.

45
46 The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any
47 interest thereon.

48
49 Section 12.06. Withholding Additional Amounts; Grounds.

50 In addition to the amounts which the District may retain as provided in Section 12.04, the District may withhold a
51 sufficient amount from any payment or payments otherwise due to the Contractor as in the District's sole discretion
52 may be necessary to protect the District in the event of the following:

- 53
54 A. Third party claims filed or reasonable evidence indicating probable filing of such claims;
55
56 B. Defective work not remedied;
57

- 1 C. Failure of the Contractor to make proper payments to any of its Subcontractors or for labor, materials, or
2 equipment;
- 3
- 4 D. The occurrence of reasonable doubt that the Contract can be completed for the balance of payments then
5 unpaid to the Contractor, or in the time remaining until expiration of the Contract Time;
- 6
- 7 E. Failure of the Contractor to comply with any lawful or proper direction concerning the Work given by any
8 District representative authorized to have given such instruction;
- 9
- 10 F. Claims and/or penalties which state law assesses or may assess against the Contractor for violation of such
11 law;
- 12
- 13 G. Any claim or penalty asserted against the District or that may be asserted against the District by virtue of the
14 Contractor's failure to comply with the provisions of all governing laws, ordinances, regulations, rules, and
15 orders;
- 16
- 17 H. Any liquidated damages which may accrue as a result of the Contractor's progress failing to meet the schedule
18 milestones or failing to achieve substantial completion or final completion within the Contract Time.
- 19
- 20 I. Any reason specified elsewhere in the Contract Documents as grounds for a retention or that would legally
21 entitle the District to a set-off.
- 22

23 In order to adequately protect the District, the Contractor agrees that the basic standard to determine the amount to
24 be withheld pursuant to this Section shall be one hundred fifty percent (150%) of the amounts claimed or the value of
25 the work not done or defectively done; provided, however, that District reserves the authority to retain greater sums
26 should such sums be necessary in the District's discretion to adequately protect it.

27
28 Section 12.07. Disbursement of Withheld Amounts.

29 The District, in its sole discretion, may apply any withheld amount or amounts to the payment of any claim resulting in
30 a withhold. The Contractor agrees and hereby designates the District as its agent for such purposes, and any payment
31 so made by the District shall be considered as a payment made under this Contract by the District to the Contractor.
32 The District shall not be liable to the Contractor for any payments made in good faith and with reasonable notice to
33 Contractor. Such payments may be made without a prior judicial determination of the claim or claims. The District
34 shall render to the Contractor a proper accounting of any funds disbursed on behalf of the Contractor.

35
36 Prior to disbursing any amounts, District shall afford the Contractor an opportunity to present good cause, if any it has,
37 why the claim or claims in issue are not valid or just claims against the Contractor. The District reserves the right then
38 to take such further steps as are appropriate, in its sole discretion, including, but not limited to, seeking a judicial
39 resolution of the controversy.

40
41 Section 12.08. Correction of Statement and Withholding of Payment.

42 No inaccuracy or error in any statement provided by the Contractor shall operate to release the Contractor or any
43 surety from the error, or from damages arising from such work, or from any obligation imposed by the Contract
44 Documents. The District shall retain the right subsequently to correct any error made in any previously issued claim
45 for the progress or other payment, or payment of any kind issued, by adjustments to subsequent payments.

46
47 Section 12.09. Effect of Progress Payments.

48 Neither the payment, the withholding, nor the retention of all or any portion of any progress payment claimed to be
49 due and owing to the Contractor shall operate in any way to relieve the Contractor from its obligations under this
50 agreement. The Contractor shall continue diligently to prosecute the Work without reference to the payment, withhold,
51 or retention of any progress payment. The payment, withhold, or retention of any progress payment shall not be
52 grounds for an extension of the Contract Time.

ARTICLE 13. TIME OF WORK

Section 13.01. Not applicable.

Section 13.02. Contract Schedule Development.

Within ten (10) days after receiving the Notice to Proceed, the Contractor shall submit a detailed proposed Contract Schedule presenting an orderly and realistic plan for completion of the Work, in conformance with the requirements of this Article. The proposed Contract Schedule shall be in hard copy and in electronic format submitted through the District's PMIS.

The Contract Schedule shall furnish or comply with the following requirements:

- A. A time scaled CPM type schedule prepared in Oracle Primavera P6 or other approved schedule software approved in writing by the District.
- B. No activity on the schedule shall have a duration longer than fourteen (14) days, with the exception of fabrication and procurement activities, unless otherwise approved by the District Representative. Activity durations shall be the total number of actual days required to perform that activity including consideration of weather impact on completion of that activity.
- C. Procurement of major equipment, through receipt and inspection at the job site, identified as a separate activity.
- D. Owner furnished materials and equipment if any, identified as separate activities.
- E. Dependencies (or relationships) between activities.
- F. Processing/approval of submittals and shop drawings for major equipment. Activities that are dependent on submittal acceptance and/or material delivery shall not be scheduled to start earlier than the expected acceptance or delivery dates.
- G. Separate buildings and other independent project elements shall be individually identified in the network.
- H. No less than fourteen (14) days for developing punch list(s), completion of punch list items, and final clean up for the work or any designated portion thereof. No other activities shall be scheduled during this period.
- I. Interface with the work of other Contractors (or entities).

The District Representative will review the proposed Contract Schedule for conformance with the requirements of the Contract. Within ten (10) days after receipt, the District Representative will accept the proposed Contract Schedule or will return it with comments. If the proposed Contract Schedule is not accepted, the Contractor shall revise the schedule to incorporate comments and resubmit the schedule for acceptance within seven (7) days after receiving it. The accepted schedule shall become the Contract Schedule.

The Contract Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. The responsibility for developing the Contract Schedule and monitoring actual progress as compared to the schedule rests with the Contractor.

Failure of the Contract Schedule to include any element of the work or any inaccuracy in the Contract Schedule will not relieve Contractor from responsibility for accomplishing all the Work in accordance with the Contract.

Acceptance of the Contract Schedule will not relieve the Contractor of the responsibility for accomplishing the Work in accordance with the Contract.

1 Failure to obtain the accepted Contract Schedule within forty (40) calendar days of the Notice to Proceed may
2 result in the District withholding ten percent (10%) of each progress payment, or \$1000, whichever is greater, until
3 an accepted Contract Schedule is obtained. Any such amounts withheld shall be paid to Contractor upon approval
4 of the Contract Schedule.
5

6 Section 13.03. Monthly Updates.

7 Contractor shall submit to the District Representative each month an up-to-date status report of the Work. The
8 status report shall be in hard copy and in electronic format through the District's PMIS and shall include:
9

- 10 A. Contractor's estimated percentage complete and remaining duration for each activity not yet complete.
- 11 B. Actual start/finish dates for activities as appropriate.
- 12 C. Identification of processing errors, if any on the previous update reports.
- 13 D. Revisions, if any, to the assumed activity durations including revisions for weather impact for any
14 activities due to the effect of the previous update on the schedule.
- 15 E. Identification of activities that are affected by requested or proposed changes to the Work.
- 16 F. Resolution of conflict between actual work progress and schedule logic. When out of sequence
17 activities develop in the Contract Schedule because of actual construction progress, the Contractor
18 shall submit revision to schedule logic to conform to current status and direction.
19

20 The District Representative will review the updated information and meet with Contractor each month at the Site to
21 determine the status of the Work. If agreement cannot be reached on any issue, the Contractor will use the District
22 Representative's determination in the processing of the update.
23

24 Progress payments pursuant to the Contract will be based on the update of the Contract Schedule. No progress
25 payments will be made without the required monthly update of the Contract Schedule.
26

27 Section 13.04. Schedule Revisions.

28 If the sequence of construction differs significantly, as determined by the District Representative, from the Contract
29 Schedule, Contractor shall submit within fifteen (15) days a revised schedule to the District Representative for
30 approval.
31

32 When a requested or proposed change to the Work will have an impact on the critical path, the Contractor shall submit
33 a schedule fragnet showing this impact. If the requested or proposed change is accepted by the District, the schedule
34 fragnet shall be incorporated into the Contract Schedule. Time extensions will be considered only to the extent there
35 is insufficient remaining float to accommodate these changes, and pursuant to Article 14 of these General Conditions.
36 No additional cost beyond that provided in Article 15 will be allowed for the incorporation of approved changes into the
37 Contract Schedule.
38

39 Should the Contractor, after acceptance of the Contract Schedule, intend to change its plan of construction, it shall
40 submit its requested revisions to the District Representative, along with a written statement of the revision, including
41 a description of the logic for rescheduling the work, methods of maintaining adherence to Intermediate milestones
42 and other specific dates and the reasons for the revisions. If the requested changes are acceptable to the District
43 Representative, they will be incorporated into the Contract Schedule in the next reporting period.
44

45 Schedule revisions shall be submitted at least seven (7) days prior to the date of submission of update information.
46 The District will have seven (7) days to review the revisions.
47

48 Section 13.05. Short Interval Schedules.

49 Contractor shall prepare a Short Interval Schedule (SIS) to be used throughout the duration of Work. The SIS shall
50 include all current activities and projected activities for the succeeding two (2) weeks. The SIS shall include actual
51 start/finish dates for the preceding one (1) week. The SIS shall be submitted in hard copy and electronic PDF format
52 to the District Representative prior to the weekly construction meeting. The Contractor shall participate in short interval
53 scheduling coordination during the weekly construction meetings.
54

55 Section 13.06. Owner's Right to Revise Schedule.

56 In the event of a delay affecting the occupancy date of the Project and not the fault of the Contractor, the District
57 Representative may elect to resequence work or otherwise modify the schedule in an attempt to maintain the Date of

1 Completion. It shall be the responsibility of the Contractor to cooperate in this effort. It is not the District's responsibility
2 to ensure the Contractor the ability to use "optimal" crew size throughout the Project and no adjustment of the Contract
3 Sum will be made for minor variations in crew size or claimed loss of efficiency or disruption that result from schedule
4 adjustments. However, overtime work or weekend work required by the District Representative to meet schedule
5 objectives other than those of the individual contractor will be reimbursed per the provisions of Article 15, provided
6 that Contractor has not contributed to the delay which the District Representative is seeking to overcome. If the
7 Contractor contends that a schedule adjustment will cause a significant disruption of its work sequence or ability to
8 perform work efficiently, it shall notify the District Representative within forty-eight (48) hours of receipt of the
9 adjustment. Failure to provide timely notice constitutes a waiver by Contractor of any claim for compensation arising
10 out of the schedule adjustment.

11 Section 13.07. Commencement of Work.

12 The Contractor shall commence procurement of long lead materials and equipment after execution of the
13 Agreement for Construction and appropriate Submittals have been approved.

14 Section 13.08. Time of Essence.

15 Time is of the essence of this agreement. The Contractor shall, to the fullest extent possible, carry on the various
16 classes or parts of the Work concurrently, and shall not defer construction of any portion of the Work in favor of any
17 other portion of the Work, without the express approval of the District Representative.

18 Section 13.09. Date of Completion.

19 The Contractor shall fully and satisfactorily complete the Work within the Contract Time. The Date of Completion is
20 defined in Article I.

21 Section 13.10. Responsibility for Completion.

22 The Contractor shall furnish sufficient manpower, materials, facilities and equipment and shall work sufficient hours,
23 including night shifts, overtime operations, Sundays and holidays as may be necessary to insure the prosecution and
24 completion of the Work in accordance with the Contract Time. If work on the critical path is seven (7) days or more
25 behind the currently updated Contract Schedule and it becomes apparent that the Work will not be completed within
26 the Contract Time, the Contractor will implement whatever steps it deems necessary to make up all lost time. If the
27 Contractor's solution is not successful, it will make further attempts using the following sequence of events:

- 28
- 29 A. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.
 - 30 B. If the above cannot be achieved then;
 - 31 1. The Contractor shall increase manpower in such quantities and crafts as will substantially eliminate, in
32 the judgment of the District Representative, the backlog of work; or increase the number of working hours,
33 shifts per working day, working days per week or the amount of equipment or any combination of the
34 foregoing sufficiently to substantially eliminate in the judgment of the District Representative the backlog
35 of work.
 - 36 2. In addition, the District Representative may require the Contractor to submit a recovery schedule
37 demonstrating its program and proposed plan to make up a lag in scheduled progress and to ensure
38 completion of the Work within the Contract Time. If the District Representative finds the proposed
39 recovery schedule unacceptable, it may require the Contractor to submit a new plan. If the actions taken
40 by the Contractor or the second plan proposed are unsatisfactory, the District Representative may require
41 the Contractor to take any of the actions set forth in the previous paragraph without additional cost to the
42 District to make up the lag in scheduled progress.

43 Failure of the Contractor to comply with the requirements of this Section 13.09 shall be considered grounds for a
44 determination by the District, pursuant to Article 12, Section 12.06D, that the Contractor is failing to prosecute the
45 Work with such diligence as will ensure its completion within the time specified.

46 Section 13.11. Payments Withheld.

47 Progress Payments may be withheld in whole or in part should the Contractor fail to comply with the requirements
48 of this Article.

ARTICLE 14. DELAYS AND EXTENSIONS OF TIME

Section 14.01. Extensions of Time; Unavoidable Delays.

The Contractor shall not be granted an extension of time except on the issuance of a Change Order by the District, upon a finding of good cause for such extension.

A. As used herein, the following terms shall have the following meanings:

1. "Excusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time caused by conditions beyond the control and without the fault or negligence of the Contractor. These events may include strikes, embargoes, fire, unavoidable casualties, national emergency, and stormy and inclement weather conditions in which the District Representative and Project Inspector agree that work on the critical path cannot continue. The financial inability of the Contractor or any Subcontractor or supplier and any default of any Subcontractor, without limitation, shall not be deemed conditions beyond the Contractor's control. An Excusable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section of the general conditions, but shall not entitle the Contractor to any adjustment of the Contract Sum.
2. "Compensable Delay" means any delay in the completion of the Work beyond the expiration date of the Contract Time caused solely by the wrongful acts of the District or its agents, including without limitation the Architect, and which delay is unreasonable under the circumstances and not within the contemplation of the parties. A Compensable Delay entitles the Contractor to an extension of the Contract Time, in accordance with this Section of the General Conditions, and/or an adjustment of the Contract Sum for increased general conditions costs, not to exceed **one thousand, five hundred dollars (\$1,500)** per day of delay, in accordance with Article 15. Notwithstanding the foregoing, Contractor shall not be entitled to any additional general conditions costs if Contractor is concurrently performing another increment or phase of the Project Work and the general conditions costs would be incurred in connection with that other increment or phase. Except as provided herein, the Contractor shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption.
3. "Inexcusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time resulting from causes other than those listed in Subparagraphs A1 and A2, above. An Inexcusable Delay will not entitle the Contractor to an extension of the Contract Time or an adjustment of the Contract Sum.

B. The Contractor may make a claim for an extension of the Contract Time, for an Excusable Delay or a Compensable Delay, subject to the following:

1. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. Any adjustment of the Contract Sum shall be in accordance with Article 15, shall not exceed **one thousand, five hundred dollars (\$1,500)** per day, and shall be based only on the non-concurrent portion of any Compensable Delay.
2. If an Inexcusable Delay occurs concurrently with either an Excusable Delay and/or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, by which the duration of the Excusable Delay and/or the Compensable Delay calculated in accordance with subparagraph B1, if applicable, exceeds the Inexcusable Delay. The duration of the concurrence is non-compensable.

Delays in the prosecution of parts or classes of the Work which do not prevent or delay the completion of the whole Work within the Contract Time are not to be considered Excusable or Compensable.

Section 14.02. Notice of Delays; Requests for Time Extensions.

No later than ten (10) calendar days from the time the Contractor reasonably foresees any delay in the prosecution of the Work, and in any event immediately upon the occurrence of any delay which the Contractor regards as good cause for an extension, the Contractor shall notify the District Representative in writing of the delay or anticipated delay. The notice shall specify with detail the cause asserted by the Contractor to constitute good cause for an extension together

1 with a detailed schedule analysis showing the effect of the delay on the critical path of the Contract Schedule and a
2 quantification of the length of the requested extension of time. **Failure of the Contractor to submit such a notice**
3 **within ten (10) days after the initial occurrence of the event giving rise to the delay shall constitute a waiver**
4 **by the Contractor of any entitlement to a time extension**, as well as to any associated additional compensation,
5 and no extension shall be granted as a consequence of such delay. If the Contractor cannot quantify the delay or
6 prepare a detailed schedule analysis at the time the notice of delay is submitted, including because the delay is
7 anticipated and/or is ongoing of an unclear duration, then the Contractor shall supplement its notice of delay as soon
8 as it can reasonably quantify the delay, but no later than ten (10) days after the cause for delay is concluded.
9

10 The District shall have no obligation to consider any non-compliant time extension request. The District shall not be
11 responsible or liable to the Contractor for any constructive acceleration due to failure of the District to grant time
12 extensions under the Contract Documents, should the Contractor fail to comply with the submission and justification
13 requirements of the Contract Documents for time extension requests. The Contractor's failure to perform in
14 accordance with the Contract Schedule shall not be excused because the Contractor has submitted time extension
15 requests, unless and until such requests are approved by the District.
16

17 Section 14.03. Investigation; Procedure.

18 Upon receipt of a request for extension, the District Representative shall conduct an investigation of the facts asserted
19 by the Contractor to constitute good cause for an extension. The District Representative shall report the results of this
20 investigation, as well as the propriety of the time extension requested, to the Contractor in writing within ten (10) days
21 of receipt of the complete request, including quantification of the delay, and shall indicate whether it will recommend
22 for or against the extension.
23

24 Upon receiving the District Representative's recommendation, the Contractor may either concur in the
25 recommendation, or reject the recommendation and proceed with a claim as provided for in Articles 21 and 23.
26

27 Section 14.04. Discretionary Time Extensions for Best Interest of District.

28 The District reserves the right to extend the time for completion of the Work if the District determines that such
29 extension is in the best interest of the District. In the event that a discretionary extension is granted at the request of
30 the Contractor, the District shall have the right to charge to the Contractor all or any part, as the District may deem
31 proper, of the actual cost of construction management, engineering, inspection, supervision, incidental and other
32 overhead expenses that accrue during the period of the extension, and to deduct all or any portion of that amount from
33 the final payment for the Work.
34

35 In the event a discretionary time extension is ordered over the objection of the Contractor, and the decision rests solely
36 with the District and is not legally compelled for any cause, the Contractor shall be entitled to a contract change
37 pursuant to Article 15 adjusting the price paid to reflect the actual costs incurred by the Contractor as a direct result of
38 the delay, upon its written application therefore, accompanied with such verification of costs as the District
39 Representative requires. The decision of the District on any discretionary time extension and the costs thereof shall
40 be final and binding on the District and the Contractor.
41

42 Section 14.05. Liquidated Damages.

43 If the Work or any specified portion or phase of Work is not completed by the Contractor in the time specified in Section
44 00 73 00, Special Provisions, or within any period of extension authorized pursuant to this Article, the Contractor
45 acknowledges and admits that the District will suffer damage, and that it is impracticable and infeasible to fix the
46 amount of actual damages. Therefore, it is agreed by and between the Contractor and the District that the Contractor
47 shall pay to the District as fixed and liquidated damages, and not as a penalty, the sum specified in the Agreement for
48 Construction for each calendar day of delay until the date of substantial completion and/or until the date of final
49 completion, and that both the Contractor and the Contractor's surety shall be liable for the total amount thereof, and
50 that District may deduct Liquidated Damages from any monies due or that may become due to the Contractor. If it
51 appears during the course of construction that the Contractor is behind schedule and the imposition of liquidated
52 damages is likely, or if liquidated damages begin to accrue prior to the time for final payment, the amount accrued
53 shall be withheld from any progress payment that would otherwise be due. This right to withhold funds is intended to
54 complement the District's rights under Section 12.06.
55

1 This liquidated damages provision shall apply to all delays of any nature whatsoever, save and except only delays
2 found to be excusable or compensable pursuant to Section 14.01, or time extensions granted by the District pursuant
3 to Section 14.04.

4
5 Pursuant to Government Code Section 4215, the Contractor shall not pay fixed and liquidated damages for delay in
6 completing the project caused by the failure of the District or the owner of utility facilities located on the Project Site to
7 provide for removal or relocation of such facilities.

8
9 Payment by the District of any progress payments after expiration of the Contract Time shall not constitute a waiver
10 by the District of its right to claim liquidated damages in accordance with this Section.

11
12 If the Contract is terminated before or after the Contract Time, as adjusted by any extensions of time that the District
13 may have granted, pursuant to Section 18.07, the Contractor shall remain liable to the District for liquidated damages
14 for all periods of time from such termination date until the Date of Completion.

15
16 Section 14.06. Extension of Time Not a Waiver.

17 Any extension of time granted the Contractor pursuant to this Article shall not constitute a waiver by the District of, nor
18 a release of the Contractor from the Contractor's obligation to perform this Contract in the time specified by the
19 agreement, as modified by the particular extension in question.

20
21 The District's decision to grant a time extension due to one circumstance set forth in one request, shall not be
22 construed as a grant of an extension for any other circumstance or the same circumstance occurring at some other
23 time, and shall not be viewed by the Contractor as a precedent for any other request for extension.

24
25 Section 14.07. Suspensions Exceeding One Year.

26 Should the Work be suspended for a period exceeding one calendar year due to war conditions, labor conditions, legal
27 actions, or for other conditions constituting the legal defense of impossibility of performance, the Contractor and District
28 agree to enter into an agreement terminating the agreement upon the following terms and conditions.

29
30 District shall be responsible only to pay the Contractor the actual value of the work performed from the Date of
31 Commencement or from the date of the last progress payment, whichever is later, plus the five percent (5%) retention
32 from prior progress payments, less any deductions authorized by the Contract Documents.

33
34 As between the Contractor and District, it shall be conclusively presumed that the actual value for the Contractor's
35 work to the date of the last progress payment is no more than the actual amount of prior progress payment plus the
36 five percent (5%) retention from those progress payments; provided, however, that this Section shall not preclude
37 District from deducting charges for work or materials which do not meet the requirements of the Contract Documents.

38
39 Section 14.08. Effect of Stop Work Notice.

40 If the District orders a stop work notice pursuant to Article 9, the days on which the suspension is in effect shall be
41 included in determining the required completion date, and shall not otherwise modify or extend the time within which
42 the Contractor is to perform. In such event, the Contractor shall not be entitled to any damages or compensation on
43 account of such suspension or delay, unless the Contractor can establish that stop work notice was not warranted.

ARTICLE 15. CHANGES TO THE WORK

Section 15.01. No Changes Without Consent.

The Contractor will complete the Project for the Contract Sum except as provided below. The Contractor agrees, for itself and on behalf of its Subcontractors and suppliers, that no increase in the Contract Sum will be made for work that the Contractor or its Subcontractors and suppliers might otherwise claim as a Change Order or extra work unless the Contractor establishes that the additional cost is the result of one of the following:

- a) a material change in the scope of work directed or authorized by District;
- b) a change required by regulatory authorities (including inspections) that was not reasonably ascertainable from the Contract Documents;
- c) regulatory fees not included in the Contract Sum;
- d) Differing Site Conditions;
- e) design errors; or
- f) wrongful acts of District or a separate contractor employed by District, or by damage to the Work caused by fire or other unavoidable casualties not the fault of the Contractor or Subcontractors or suppliers.

No extra work shall be performed, and no change shall be made, except pursuant to a written Change Order or Proposed Change Order signed by the District, or by a Directive signed by either the District or the District Representative, stating that the extra work or change is authorized, and no claim for any addition to the Contract Sum or Contract Time shall be valid unless so authorized; provided, however, that nothing in this Article shall excuse the Contractor from proceeding with the prosecution of the work so changed. The Contractor shall, when required by the District Representative, furnish an itemized breakdown of the quantities and prices used in computing the value of any change requested by the Contractor, or that may have been ordered by the District, including all items listed in Sections 15.06 and 15.07, below.

Change Orders shall specify the cost adjustments associated therewith, and in no case shall the District pay or become liable to pay any sums different than those specified or those established under Section 15.06 and 15.07.

Certain CCDs must be submitted to, and approved by, DSA prior to being implemented. Substitutions may be considered CCDs and, if DSA approval is required, are to be approved by DSA prior to fabrication or use.

Section 15.02. Change Orders.

Subject to legal requirements relating to competitive bidding, the District may require changes in, additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the Contract Documents. Changes may be made pursuant to a written Change Order signed by the District, which shall state the agreement of the District, the Contractor, the Architect, and, if applicable, DSA upon all of the following:

- A. The scope of the change in the Work;
- B. The amount of the adjustment in the Contract Sum, if any; and
- C. The extent of the adjustment in the Contract Time, if any.

If the Contractor believes that conditions have changed, or that it has been directed to do additional work requiring a change in time or cost, the Contractor may submit to the District Representative a Proposed Change Order (PCO).

All adjustments to the Contract Sum or the Contract Time must be approved by the District Board of Education.

Signature by the Contractor on the Change Order constitutes its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the Change Order as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the changed work.

Section 15.03. Not Used.

Section 15.04. Change Orders Regarding Time for Completion.

1 Any time extension authorized by the District pursuant to Article 14 hereof shall be set forth in a Change Order signed
2 by the District.
3

4 Section 15.05. Construction Change Directive/Directive.

5 Changes also may be made pursuant to a Directive, which shall direct a change in the Work and state a proposed
6 basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A Directive shall be used in the absence
7 of total agreement on the terms of a Change Order, or when time does not permit processing of a Change Order prior
8 to implementation of the change. Directives shall be approved by the District, the Architect, and, if applicable, DSA,
9 but need not be signed by the Contractor.

10
11 Upon receipt of a Directive, the Contractor shall promptly proceed with the change in the work involved. It is the intent
12 of the District that all Directives will be converted to a Change Order.
13

14 When a Directive is used because time does not permit processing of a Change Order prior to implementation of the
15 change, signature by the Contractor on the Directive constitutes its agreement with and acceptance of the adjustments
16 in the Contract Sum and Contract Time, if any, set forth in the Directive as full and complete satisfaction of any direct
17 or indirect additional cost and/or time incurred by the Contractor in connection with performance of the change work.
18

19 If the Contractor disagrees with the method for adjustment in the Contract Sum, the adjustment shall be determined
20 by the District Representative on the basis of any of the methods described in Section 15.06A, paragraphs 2, 3, or
21 4.
22

23 Section 15.06. Pricing of Changes.

24 A. If a Change Order or Directive provides for an adjustment to the Contract Sum, the adjustment shall be based
25 on one of the following methods:
26

- 27 1. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to
28 permit evaluation;
- 29 2. Unit prices stated in the Contract Documents or subsequently agreed upon;
- 30 3. The District Representative's estimate of the value of the change; or
- 31 32 4. Time and materials, as set forth in Section 15.07 and 15.08.

33
34
35
36 Section 15.07. Allowable Costs.

37 A. Allowable costs for any Change Order shall be limited to the following:
38

- 39 1. Costs of labor, including social security, Medicare, and unemployment insurance, fringe benefits required
40 pursuant to Article 7, and workers' compensation insurance (unless covered by the OCIP);
41
- 42 2. Costs of first line supervision labor, including labor burden as described in Paragraph 1. "First Line
43 Supervision" shall mean a working foreman or lead craft worker other than the project superintendent;
44
- 45 3. Actual cost of the project superintendent associated with any period of compensable delay caused by
46 issuance of the change order. In the absence of a compensable delay, all of the project superintendent's
47 time is considered to have been paid for as part of the Overhead;
48
- 49 4. Actual costs of materials, including sales tax and delivery;
- 50 51 5. Rental costs of machinery and equipment, exclusive of small tools, whether rented from the Contractor
52 or others;
- 53 54 6. Overhead and Profit as specified below. "Overhead" shall include the following:
55

56 Preparation of all paperwork related to changes in the Work, including field review, estimating and cost
57 breakdown; coordination and supervision, both office and field, including the project superintendent;

1 vehicles including gas and maintenance; small tools, incidentals and consumables; engineering, detailing,
2 and revisions to shop drawings and as-built drawings; general office and administrative expense;
3 extended and unabsorbed home office overhead; warranty; costs of bonds, liability insurance and
4 Builder's Risk insurance (unless covered by the OCIP), and all taxes; and all other expenses not
5 specifically included in Paragraph A above.
6

- 7 B. The Contractor's combined overhead and profit for work performed by its own forces shall be fifteen percent
8 (15%) of the costs specified in Section 15.07(A)(1)-(5). If the changed work is performed by a Subcontractor,
9 the Subcontractor shall be entitled to an allowance of fifteen percent (15%) of its actual labor, material and
10 rental costs for overhead and profit. The Contractor shall be allowed to mark-up the Subcontractor's price ten
11 percent (10%) for its overhead and profit. Cumulative total markup for all tiers of contractors and
12 subcontractors shall not exceed twenty-five percent (25%).
13
- 14 C. If the net value of a change results in a credit from the Contractor or Subcontractor, the credit shall be the
15 actual net cost, plus five percent (5%) for overhead and profit. When both additions and credits covering
16 related work or substitutions are involved in any one change, the allowance for Overhead and Profit shall be
17 figured on the basis of the net increase or decrease, if any, with respect to the change.
18

19 Section 15.08. Time and Materials Adjustment.

- 20 A. Pricing and Record Keeping. In the event that the pricing method selected is the time and materials method
21 described in Section 15.06A, paragraph 4, the pricing shall be calculated using the formula and costs set forth
22 in Section 15.07 except that time and material (T & M) labor rates shall be pre-approved by the District
23 Representative for T & M work. The Contractor shall keep and present daily, in such form as the District
24 Representative may prescribe, an itemized accounting together with appropriate invoices and other
25 supporting data of the labor, materials, and equipment used during that day. All labor shall be recorded on
26 separate time sheets clearly identified with the Directive number and scope of extra work involved. These
27 time sheets shall be signed daily by the Project Inspector or the District Representative. No costs will be
28 allowed for time not recorded and signed the same day the work takes place. The Contractor and the District
29 Representative shall discuss and attempt to resolve any disputes concerning the Contractor's daily records
30 at the time the report is submitted.
31
- 32 B. Reconciliation. The Contractor shall, on a monthly basis accompanying the progress payment request, submit
33 a reconciliation for all work performed under a time and materials Directive during the period of the progress
34 payment. A final reconciliation shall be submitted within 30 days after the work of the Directive is completed.
35 The reconciliation shall recap all costs and appropriate markups for the period. No costs will be allowed for
36 work not included in a reconciliation within the time periods specified.
37

38 Section 15.09. Effect on Sureties.

39 All changes authorized by the Contract Documents may be made without notice to or consent of the sureties on the
40 contract bonds, and shall not reduce the sureties' liability on the bonds.
41

42 The District reserves the right to require additional payment or performance bonds to secure a Change Order.
43

44 Section 15.10. Unforeseen Site Conditions.

45 If this Contract requires the digging of trenches or other excavations that extend deeper than four feet below the
46 existing surface, the following provision shall apply to those trenches or excavations:
47

- 48 A. In the event that any of the following described conditions is suspected to exist in the trench or excavation,
49 the Contractor shall promptly, and before the condition is disturbed, notify the District Representative, in
50 writing, of any:
51
- 52 1. Material that the Contractor believes may be material that is hazardous waste, as defined in Section
53 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III
54 disposal site in accordance with provisions of existing law.
 - 55 2. Subsurface or latent physical conditions at the Site differing materially from those indicated in the Contract
56 Documents.
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- 3. Unknown physical conditions at the Site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.
 - B. Upon receipt of notice from the Contractor, the District Representative, the District and the Architect shall promptly investigate the conditions, and if it is determined that the conditions do materially so differ or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a Change Order or Directive under the procedures described in the Contract Documents.
 - C. In the event that a dispute arises between the District and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract Documents, but shall proceed with all work to be performed under the Contract Documents. The Contractor shall retain any and all rights provided either by the Contract Documents or by law which pertain to the resolution of disputes and protests between the contracting parties.
 - D. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice under paragraph A of this Section 15.10.
 - E. No contract adjustment will be allowed under the provisions specified in this section for any effects caused on unchanged work.

25 As between the Contractor and the District, the District is responsible for the timely removal, relocation, or protection
26 of existing main or trunkline utility facilities located on the Site if such utilities are not identified in the Plans and
27 Specifications. If the Contractor, while performing its work, discovers utility facilities not identified in the Plans or
28 Specifications, it shall immediately notify the District and the associated utility in writing. Thereafter, and provided it
29 has given such notice, the Contractor shall be entitled to an adjustment of the Contract Sum and an extension of the
30 Contract Time, in accordance with Articles 14 and 15, for the costs of locating, repairing damage not due to the failure
31 of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the
32 Plans and Specifications with reasonable accuracy, and for equipment on the project necessarily idled during such
33 work when such costs and time are caused by the failure of the District or the owner of the utility to provide for removal
34 or relocation of such utility facilities. Notwithstanding anything to the contrary herein, the District is not required to
35 indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site
36 can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent
37 to the Site. Nothing herein shall preclude the District from pursuing any appropriate remedy against the utility for
38 delays which are the responsibility of the utility.

39
40 Section 15.11. Notice of Dispute

41 If the Contractor intends to make a claim for a change in the Contract Sum or Contract Time, the Contractor must give
42 the District Representative written notice within ten (10) days of the occurrence of the event giving rise to the claim.
43 Thereafter, the Contractor may proceed with a claim as provided for in Articles 21 and 23. **Failure to provide the
44 written notice within ten (10) days of the occurrence of the event giving rise to the claim shall constitute a
45 waiver by the Contractor of any claim for a change in the Contract Sum or Contract Time.**

ARTICLE 18. DISTRICT'S RIGHT TO TERMINATE CONTRACT

Section 18.01. Termination by the District for Convenience.

The District may at any time and for any reason, terminate, in whole or in part, Contractor's Work at the District's convenience. Termination shall be by written notice to Contractor. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue Contractor's work and the placing of orders for materials, facilities, and supplies in connection therewith, and shall, if requested, make every reasonable effort to procure cancellation of all existing orders or contracts upon terms satisfactory to the District, or, at the option of the District, the District shall have the right to assume those obligations directly, including all benefits to be derived therefrom. Contractor hereby assigns to the District all of its interest in said orders and/or contracts, and the assignment of said orders and/or contracts shall be effective upon notice of acceptance by the District in writing, and only as to those orders and/or contracts which the District designates in writing. Following receipt of notice of termination, Contractor shall thereafter do only such work as may be necessary to preserve and protect portions of its work already in progress and to protect materials and equipment on or in transit to the Project.

Upon such termination, Contractor shall be entitled to payment only as follows: (1) Contractor's direct, actual cost of the Work allocable to the portion of the Work completed in conformity with the Contract, but in no event to exceed the amount of the Contract Sum allocable to the portion of the Work completed in conformity with the Contract; plus (2) previously unpaid costs of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work, but in no event to exceed the portion of the Contract Sum allocable to said items; plus (3) an allowance of ten percent (10%) of the foregoing costs for Contractor's overhead and profit; plus (4) any proven losses with respect to materials and equipment directly resulting from the termination; plus (5) reasonable demobilization costs. Contractor is required to incorporate these terms into its subcontracts, so no costs of terminating subcontracts other than as specified herein will be permitted. The costs referred to in this Section shall be calculated and documented as required for a change order under Article 15 of the General Conditions, except that mark-up for overhead and profit shall be only as allowed by this Section. There shall be deducted from such sums the amount of any payments made to Contractor prior to the date of the termination of this Contract. Contractor shall not be entitled to any claim or claim of lien against the District for any additional compensation or damages in the event of such termination and payment beyond that provided for in this Section.

In connection with any termination for convenience, Contractor shall allow the District, District Representative or any authorized representative(s) to inspect, audit, or reproduce any records to the extent necessary for the District or District Representative to evaluate and verify the costs incurred by Contractor in performing the Work, including direct and indirect costs such as overhead allocations. Contractor will make this material available upon 48-hours' written notice from the District or District Representative. The District and District Representative may inspect and copy, from time to time and at reasonable times and places, any and all information, materials, and data of every kind and character (hard copy as well as electronic data), including without limitation, books, papers, documents, subscriptions, recordings, estimates, price quotations, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, daily diaries, superintendent reports, drawings, receipts, vouchers, monthly, quarterly, yearly or other financial statements, and any and all other information or documentation that may, in the judgment of the District or District Representative, have any bearing on or pertain to any matters, rights, duties, or obligations under or covered by the Contract Documents. Such records shall include but not be limited to, the following: accounting records, payroll records, job cost reports, job cost history, margin analysis, written policies and procedures, subcontract files (contracts, correspondence, change order files, including documentation covering negotiated settlements), back charge logs and supporting documentation, general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends, and any other documents customarily maintained by contractors performing work on public works projects or that the District or District Representative otherwise deem necessary to substantiate charges related to a Termination.

If this Contract is terminated for default under Section 18.02 and if it is later determined that the default was wrongful, such default termination automatically shall be converted to and treated as a termination for convenience under this Section. In such event, Contractor shall be entitled to receive only the amounts payable under this Section, and Contractor specifically waives any claim for any other amounts or damages, including any claim for consequential damages or lost profits.

1 Section 18.02. Termination by the District for Cause.

2 The District may terminate the Contract, pursuant to the provisions of this Article, for the following causes:

- 3
- 4 A. The Contractor is insolvent or has made a general assignment for the benefit of creditors, or a receiver has
5 been appointed on account of the insolvency of the Contractor.
 - 6
 - 7 B. The Contractor or any of its Subcontractors materially violate any of the provisions of the Contract Documents
8 or fail to perform the work within the time specified in the current Contract Schedule.
 - 9
 - 10 C. The Contractor or any of its Subcontractors should fail to make prompt payment to Subcontractors or material
11 suppliers for material or for labor as required by statute.
 - 12
 - 13 D. The Contractor or a Subcontractor persistently disregards laws, ordinances, or the instructions of the District
14 Representative, Architect, or the District.
 - 15
 - 16 E. The Contractor fails to abide by a stop work notice issued pursuant to Article 9 or fails to correct rejected work
17 or materials as required by Article 17.
 - 18
 - 19 F. The Contractor fails to provide and keep in full force and effect all insurance required by Article 3, or fails to
20 cause all Subcontractors to so comply.
 - 21
 - 22 G. The Contractor fails to supply a sufficient number of properly skilled workers or proper materials to timely
23 complete the Work.
 - 24
 - 25 H. The Contractor commits any violation of the terms and conditions of the Contract Documents which the
26 District, in its sole discretion, finds to be a material breach of the Contract.
 - 27

28 Section 18.03. Procedure for Termination for Cause.

29 The District may, without prejudice to any other right or remedy, give written notice to the Contractor and its surety or
30 sureties of its intention to terminate the Contract.

31

32 Unless the Contractor shall cease such violation and make satisfactory arrangements for a correction thereof within
33 seven (7) days of the delivery of such notice, or such longer period specified in the notice, which arrangements are
34 set forth in a written agreement signed by the Contractor and the District Representative, the Contractor's right to
35 complete the Work shall cease and terminate.

36

37 In the event of any such termination, the District shall immediately give written notice thereof to the surety and to the
38 Contractor and the surety shall have the rights and obligations set forth in the performance bond. If the District is
39 forced to take over the Work, it may prosecute the same to completion by contract or by any other method it may
40 deem advisable, for the account and at the expense of the Contractor, and the Contractor and its sureties shall be
41 liable to the District for any excess costs, including management, supervision, and design support, occasioned thereby.
42 In such event, the District may, without liability, take possession of, and utilize in completing the Work, the Contractor's
43 materials whether stored at the Site or elsewhere, that are necessary for completion. Contractor hereby assigns to
44 the District all of its interest in orders and/or contracts existing at the time of termination. The assignment of said
45 orders and/or contracts shall be effective upon notice of acceptance by the District in writing, and only as to those
46 orders and/or contracts which the District designates in writing. Whenever the Contractor's right to proceed is
47 terminated, the Contractor shall not be entitled to receive any further payment until the Work is finished and shall be
48 liable to the District for liquidated damages for all periods of time from such termination date until the Date of
49 Completion, as well as for all losses incurred by the District in completing the Work.

50

51 Section 18.04. Not Used.

52

1 Section 18.05. Not Used.

2
3 Section 18.06. Survival of Obligations.

4 No termination of this Contract or of Contractor's Work shall excuse or otherwise relieve the Contractor of its
5 responsibilities under the Contract Documents with respect to any Work performed prior to the date of termination,
6 including, without limitation, its obligation to perform the Work in a good and workmanlike manner, free of defects, and
7 in accordance with the Contract Documents, its warranty obligations with respect to the Work, and its obligation to
8 make all payments due. All of Contractor's responsibilities under the Contract Documents with respect to the Work
9 performed prior to the date of termination shall survive any termination.

10
11 Section 18.07. Termination After Contract Time.

12 In addition to any rights it may have, the District may terminate this Contract at any time after the Contract Time, as
13 adjusted by any extensions of time that the District may have granted.

14
15 Upon such termination, in addition to the Contractor's obligations under Section 18.06 and the other provisions of the
16 Contract Documents, the Contractor shall not be entitled to receive any compensation for services rendered before or
17 after such termination until the Work is completed, and the Contractor shall be liable to the District for liquidated
18 damages for all periods of time from the Contract Time, adjusted by any extensions of time that the District may have
19 granted, until the Date of Completion, as well as for all losses incurred by the District in completing the Work.
20

ARTICLE 19. PRESERVATION AND CLEANING

Section 19.01. Periodic Cleaning of Project.

The Contractor shall properly clean its work and the Site, and maintain its work area in an orderly manner. The Contractor shall remove all dirt, debris, waste, rubbish, and implements of service from the Project, the adjacent sidewalks and streets, and the working area daily or as directed by the District Representative. Debris, waste, or unused construction materials shall not be left under, in, or about the Project, nor allowed to accumulate on the Site or in the working area.

The Contractor, at its sole cost, shall contract with a disposal company to remove all rubbish, and shall have the refuse containers emptied at frequent enough intervals so that waste does not overflow the containers.

If the Contractor fails to clean up during progress or upon completion of the Work, the District may, at the Contractor's expense, do so as provided in Article 16.

Section 19.02. Final Cleaning of Project.

At completion of the Work and prior to final acceptance/inspection and occupancy by the District, the Contractor shall thoroughly clean the interior and exterior of the buildings, and the Site and adjacent areas, of all material related to its performance of the Work. In the event the Contractor fails to do so, the District may cause this work to be done at the Contractor's expense, as provided in Article 16. The following list is not inclusive but to act as a guideline:

- A. Removal of all spots, stains, paint spots, rubbish, debris, tools, equipment, trade markings and labels, and accumulated dust and dirt from all areas and broom clean. Steam clean all carpets and mop floors.
- B. Cleaning interior and exterior of the buildings including all windows in any area affected by the Work.
- C. Brush off, broom sweep, dust and clean ledges, stairs, doors, hardware, chalk board trays and any adjoining rooms or areas that were affected by the Work.
- D. The Contractor shall clear grounds and exterior paved areas and walks of all construction debris, dirt and dust and shall repair any Site areas damaged during the course of construction.

Prior to final completion or District occupancy, the Contractor shall conduct an inspection of sight-exposed surfaces, and all work areas, to verify that the entire work is clean. In the event the Contractor fails to do so, the District may cause this work to be done at the Contractor's expense.

ARTICLE 20. COMPLETION, INSPECTION, AND OCCUPANCY BY DISTRICT

Section 20.01. Notice of Punch List Inspection.

When the Contractor believes that the entire work, or a specific phase of its Work, is substantially complete, *i.e.*, fit for its intended use, the Contractor shall certify in writing to District that the Work is substantially complete and request that District grant substantial completion. Within five (5) working days of the receipt of such request, the District Representative, the Project Inspector, and the Architect shall make a punch list inspection or inform the Contractor that the work is not ready for punch list inspection; upon completion of the deficient work, the Contractor shall again request a punch list inspection. The Contractor shall be present at the punch list inspection. The purpose of the punch list inspection is to determine whether the Work has been substantially completed in accordance with the Contract Documents, including all Change Orders, interpretations, and instructions previously issued.

If the Contractor requests a punch list inspection when the Work is not ready for the inspection, the Contractor shall pay all costs associated with the inspection.

If Contractor fails to attend any punch list inspection, the Contractor shall be charged for the cost of the District Representative, Architect, the Project Inspector, and other design professionals and District consultants who attended the punch list inspection.

Completion of any phase of the Work does not result in final completion, or in any way alter the payment provisions after final completion.

Section 20.02. Punch List.

The District Representative, the Project Inspector, and the Architect shall notify the Contractor in writing of any deficiencies to be remedied prior to final acceptance by preparing a written "punch list" of work required to be completed or corrected prior to final completion.

When the Contractor believes it has remedied all items shown on the punch list, it shall notify the District Representative that it is ready for inspection for final acceptance by the District Representative, the Project Inspector, and the Architect. In the event that the Work still does not comply with the Contract Documents, the District reserves the right to issue such further punch lists as may be required, or to deduct from the final payment the cost of correcting any work not completed in accordance with the Contract Documents, but accepted by the District, without the issuance of further punch lists. If the District issues a further punch list, the Contractor shall be responsible for all costs of subsequent punch list inspections required prior to acceptance.

No one is authorized to amend the Contract Documents by use of the punch list; it is provided solely for the benefit of the Contractor to enable it to determine what items must be corrected before final acceptance will be recommended by the District Representative, the Project Inspector, and the Architect. The District reserves the right to require compliance with the Contract Documents, notwithstanding the issuance of a punch list or the completion by the Contractor of all items on the punch list.

If punch list work needs to be performed after the District has taken occupancy of a phase or the entire Work, then the Work shall be conducted outside of normal school hours at the direction of the District Representative.

Section 20.03. Use of Work Prior to Acceptance.

Whenever, in the opinion of the District, the Work, or any part thereof, is in a condition suitable for use, and the best interests of the District require such use, the District may take possession of and use that portion of the Work. District shall provide Contractor not less than ten (10) days' notice of such possession or use, and shall make reasonable efforts to conduct a punch list inspection of the Work to be occupied prior to occupancy.

The District's occupancy shall not constitute acceptance by the District of the Work or any part thereof. Such use shall neither relieve the Contractor of any of its responsibilities under the Contract Documents, nor act as a waiver by the District of any of the terms or conditions of the Contract Documents. Any damage done by the District is the responsibility of the District. Contractor acknowledges and agrees that any occupancy and/or use of all or any portion of the work of improvement does not constitute acceptance or completion within the meaning of California Civil Code section 9200.

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Section 20.04. Repairs or Renewal in the Work.

Prior to the Date of Completion, the Contractor shall make all repairs or renewals in the portion of the Work occupied pursuant to Section 20.03 made necessary due to defective material or workmanship, or the operations of the Contractor, ordinary wear and tear excepted.

Section 20.05. Not Used.

Section 20.06. Coordination with Other Activities.

The Contractor shall conduct its operations so as not to interfere unreasonably with the District's use of the occupied portions of the Site. The Contractor shall submit periodic schedules to the District Representative proposing the times, areas, and types of work to be done within such areas.

If the Work produces conditions rendering the occupied portions of building, the Site, or other areas uninhabitable, either because of noise, dust, vibration, smoke, fumes, or for any other cause whatsoever, the District Representative may suspend the Work or direct the Contractor to modify the Contract Schedule, and the Contractor shall comply.

Except as provided by Change Order, the Contractor shall not be entitled to a time extension or increase in the Contract Sum by virtue of conflicts between the Contractor's work and the District's occupancy.

ARTICLE 21. CONTRACT CLOSEOUT

Section 21.01. Contractor's Request for Final Payment.

When the Contractor determines that all of the Work on the Project is complete and all items on the punch list have been satisfied, or contends that such items are not required by the Contract Documents, the Contractor shall submit a certificate of completion and an application for final payment on the form provided.

Section 21.02. Additional Submissions.

Simultaneously with the Contractor's certificate of completion and request for final payment, the Contractor shall submit the following items to the District Representative:

- A. As-built drawing information pursuant to Section 5.08.
- B. One (1) original set of documentation and one (1) PDF file(s) in electronic format on a separate flash drive completely covering the operation and maintenance of the mechanical and electrical installation, elevators, kitchen equipment, and all other equipment required by the technical specifications to be furnished with such manuals. The documentation shall include charts, diagrams, performance curves, catalog information, lubrication manuals, and details pertaining to the functioning of various items of equipment. The documentation shall be divided logically into "systems" on the basis of operation, without respect to trades, subcontractors, or arbitrary specifications sections. The relationship of the "systems" shall be clearly and concisely detailed.
- C. Hazardous material documentation as required.
- D. Form DSA-6 Final Verified Reports.
- E. DVBE Compliance Report in the form required by the District documenting and certifying the amount of Work performed by DVBEs.
- F. All other required DSA, California Department of Education, State Allocation Board and Office of Public School Construction forms.
- G. Any extra stock material and equipment and manufacturer warranties/guarantees as required by the Contract Documents.
- H. Other items as required in Section 00 73 00.

No payment will be processed unless accompanied by the above listed submissions in acceptable form, *except that*, if the **only** missing document is the DVBE Compliance Report, then the District will withhold no more than ten thousand dollars (\$10,000) from the final payment due to the missing Report.

In accordance with Military & Veterans Code section 999.7, District will withhold ten thousand dollars (\$10,000) from the final payment, or the full final payment if less than ten thousand dollars (\$10,000), until Contractor submits the required DVBE Compliance Report. If Contractor fails to provide the Report after being provided written notice of its failure to submit the Report, within the time required by the notice, then District shall permanently deduct ten thousand dollars (\$10,000) from the final payment, or the full payment if less than ten thousand dollars (\$10,000).

Section 21.03. Final Payment Process.

Upon approval of the submittals required by this Article and receipt of the Contractor's final payment application, and upon verification that all of the Work is complete, including all punch list items, the District Representative shall either (1) recommend to the District that the payment application be accepted, which recommendation shall be made within five (5) business days of receipt of the Contractor's complete final payment application, or (2) send a notice to the Contractor rejecting the payment application, stating the basis therefor, and submitting a written estimate of the sum due to the Contractor, which written estimate shall be provided to the Contractor within twenty (20) calendar days of the District Representative's receipt of the Contractor's final payment application. If the payment application is rejected in part due to a missing DVBE Compliance Report, then the District Representative's response shall notify the Contractor that (a) the missing Report must be provided by a date certain, no less than 15 days and no more than 30

1 calendar days following the date of the notice and (b) failure to provide the Report will result in a \$10,000 permanent
2 deduction from the final payment. The District Representative's estimate shall take into account the Contract Sum, as
3 adjusted by any Change Orders; amounts already paid; and sums to be retained for incomplete work, liquidated
4 damages, and for any other cause under the Contract Documents. Any protest by the Contractor of the District
5 Representative's estimate shall be as set forth in Section 21.04 and Article 23.
6

7 The Architect shall prepare a statement of final inspection, stating that the Work has been given a final inspection, that
8 the Contractor has submitted the required documents (or which documents are missing), setting forth with detail any
9 deviations in the Work as completed from the Contract Documents, and estimating the cost of correction of such
10 deviations.
11

12 The Architect's statement shall be transmitted to the District along with the Contractor's application for final payment
13 approved by the District Representative, Architect, and Project Inspector. The District Representative shall provide a
14 copy of the Architect's statement of final inspection to the Contractor.
15

16 Section 21.04. Protest of the District Representative's Estimate; Claims.

17 If the Contractor contests the estimate of sums due prepared by the District Representative, the Contractor may file a
18 claim in writing with the District Representative pursuant to the requirements of Article 23 and setting forth in detail all
19 grounds alleged by the Contractor to justify an adjustment to the District Representative's estimate. The Contractor's
20 claim shall be certified under penalty of perjury and in compliance with the California False Claims Act. Failure to
21 include these required certifications will constitute grounds for immediate rejection of the claim.
22

23 Failure to file a timely claim shall constitute a waiver and acceptance by the Contractor of the District Representative's
24 estimate, which shall then become final and be forwarded to the District for approval of payment.
25

26 Section 21.05. Completion; Acceptance of Contract; Notice of Completion.

27 The Contractor acknowledges and agrees that completion shall mean the Contractor's complete performance of all
28 Work required by the Contract Documents, amendments, Change Orders, Construction Change Directives, and punch
29 lists, and the District's formal acceptance of the Work, without regard to prior occupancy, substantial completion
30 doctrine, beneficial occupancy, or otherwise.
31

32 Acceptance of the Work shall be made only by formal acceptance by the District. Recordation of a Notice of
33 Completion shall be in the manner prescribed by law, provided that the Work shall then be fully and satisfactorily
34 completed and the provisions of the Contract Documents fully and satisfactorily performed in all respects.
35

36 Section 21.06. Approval of Final Payment.

37 Following acceptance of the Work, the District shall authorize final payment to the Contractor of the undisputed sums
38 found due, subject to retentions for stop notices as provided in Section 21.07 below. This final payment shall be made
39 within sixty (60) days after completion, as defined in Section 21.05 above.
40

41 Section 21.07. Withholding for Stop Payment Notices.

42 The District will withhold from the Contractor any unpaid claims alleged in Stop Payment Notices filed pursuant to
43 California Civil Code sections 9350 *et seq.* The District reserves all remedies it may have in the event of a Stop
44 Payment Notice dispute. The basic standard to determine a sufficient withholding in the event of a Stop Payment
45 Notice shall be one hundred fifty percent (150%) of the total of all Stop Payment Notices filed; provided, however, the
46 District reserves the right to withhold different or greater sums in its discretion.
47

48 Section 21.08. Non-Waiver.

49 Neither acceptance of, nor payment for, the Work or any part thereof, nor any extension of time, nor any possession
50 taken by District shall operate as a waiver of any of the provisions of this Contract, nor shall a waiver of any breach of
51 this Contract be held to be a waiver of any other or subsequent breach. In addition, recordation of a Notice of
52 Completion shall not be deemed an acceptance of latent defects, nor shall it constitute a waiver of any of the provisions
53 of this Contract.
54

ARTICLE 22. GUARANTEES

Section 22.01. Guarantee Required.

In addition to any guarantees required elsewhere by the Contract Documents, the Contractor shall guarantee the Work for a minimum of two (2) years from and after the recordation of the Notice of Completion and completion of all contract obligations by the Contractor, including formal acceptance of the entire Project by the District. The Contractor specifically waives any right to claim or rely on the statutory definition of completion set forth in Civil Code section 9200. The Contractor specifically acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, Change Orders, Directives, CCDs, and punch lists, and the District's formal acceptance of the entire Project, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise. Such guarantee shall be made on the form provided.

The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.

Such guarantee is in addition to, and not in lieu of, the District's rights to enforce this Contract in all respects.

ARTICLE 23. CLAIM REQUIREMENTS

Claims shall be subject to the requirements of Public Contract Code sections 20104 *et seq.* and 9204. A summary of those provisions is set forth below. A waiver of the rights granted by the referenced statutes is void and contrary to public policy, provided, however, that (1) upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) the District may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the statutory requirements, so long as the contractual provisions do not conflict with or otherwise impair the statutory timeframes and procedures. To the extent that the summary below is inconsistent with any requirement of those statutes, the statutes shall control. The terms below are intended to be consistent with the governing statutes, and any modifications shall be understood as lawful modifications or additions to the statutory requirements if at all possible.

Section 23.01. Notice of Potential Claim.

The Contractor shall promptly provide a written Notice of Potential Claim to the District upon discovery of concealed or unknown conditions or discovery of facts regarding any disagreement, protest, direction, situation, event, or occurrence that may result in a claim, including but not limited to changes in work and delays. The written Notice of Potential Claim shall set forth the reasons for which the Contractor believes adjustment to the Contract Price or Contract Time will or may be due, the nature of the costs and/or time involved, and, insofar as possible, the amount of the potential claim. The Notice shall be submitted as soon as practical, but no more than five (5) working days after the discovery of any facts or event that does or may give rise to the claim, unless a different period for notice is specified in the Contract Documents. **Failure to timely submit the Notice of Potential Claim constitutes acknowledgement that the condition(s), fact(s), occurrence(s) or event(s) did not cause any increase in cost or time to perform and waives any Claim that the Contractor otherwise may have had the right to submit based on such condition(s), fact(s), occurrence(s) or event(s).**

Section 23.02. Definitions.

“Claim” means a separate demand by Contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

- (A) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.
- (B) payment by the public entity of money or damages arising from work done by, or on behalf of, Contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.
- (C) payment of an amount that is disputed by the District.

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

“Public works contract” or “public works project” means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

“Subcontractor” means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with the Contractor or is a lower tier subcontractor.

Section 23.03. Claims Procedure.

All Claims under this Contract shall be resolved using the following procedure.

- 23.03.01 The Claim shall be in writing and include the documents necessary to substantiate the Claim. The evaluation of the Claim will be based on the District’s records and the Claim documentation submitted by the Contractor, which shall include but not be limited to the

1 following: an explanation of the background; a chronology (including dates of all key events
2 and date(s) that the Notice of Potential Claim was given); an explanation of the Contractor's
3 position; supporting documentation of merit; analysis of delay for any claimed additional
4 time, including CPM schedules; and a calculation of damages or additional amounts
5 claimed, if any. Supporting documentation of merit may include, but not be limited to,
6 Construction Documents, correspondence, conference or meeting notes, shop drawing
7 logs, survey books, inspection reports, delivery schedules, test reports, daily reports,
8 subcontracts, CPM schedules, photos, RFIs, Directives, and other such records.
9 Supporting documentation of damages may include, but not be limited to, certified payroll
10 reports; purchase orders; invoices; project as-planned and as-built costs; Subcontractor
11 payment releases; quantity reports; other related records; general ledger and any other
12 accounting materials.

13
14 Claims must be filed on or before the date of final payment, except that the Claim must be
15 submitted no later than thirty (30) days from the date of the District Representative's estimate
16 of sums due. Any Claim shall be certified under penalty of perjury and in compliance with
17 the California False Claims Act, as set forth in Section 23.04 below. Failure to include
18 these required certifications will constitute grounds for immediate rejection of the Claim
19 and shall be deemed a waiver and absolute bar of the Claim, including any right to pursue
20 the Claim further.

21
22 23.03.02 If a Subcontractor, including a lower tier Subcontractor, lacks legal standing to assert a
23 Claim against the District because privity of contract does not exist, then the Contractor
24 may present a Claim on behalf of such a Subcontractor. A first-tier Subcontractor may
25 request in writing, either on its own behalf or on behalf of a lower tier Subcontractor, that
26 the Contractor present a Claim on behalf of the Subcontractor for work that was performed
27 by the Subcontractor. The Subcontractor requesting that the claim be presented shall
28 furnish reasonable documentation to support the Claim. Within 45 days of receipt of this
29 written request, the Contractor shall notify the Subcontractor in writing as to whether the
30 Contractor presented the Claim and, if the Contractor did not present the Claim, provide
31 the Subcontractor with a statement of the reasons for not having done so.

32
33 23.03.03 Upon receipt of a Claim, the District shall conduct a reasonable review of the Claim. Within
34 30 days of receipt of the Claim, the District may request, in writing, any additional
35 documentation supporting the Claim or relating to defenses to the Claim that the District
36 may have against the Contractor. Where additional information is requested by the District,
37 the time in which the District must respond to a Claim shall be tolled until all requested
38 information is provided. If additional information is thereafter required, then it shall be
39 requested and provided upon mutual agreement of the District and the Contractor.

40
41 23.03.04 Within 45 days of receipt of the Claim, as that time may be tolled as provided in Section
42 23.03.03 above, the District shall provide the Contractor with a written statement identifying
43 what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a
44 Claim, the District and the Contractor may, by mutual agreement, extend the time period
45 for a response. Failure by the District to respond to a Claim within the time periods
46 described herein shall result in the Claim being deemed rejected in its entirety. A Claim
47 that is denied by failure of the District to respond shall not constitute an adverse finding
48 with regard to the merits of the Claim or the responsibility or qualifications of the Contractor.

49
50 23.03.05 Any payment due on an undisputed portion of the Claim shall be processed and made
51 within 60 days after the District issues its written statement. The District shall not fail to
52 pay money as to any portion of a claim which is undisputed except as otherwise provided
53 in the Contract.

54
55 23.03.06 If the Contractor disputes the District's written response, or the District fails to respond
56 within the time prescribed, the Contractor may so notify the District, in writing, either within
57 15 days of receipt of the District's response or within 15 days of the District's failure to

1 respond within the time prescribed, respectively, and demand an informal conference to
2 meet and confer for settlement of the issues in dispute. Upon receipt of a demand, sent
3 by registered mail or certified mail, return receipt requested, the District shall schedule a
4 meet and confer conference within 30 days for settlement of the dispute.
5

6 23.03.07 Within 10 business days following the conclusion of the meet and confer conference, if the
7 Claim or any portion of the Claim remains in dispute, then the District shall provide the
8 Contractor a written statement identifying the portion of the Claim that remains in dispute
9 and the portion that is undisputed. Failure by the District to provide the written statement
10 within the time periods described herein shall result in the remaining Claim issues being
11 deemed rejected in their entirety. Denial by failure of the District to respond shall not
12 constitute an adverse finding with regard to the merits of the remaining Claim issues or the
13 responsibility or qualifications of the claimant. Any payment due on an undisputed portion
14 of the Claim shall be processed and made within 60 days after the District issues its written
15 statement.
16

17 23.03.08 Any remaining disputed portion of the Claim following the meet and confer conference shall
18 be submitted to nonbinding mediation, with the District and the Contractor sharing the
19 associated costs equally. The District and Contractor shall mutually agree to a mediator
20 within 10 business days after the disputed portion of the Claim has been identified in
21 writing. If the parties cannot agree upon a mediator, each party shall select a mediator and
22 those mediators shall select a qualified neutral third party to mediate with regard to the
23 disputed portion of the Claim. Each party shall bear the fees and costs charged by its
24 respective mediator in connection with the selection of the neutral mediator. Unless
25 otherwise agreed to by the District and the Contractor in writing, the mediation conducted
26 pursuant to this Section shall excuse any further obligation under Public Contract Code
27 Section 20104.4 to mediate after litigation has been commenced. This Section does not
28 preclude arbitration if mediation under this Section does not resolve the parties' dispute.
29

30 23.03.09 If mediation is unsuccessful, then the Contractor may file a claim as provided in Chapter 1
31 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of
32 Division 3.6 of Title 1 of the Government Code with respect to the parts of the Claim
33 remaining in dispute. For purposes of those provisions, the running of the period of time
34 within which a claim must be filed shall be tolled from the time the Contractor submits his
35 or her written Claim pursuant to Section 23.03.01 until the time that mediation of disputed
36 portions of that Claim is completed. This Section does not apply to tort claims, and nothing
37 in this Section is intended nor shall be construed to change the time periods for filing tort
38 claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2
39 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
40

41 23.03.10 Amounts not paid in a timely manner as required by this Section shall bear interest at seven
42 percent (7%) per year.
43

44 23.03.11 Claims of \$375,000 or less are subject to the following procedures for civil actions filed to
45 resolve the claims:
46

47 (a) The case shall be submitted to judicial arbitration pursuant to Chapter 2.5
48 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil
49 Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act
50 (Title 4 (commencing with Section 2016.010) of Part 4 of the Code of Civil
51 Procedure) shall apply to any such proceeding, consistent with the rules pertaining
52 to judicial arbitration.
53

54 (b) The parties stipulate that the arbitrator shall be experienced in construction law
55 and shall be paid necessary and reasonable hourly rates of pay not to exceed their
56 customary rate, and such fees and expenses shall be paid equally by the parties,

1 except in the case of arbitration where the arbitrator, for good cause, determines
2 a different division. In no event shall these fees or expenses be paid by state or
3 county funds.
4

5 (c) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3
6 of the Code of Civil Procedure, any party who, after receiving an arbitration award,
7 requests a trial *de novo* but does not obtain a more favorable judgment shall, in
8 addition to payment of costs and fees under that chapter, pay the attorneys' fees
9 of the other party arising out of trial *de novo*.

10
11 (d) The court may, upon request by any party, order any witnesses to participate in
12 arbitration process.
13

14 In any suit filed under Public Contract Code Section 20104.4, the District shall pay interest at the legal rate on any
15 arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.
16

17 Section 23.04. Claim Certification.

18 Contractor acknowledges that it has read and is familiar with the provisions of the False Claims Act (California
19 Government Code sections 12650 *et seq.*). Submission by Contractor of any claim (as the term "claim" is defined
20 in False Claims Act) to the District in connection with the Project, whether on its behalf or on behalf of a
21 Subcontractor or material supplier, shall constitute a representation by Contractor to the District that submission of
22 the claim does not in any respect, violate the False Claims Act. Any party with an interest in the claim, including
23 Contractor and any Subcontractor or material supplier, shall certify under penalty of perjury the validity and accuracy
24 of any claim submitted to the District, as provided below. Compliance with this claims certification requirement shall
25 be a condition precedent to any obligation District might otherwise have to review the claim, and failure to provide
26 such certification shall constitute a waiver of the claim.
27

28 The claim certification required by this section shall provide as follows:
29

30 CLAIM CERTIFICATION
31

32 Under penalty of perjury, and with specific reference to the California False Claims Act, Government Code
33 sections 12650 *et seq.* I certify that submission of the attached claim is made in good faith; that the supporting data
34 prepared by the undersigned company are accurate and complete to the best of my knowledge and belief; that
35 submission of the claim to the District does not violate the False Claims Act; and that I am duly authorized to certify
36 the claim on behalf of the claimant.

37 Dated: _____

38 Company _____
39

40
41
42 Signature _____
43

44 Title _____
45

46 Section 23.05. Continuance of Work.

47 In the event of a dispute between the parties as to performance of the Work or the interpretation of the Construction
48 Documents, or payment or nonpayment for Work performed or not performed, the parties shall attempt to resolve
49 the dispute. Pending resolution of this dispute, the Contractor agrees to continue the Work diligently to completion.
50 If the dispute is not resolved, except as provided otherwise in the Contract, the Contractor agrees it will neither
51 rescind the Contract, nor stop the progress of the Work on the Project.
52

ARTICLE 24. ADDITIONAL PROVISIONS

Section 24.01. Conflict of Interest.

No official of the District who is authorized on behalf of the District to negotiate, make, accept, or approve, any architectural, engineering, inspection, construction, or materials supply contract, or any subcontract in connection with the construction of the Project, or any land acquisition in connection with the Project, shall become directly or indirectly interested personally in this contract or in any part thereof.

No officer, employee, architect, attorney, engineer, or inspector of or for the District who is authorized on behalf of the District to exercise any executive, supervisory, or other similar function in connection with the construction of the Project shall become directly or indirectly interested personally in this contract or any part thereof.

Section 24.02. No Agreements.

No oral agreement or conversation with any officer, agent, or employee of the District, either before, during, or after the execution of the Contract Documents shall affect or modify any term or condition contained in the Contract Documents, nor shall such oral agreement or conversation entitle the Contractor to any additional payment or time to perform whatsoever under the terms of the Contract.

Section 24.03. Anti-Trust Assignment.

By execution of the Contract Documents, or any subcontract awarded by the Contractor, the Contractor or any Subcontractor offers and agrees to assign and hereby does assign to the District all rights, title, and interest in and to all causes of action the Contractor or Subcontractor may have under Section 4 of the Clayton Act (15 USC Section 15) or under the Cartwright Act (Chapter 2 of Part 2 of Division 7 of the Business and Professions Code, commencing with Section 16700), arising from purchases of goods, services, or materials pursuant to this public works contract or subcontract. This assignment shall be made and shall become effective at the time the District tenders final payment to the Contractor, without further acknowledgment by the parties.

Section 24.04. Contractor Not Agent, Nor Employee.

Neither the Contractor nor any subcontractor, or any officer, agent, or employee of either, is, nor shall they represent themselves to be, an officer, agent, or employee of the District for any purpose whatsoever.

No person employed by the Contractor, or by any subcontractors, are, nor shall they be construed to be in any manner or for any purpose whatsoever, employees of the District.

Section 24.05. Access to Records.

The District or the District's authorized representative shall have access, upon reasonable notice, during normal business hours, to any books, documents, accounting records, papers, project correspondence, project files, scheduling information, and other relevant records of the Contractor and all subcontractors directly or indirectly pertinent to the Work, original as well as change and claimed extra work, to verify and evaluate the accuracy of cost and pricing data submitted with any change order prospective or executed, or any claim for which additional compensation has been requested.

Such books, documents and other records mentioned above shall include, but are not limited to all those reasonably necessary in the opinion of the District to determine the accurate amount of direct and indirect costs, job site, area and home office overhead, delay and impact costs, however characterized, and shall include the original bid and all documents related to the bid and its preparation, as well as the as-planned Contract Schedule and all related documents.

Such access shall include the right to examine and audit such records, and make excerpts, transcriptions, photocopies and/or electronic copies at the District's cost.

END OF SECTION

Section 00 73 00 - SPECIAL PROVISIONS

ARTICLE 1: SCOPE OF WORK

Scope of Work includes but is not limited to: Installation of two new gas powered emergency generators within existing CMU enclosure, new screen wall with gates on the front face of the existing CMU enclosure, construction of a new CMU trash enclosure.

Included:

1. Furnish and install all labor, material and equipment for all Work shown and/or specified in accordance with the Contract Documents, except as excluded below.
2. This Scope of Work also applies to all applicable awarded alternates.
3. Information provided under "Also Included" points out some items which may be considered less obvious or "unconventional," but which are included in the Scope of Work.
4. This Bid Package Description is intended to clarify scope to the Contractor, but is in no way intended to limit scope that is reasonable inferable as being required by the Work included in this description. Work required may be shown or specified anywhere in the Contract Documents.

Also included but not limited to as applicable and/or directed:

1. Trenching/compaction and backfill Work.
2. Concrete/asphalt patching Work.
3. All demolition and removal and/or replacement of Work associated with this Bid Package.
4. Perform an electronic underground existing utility survey by a qualified underground utility locator service company in all areas where trenching operations will be performed. An as-built record drawing (one hard copy and one copy on electronic media prepared in AutoCAD is required to be submitted at the conclusion of the underground scope of Work.
5. Weather protection during the course of construction (See Section 00 72 00, General Conditions).
6. Temporary barricades, signs, pedestrian protection, temporary facilities and traffic control Work.
7. All access panels including backing and blocking, associated with this Bid Package.
8. Daily and final clean-up is required.
9. Qualified/certified technicians must perform the replacement and/or repair of all landscape, irrigation, asphalt/concrete surfaces and above or below grade utilities disturbed during construction, and the District must be given the opportunity to test and accept the Work prior to covering up.
10. Patching, repairing, painting and/or replacement of all finished surfaces disturbed during construction.
11. Protection of new and existing roofing from damage.
12. Final testing of all systems installed prior to final acceptance.
13. Qualified/certified C-7 licensed technicians must perform the replacement and/or repair of existing low voltage systems disturbed during construction, and the District must be given the opportunity to test and accept the Work prior to covering up.
14. Provide temporary means of operation for existing storm, water, sewer, gas, mechanical, electrical, and low voltage systems during construction.
15. Painting of all new (N) and existing (E) exposed interior and exterior piping, ductwork and raceway systems (other than rooftop piping and raceway systems), and all roofing demolition, repair, replacement, roof patching, sheet metal flashing.
16. A full-time superintendent shall be provided for the project. See Section 00 72 00, General Conditions.
17. Contractor to perform ball/flush/camera of all affected sanitary sewer and/or storm drains prior to and post construction. Video shall be turned over to the District and should include audio and locations.
18. Any campus utility interruptions require a minimum of a 48-hour notice to the District Representative for coordination purposes.
19. Contractor shall provide a \$2,000,000 excess/umbrella policy (refer to Section 00 72 00, Section 3.14.A.3).

Excluded:

**Sacramento City Unified School District
SCUSD Serna Center Generator**

- 1 1. Permits.
- 2 2. Fees.

3

4 **Included Bid Alternates**

5

6 The following Bid Alternates are included within the Scope of Work:

7

8 No Bid Alternates

9

1
2 ARTICLE 2: SCHEDULE
3

4 Section 2.01 Contract Time/Schedule Constraints
5

6 All Work shall be complete within **120 calendar days** of the commencement date stated in the Notice to Proceed.
7

8
9
10 The Contractor is required to submit a Contract Schedule for the activities within its scope of Work according to the
11 requirements specified in General Conditions Section 00 72 00, Article 13, Time of Work, which shall include the
12 following requirements or milestones:
13

14 Submittals complete:	35 days following NTP
15 Substantial completion	No later than 30 days prior to final completion
16 Punch list completion	No later than date of final completion
17 Close-out documents submitted	No later than date of final completion

18
19 The Contract Schedule shall include 20 days for weather delays. The Contractor shall not be entitled to an extension
20 of time for weather delays unless the number of days of weather delay exceeds the number of days required in the
21 Schedule for weather delays.
22

23 The District will occupy the Site during the entire period of construction for the conduct of normal operations. The
24 Contractor shall cooperate with the District to minimize conflict, and to facilitate the District's operations.
25

26
27 Section 2.02 Liquidated Damages
28

29 In the event of failure on the part of the Contractor to substantially complete the Work, or any portion thereof
30 identified by Milestones, or to complete the overall Project within the Contract Time, including any approved
31 extensions thereof, the Contractor shall pay District liquidated damages for each calendar day of delay until
32 completion of the milestone or the Project. The liquidated damages for substantial completion of each Milestone (if
33 stated) and for the Project are separate, and may be accumulated if substantial completion of more than one
34 Milestone is delayed concurrently.
35

36 The amount of liquidated damages is indicated below:
37

38 Substantial completion of the Project	\$2,000/calendar day
39 Final completion of the Project	\$100/calendar day

ARTICLE 3: ALLOWANCES

Section 3.01 Allowance Amounts.

The Contract Documents include the following allowances for the specified purposes:

<u>Unforeseen Conditions</u>	<u>15% of Bid</u>
Total Allowance	15% of Bid

Section 3.02 Application of Allowances.

Allowances shall be used efficiently and expeditiously to minimize cost and delay to the Project. Prior to commencing any work that would result in the utilization of an Allowance, Contractor shall give the District written notice of its request to use such funds, and the specific Allowance to be used if more than one Allowance is included in the Contract. Contractor shall specify whether it proposes to perform the Allowance work for a lump sum or at force account. The District shall respond to Contractor's requested use of Allowance funds within five (5) business days of receipt of the request. The District's response shall either a) approve of the use of the Allowance, b) approve the use of the Allowance but propose a different amount, c) deny the use of the Allowance and specify the reason, or d) request further information to evaluate the requested use of the Allowance. If the Contractor commences the work without giving the District the required written notice, the Contractor shall, for all purposes, be deemed to have waived its rights to additional compensation for such work.

Section 3.03 Documenting Use of Allowances.

The Contractor's monthly pay application shall include Allowance amounts used and remaining. If the Allowance is approved by force account, the Contractor shall separately track all labor, materials, and equipment used for the Work to be covered by the Allowance and shall submit such documentation to the District Representative at the end of each working day for review and approval.

ARTICLE 4: ADDITIONAL INSURANCE

Section 4.01 Insurance Requirements.

The limits of Insurance required by Section 00 72 00 – General Conditions, Article 3, are modified as follows:

No Modifications

1
2
3
4
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10

1
 2
 3

EXHIBIT A – School Year Calendar



Human Resource Services
Traditional Student Attendance Calendar
2024-25 School Year

<p>JULY</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th></tr> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td></tr> <tr><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td></tr> <tr><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td></tr> </table> <p>Days: 0</p>	S	M	T	W	T	F	S		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				<p>AUGUST</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19*</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table> <p>Days: 10</p>	S	M	T	W	T	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19*	20	21	22	23	24	25	26	27	28	29	30	31	<p>SEPTEMBER</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr> <tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr> <tr><td>29</td><td>30</td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>Days: 20</p>	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						<p>OCTOBER</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr> <tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr> <tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr> <tr><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td></tr> </table> <p>Days: 23</p>	S	M	T	W	T	F	S			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31									
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Legend/Key	
*	First/Last Day of School
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of School Days (Students)
188

EXHIBIT B – Index of Drawings / Scope of Work Exhibits

SHEET INDEX

GENERAL

G0.00 TITLE SHEET

ARCHITECTURAL

A1.00 SITE PLAN

A1.01 ENLARGED PLANS

A1.02 SITE DETAILS

STRUCTURAL *

S1.0 GENERAL NOTES, SHEET INDEX AND SPECIAL INSPECTION

S2.1 PARTIAL FOUNDATION PLANS

S4.1 CONCRETE AND CMU DETAILS

S5.1 STEEL DETAILS

PLUMBING *

P0.1 PLUMBING SYMBOLS, NOTES & ABBREVIATIONS

P1.0 PLUMBING OVERALL SITE PLAN

P5.1 PLUMBING DETAILS

ELECTRICAL *

E0.1 ELECTRICAL SHEET INDEX, LEGEND, AND NOTES

E1.0 ELECTRICAL OVERALL SITE PLAN

E1.1 ELECTRICAL ENLARGED SITE PLAN

E2.0 ELECTRICAL ONE LINE DIAGRAMS

E3.1 ELECTRICAL ROOM PLANS

E4.1 ELECTRICAL GENERATOR FEEDER ROUTING ELEVATIONS

E5.2 ELECTRICAL DETAILS

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

THE SERNA CENTER GENERATOR PROJECT

MAY 31, 2024



ARCHITECT PBK Architects, Inc.
FOLSOM
1110 Iron Point Road, Suite 200
Folsom, CA 95630-8315
916-355-9922

THE SERNA CENTER GENERATOR PROJECT
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

5735 47TH AVE.
SACRAMENTO, CA 95824



CODES & STANDARDS

PARTIAL LIST OF APPLICABLE CODES	
2022 California Administrative Code (CAC)	(Part 1, Title 24, CCR)
2022 California Building Code (CBC)	(Part 2, Title 24, CCR)
(2021 International Building Code Volumes 1 & 2 with 2022 California Amendments)	
2022 California Electrical Code (CEC)	(Part 3, Title 24, CCR)
(2020 National Electrical Code with 2022 California Amendments)	
2022 California Mechanical Code (CMC)	(Part 4, Title 24, CCR)
(2021 IAPMO Uniform Mechanical Code with 2022 California Amendments)	
2022 California Plumbing Code (CPC)	(Part 5, Title 24, CCR)
(2021 IAPMO Uniform Plumbing Code with 2022 California Amendments)	
2022 California Energy Code (CEC)	(Part 6, Title 24, CCR)
(2021 International Energy Conservation Code with 2022 California Amendments)	
2022 California Fire Code (CFC)	(Part 9, Title 24, CCR)
(2021 International Fire Code with 2022 California Amendments)	
2022 California Existing Building Code (CEBC)	(Part 10, Title 24, CCR)
(2021 International Existing Building Code with 2022 California Amendments)	
2022 California Green Building Standards Code (CALGreen)	(Part 11, Title 24, CCR)
2022 California Reference Standards Code	(Part 12, Title 24, CCR)
Title 19 CCR, Public Safety, State Fire Marshal Regulations	
2019 ASME A17.1/CSA B44-13 Safety Code For Elevators and Escalators (per 2022 CBC Part 2, Ch 35)	
Note: CA/CSHA Elevator Unit enforces CCR Title 8 and uses the 2004 ASME A17.1 by adoption	

PARTIAL LIST OF APPLICABLE STANDARDS	
NFPA 13 - Standard for the Installation of Sprinkler Systems (as amended) *	(2022 Edition)
NFPA 14 - Standard for the Installation of Standpipe and Hose Systems (as amended) *	(2019 Edition)
NFPA 17 - Standard for Dry Chemical Extinguishing Systems	(2021 Edition)
NFPA 17A - Standard for Wet Chemical Extinguishing Systems	(2021 Edition)
NFPA 20 - Standard for the Installation of Stationary Pumps for Fire Protection	(2019 Edition)
NFPA 22 - Standard for Water Tanks for Private Fire Protection	(2013 Edition)
NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances (as amended) *	(2019 Edition)
NFPA 25 - Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems with California Amendments (Based on NFPA 25: 2011 Edition)	(2013 Edition)
NFPA 72 - National Fire Alarm and Signaling Code (as amended) *	(2022 Edition)
NFPA 80 - Fire Doors and Other Opening Protectives	(2019 Edition)
NFPA 82 - Standard for Gas Control Systems	(2018 Edition)
ICC 300 - ICC Standard on Seachers, Folding and Telescoping Seating and Grandstands	(2017 Edition)
UL 300 - Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment—with Revisions through December 2014	2005 (R2010)
UL 464 - Audible Signal Appliances—with Revisions through October 10, 2003	(2003 Edition)
UL 521 - Heat Detectors for Fire Protective Signaling Systems—with Revisions through July 20, 2005	(1999 Edition)
UL 1971 - Standard for Signaling Devices for the Hearing Impaired	2000(R2012)

* See CBC Chapter 35, Referenced Standards for State of California amendments to the NFPA Standards. For a complete list of applicable NFPA standards refer to 2022 CBC (SPM) Chapter 35 and California Fire Code (CFC) Chapter 60.

GOVERNING AGENCIES

CITY OF SACRAMENTO
BUILDING DEPARTMENT
300 RICHARDS BLVD
SACRAMENTO, CA 95811
916-808-5318

SCOPE OF WORK

THE SCOPE OF WORK AS STATED BELOW IS FOR PLAN REVIEW PURPOSES ONLY AND DOES NOT CONSTITUTE A DETAILED AND FULL EXPLANATION OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

SCOPE OF WORK INCLUDES ALL CONSTRUCTION AND SERVICES REQUIRED TO PROVIDE:

- INSTALLATION OF TWO NEW GAS POWERED EMERGENCY GENERATORS
- NEW SCREEN WALL WITH GATES ON THE FRONT FACE OF THE EXISTING CMU ENCLOSURE
- CONSTRUCTION OF A NEW CMU TRASH ENCLOSURE

DRAWING CONVENTIONS

ENLARGED PLAN / DETAIL ENLARGEMENT

EXTERIOR ELEVATION

BUILDING SECTION

WALL SECTION

DETAIL SECTION

INTERIOR ELEVATIONS

ROOM NAME & NUMBER

MATCH LINE

FLOOR / DATUM LINE

GRID / COLUMN LINE

EXISTING GRID / COLUMN LINE

EXISTING PARTITION

DIMENSIONS
NOTE: ALL DIMENSIONS TO FACE OF STUD / C OF COLUMN UNLESS NOTED OTHERWISE

W. CABINET REFERENCE
WIDTH x DEPTH x HEIGHT

EQUIPMENT DESIGNATION

CONSTRUCTION KEYNOTE

DEMOLITION KEYNOTE

REVISION / REVISION NUMBER

NORTH ARROWS

GENERAL NOTES

- ALL WORK AND MATERIALS SHALL BE IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE CODES AND ALL APPLICABLE LOCAL ORDINANCES. WHERE CONTRACT DOCUMENTS EXCEED SUCH REQUIREMENTS, WITHOUT VIOLATING SUCH CODES, REGULATIONS AND ORDINANCES, CONTRACT DOCUMENTS TAKE PRECEDENCE. WHERE CODES CONFLICT, THE MORE STRINGENT SHALL APPLY.
- PERFORMANCE BY THE CONSTRUCTION TEAM SHALL BE CONSISTENT WITH THE CONSTRUCTION DRAWINGS AND PROJECT MANUAL (SPECIFICATIONS) AS NECESSARY TO DELIVER THE INDICATED RESULTS OF THE DESIGN INTENT.
- REFER TO THE PROJECT MANUAL (SPECIFICATIONS) FOR GENERAL CONDITIONS, SUPPLEMENTARY AND SPECIAL CONDITIONS, AND OTHER REQUIREMENTS.
- THE CONSTRUCTION DOCUMENT DRAWINGS AND PROJECT MANUAL (SPECIFICATIONS) ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY BOTH.
- THE CONTRACTOR SHALL:
 - CONFIRM ALL NEW AND EXISTING CONDITIONS WITH THE CONTRACT DOCUMENTS. NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ALL DISCREPANCIES OR CONFLICTS. DO NOT PROCEED WITH WORK IN THE AREA OF DISCREPANCY OR CONFLICT UNTIL DIRECTION IS GIVEN BY THE ARCHITECT. IF THE CONTRACTOR PROCEEDS WITHOUT DIRECTION FROM THE ARCHITECT, IT SHALL BE AT THE CONTRACTOR'S RISK, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CORRECTIVE ACTION.
 - REVIEW THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF SYSTEMS SHOWN ON CONSULTING ENGINEER'S DOCUMENTS. DISCREPANCIES BETWEEN THE ARCHITECTURAL AND CONSULTING ENGINEER'S DOCUMENTS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION FOR DIRECTION. CONSTRUCTION INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
 - CORRECT ALL WORK INSTALLED IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS BY THE CONTRACTOR AS DIRECTED BY THE ARCHITECT AND AT NO ADDITIONAL EXPENSE TO THE OWNER.
 - VISIT JOB SITE PRIOR TO BEGINNING WORK AND VERIFY ALL DIMENSIONS.
 - SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, AND LICENSES REQUIRED FOR PROPER COMPLETION OF THE WORK. REQUEST ALL INSPECTIONS REQUIRED BY LOCAL GOVERNMENTAL AGENCIES AND COORDINATE WORK THEREWITH.
 - PROVIDE FOR THE PROPER SEQUENCE OF CONSTRUCTION, LOCATION, AND SIZE OF OPENINGS. COORDINATE ALL CONSTRUCTION AS INDICATED BY THE CONTRACT DOCUMENTS, INCLUDING SHOP DRAWINGS REVIEWED BY THE ARCHITECT.
 - PROVIDE BARRICADES AND PROTECTIVE DEVICES SEPARATING CONSTRUCTION AREAS. PROVIDE TEMPORARY PASSAGES AS REQUIRED. PRIOR TO DELIVERY OF MATERIALS TO CONSTRUCTION ZONE AND REMOVAL OF WASTE FROM SITE, CHECK WITH OWNER FOR ACCEPTABLE ACCESS ROUTE AND TIME UNDER NO CIRCUMSTANCES USE AREA OUTSIDE THE CONSTRUCTION ZONE WITHOUT PRIOR CLEARANCE FROM THE OWNER. COMPLY WITH REQUIREMENTS AS SPECIFIED IN THE PROJECT MANUAL.
 - REMOVE ALL TRASH AND DEBRIS DAILY. DO NOT STORE BUILDING MATERIALS IN CORRIDORS AT ANY TIME. COMPLY WITH REQUIREMENTS AS SPECIFIED IN THE PROJECT MANUAL (SPECIFICATIONS).
 - ENACT ALL MEASURES TO PROTECT IN PLACE AND SAFEGUARD ALL ELEMENTS TO REMAIN FROM BEING DAMAGED, REPLACE OR REPAIR ELEMENTS DAMAGED BY THE EXECUTION OF THE CONTRACT TO EQUAL OR LIKE NEW CONDITION.
 - VERIFY POINTS OF CONNECTION, INCLUDING SIZES AND LOCATIONS, AND ALL OTHER REQUIRED OPERATING CRITERIA WITH EQUIPMENT MANUFACTURER.
 - COORDINATE THE LOCATION AND TYPE OF ALL ACCESS PANELS REQUIRED FOR ACCESSING MECHANICAL, PLUMBING, ELECTRICAL, AND OTHER BUILDING SYSTEMS WITH THE ARCHITECT.
 - ENSURE ALL CONSTRUCTION REMAINS ACCESSIBLE AND EXPOSED FOR INSPECTION PURPOSES UNTIL APPROVED BY THE INSPECTOR OF RECORD. FOR CONTINUOUS INSPECTION, TESTING, AND OBSERVATION REQUIREMENTS, REFER TO THE TESTING AND OBSERVATION PROGRAM.
 - STIPULATE THAT ALL PROPOSED SUBSTITUTIONS ARE EQUAL IN PERFORMANCE AND COMPLY WITH APPLICABLE CODES AND REGULATIONS. CONTRACTOR'S SUBSTITUTION OF ALTERNATE MATERIALS OR SYSTEMS SHALL BE AT NO ADDITIONAL COST TO OWNER.
- DO NOT SCALE THE CONSTRUCTION DOCUMENTS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED GRAPHICS. NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ALL ADDITIONAL REQUIRED DIMENSIONS. DO NOT PROCEED WITH WORK IN THE AREA OF DISCREPANCY OR CONFLICT UNTIL DIRECTION IS GIVEN BY THE ARCHITECT. IF THE CONTRACTOR PROCEEDS WITHOUT DIRECTION FROM THE ARCHITECT, IT SHALL BE AT THE CONTRACTOR'S RISK, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CORRECTIVE ACTION.
- WHERE WORK OR EQUIPMENT IS INDICATED "N.C." (NOT IN CONTRACT) ON THE DRAWINGS, SUCH WORK AND/OR EQUIPMENT SHALL BE PROVIDED BY OTHERS. CONTRACTOR SHALL COORDINATE AND COOPERATE TO EFFECT SUCH INSTALLATION.
- ALL PLAN DIMENSIONS SHOWN AT CENTER OF WALL REPRESENT CENTER LINE OF STUD OR STRUCTURAL ELEMENT UNLESS NOTED OTHERWISE.
- ALL PLAN DIMENSIONS FOR MASONRY AND CONCRETE REPRESENT FACE OF MATERIAL AND OPENING UNLESS NOTED OTHERWISE.
- ALL PLAN DIMENSIONS FOR STUD WALLS REPRESENT FACE OF STUD UNLESS NOTED OTHERWISE.
- DIMENSIONS ARE NOT ADJUSTABLE WITHOUT THE REVIEW OF THE ARCHITECT UNLESS NOTED (S) OR "VERIFY". DIMENSIONS NOTED "VERIFY" SHALL BE CONSIDERED AS ABSOLUTE AND USED FOR LAYOUT CONTROL UNLESS OTHERWISE DIRECTED BY THE ARCHITECT.
- ANY ITEM, CONDITION OR DIMENSION NOTED AS "FIELD VERIFY" OR "VERIFY IN FIELD" SHALL BE CONFIRMED ON SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCHITECT OF RECORD BEFORE INCORPORATING INTO THE WORK.
- ALL HEIGHTS ARE DIMENSIONED FROM TOP OF SLAB UNLESS NOTED "AFF" (ABOVE FINISH FLOOR).
- "TYPICAL" MEANS COMPARABLE CHARACTERISTICS FOR THE ELEVATION OR DETAIL NOTED. WHEN A DETAIL OR NOTE IS IDENTIFIED AS "TYPICAL", THE CONTRACTOR SHALL APPLY THIS DETAIL OR NOTE TO EVERY LIKE CONDITION, WHETHER OR NOT THE REFERENCE IS REPEATED IN EVERY INSTANCE. VERIFY DIMENSIONS AND ORIENTATION ON PLANS.
- PROVIDE WORK NOT SPECIFICALLY DETAILED OR SPECIFIED IN ACCORDANCE WITH DETAILS OR SIZES COVERING SIMILAR WORK.
- "SIMILAR" MEANS COMPARABLE CHARACTERISTICS FOR THE ELEVATION OR DETAIL NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLANS.
- ABBREVIATIONS THROUGHOUT THE DOCUMENTS COMPLY WITH DOCUMENT ABBREVIATION LIST OR ARE THOSE IN COMMON USE. ARCHITECT WILL DEFINE THE INTENT OF ANY IN QUESTION.
- THESE DRAWINGS DO NOT CONTAIN THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
- THESE DOCUMENTS AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF PBK ARCHITECTS, INC. AND ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF PBK ARCHITECTS, INC.
- THE WORK SHOWN ON THESE DRAWINGS AS EXISTING CONDITIONS HAS BEEN PREPARED FROM INFORMATION FURNISHED BY THE OWNER. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, PBK ARCHITECTS, INC. IS NOT RESPONSIBLE FOR THE ACCURACY OR ADEQUACY OF ANY WORK SHOWN AS EXISTING NOR IS PBK ARCHITECTS, INC. RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.
- FIRE SAFETY DURING CONSTRUCTION:
 - GENERAL: FIRE SAFETY DURING CONSTRUCTION SHALL COMPLY WITH CALIFORNIA FIRE CODE (CFC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 9, CHAPTER 5 AND CHAPTER 33.
 - ACCESS ROADS: FIRE DEPARTMENT ACCESS ROADS SHALL BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH CHAPTERS, SECTION 501.4 AND CHAPTER 33, SECTION 33.10.
 - WATER SUPPLY: WATER MAINS AND HYDRANTS SHALL BE OPERATIONAL IN ACCORDANCE WITH CHAPTER 33, SECTION 501.4 AND CHAPTER 33, SECTION 33.12.
 - BUILDING ACCESS: ACCESS TO BUILDINGS FOR THE PURPOSE OF FIRE FIGHTING SHALL BE PROVIDED. CONSTRUCTION MATERIAL SHALL NOT BLOCK ACCESS TO BUILDINGS, HYDRANTS OR FIRE APPLIANCES.
 - ALTERATIONS OF BUILDINGS: SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 33.
 - DEMOLITION OF BUILDINGS: SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 33.
 - FIRE WATCH: MAINTAIN FIRE WATCH WHEN REQUIRED BY THE BUILDING OFFICIAL, AND WHEN EXISTING FIRE PROTECTION SYSTEMS ARE SHUT DOWN FOR ALTERATIONS IN ACCORDANCE WITH CHAPTER 33, SECTION 3304.5. FIRE WATCH SHALL REMAIN IN EFFECT UNTIL EXISTING FIRE PROTECTION SYSTEMS ARE RETURNED TO SERVICE OR AS ALLOWED BY THE BUILDING OFFICIAL.
- CUTTING, BORING, SAW-CUTTING OR DRILLING THROUGH STRUCTURAL ELEMENTS SHALL NOT COMMENCE UNTIL THE DRAWINGS HAVE BEEN SUBMITTED, REVIEWED, AND APPROVED BY THE ARCHITECT OF RECORD.
- ALL WORK SHOWN ON THESE DRAWINGS SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
- CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY TITLE 24, CCR, PART 1, SECTION 4-538.
- GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
- DRINKING WATER SHALL COMPLY WITH ALL LOCAL HEALTH DEPARTMENT REQUIREMENTS.
- FOOD HANDLING FACILITIES SHALL COMPLY WITH ALL LOCAL HEALTH REQUIREMENTS AND THE CALIFORNIA RETAIL FOOD FACILITIES LAW.
- THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE DSA BEFORE PROCEEDING WITH THE WORK (SECTION 4-317(C), PART 1, TITLE 24, CCR).
- ALL SLOPE AND CROSS SLOPE OF ACCESSIBLE ROUTE PAVING INDICATED ON THESE DRAWINGS WAS DESIGNED IN COMPLIANCE WITH THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND THE ACCESSIBILITY STANDARDS OF THE CALIFORNIA BUILDING CODE (CBC) TITLE 24, PART 2, CHAPTER 11B OF THE CALIFORNIA CODE OF REGULATIONS (CCR). STRICT EXECUTION OF THE SLOPE AND CROSS SLOPE OF ACCESSIBLE ROUTE PAVING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. SHOULD A CONDITION PRESENT ITSELF THAT WOULD RESULT IN AN INSTALLATION OTHER THAN WHAT IS INDICATED IN THESE DRAWINGS, PBK ARCHITECTS INC. SHALL BE NOTIFIED IN WRITING AND A COMPLAINT RESOLUTION WILL BE FORMULATED.

IMAGES



SHEET INDEX

GENERAL

G0.00 TITLE SHEET

ARCHITECTURAL

A1.00 SITE PLAN
A1.01 ENLARGED PLANS
A1.02 SITE DETAILS

STRUCTURAL *

S1.0 GENERAL NOTES, SHEET INDEX AND SPECIAL INSPECTION
S2.1 PARTIAL FOUNDATION PLANS
S4.1 CONCRETE AND CMU DETAILS
S5.1 STEEL DETAILS

PLUMBING *

P0.1 PLUMBING SYMBOLS, NOTES & ABBREVIATIONS
P1.0 PLUMBING OVERALL SITE PLAN
P5.1 PLUMBING DETAILS

ELECTRICAL *

E0.1 ELECTRICAL SHEET INDEX, LEGEND, AND NOTES
E1.0 ELECTRICAL OVERALL SITE PLAN
E1.1 ELECTRICAL ENLARGED SITE PLAN
E2.0 ELECTRICAL ONE LINE DIAGRAMS
E3.1 ELECTRICAL ROOM PLANS
E4.1 ELECTRICAL GENERATOR FEEDER ROUTING ELEVATIONS
E5.2 ELECTRICAL DETAILS



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DRAWN BY	CBR	
CHECKED BY	MM	
REVISIONS		
#	DESCRIPTION	DATE

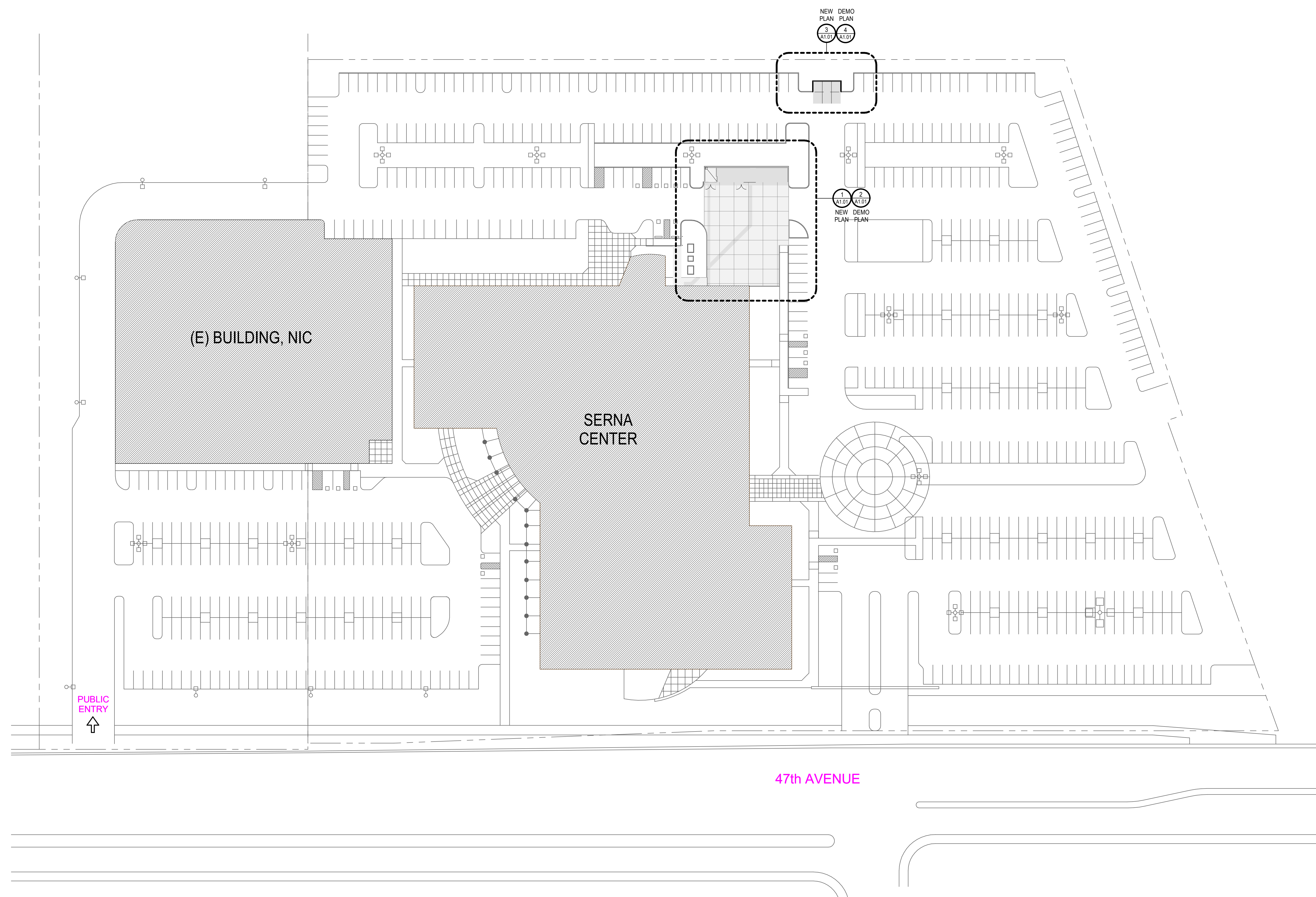
CONSTRUCTION DOCUMENTS

TITLE SHEET

GO.00

ACCESS SITE PLAN LEGEND

- (E) BUILDING
- PROPERTY LINE



1 SITE PLAN
SCALE: 1" = 40'-0"



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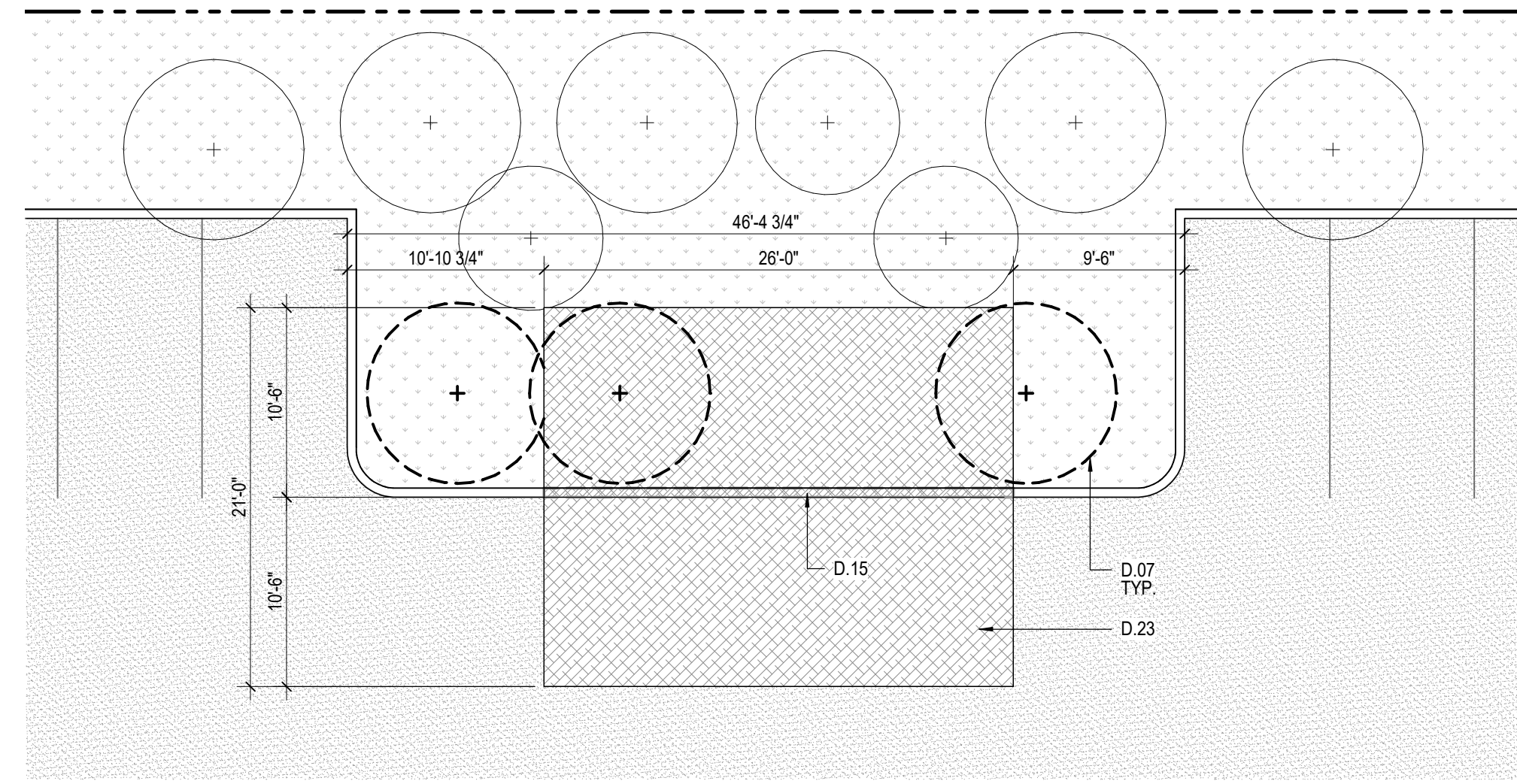
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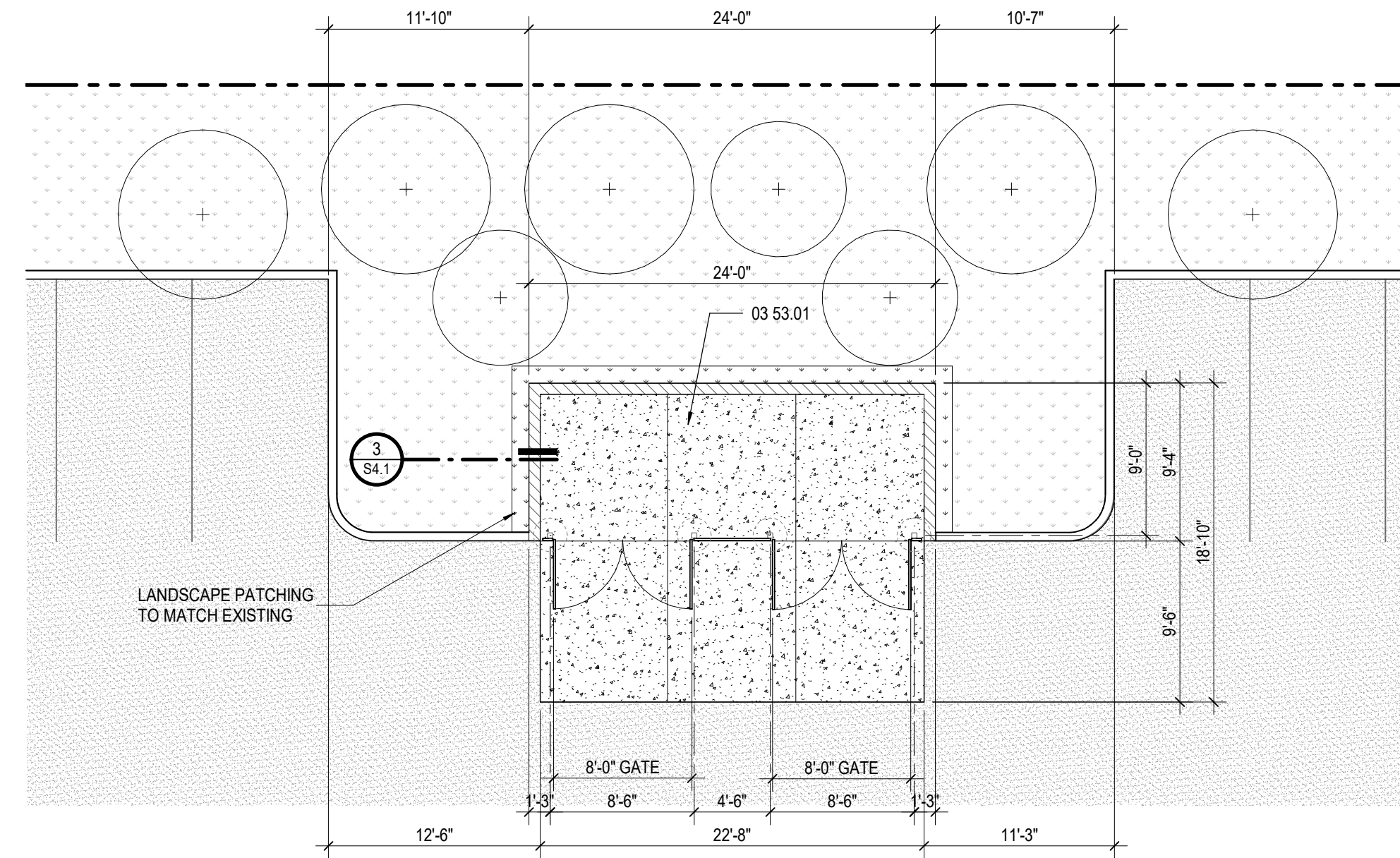
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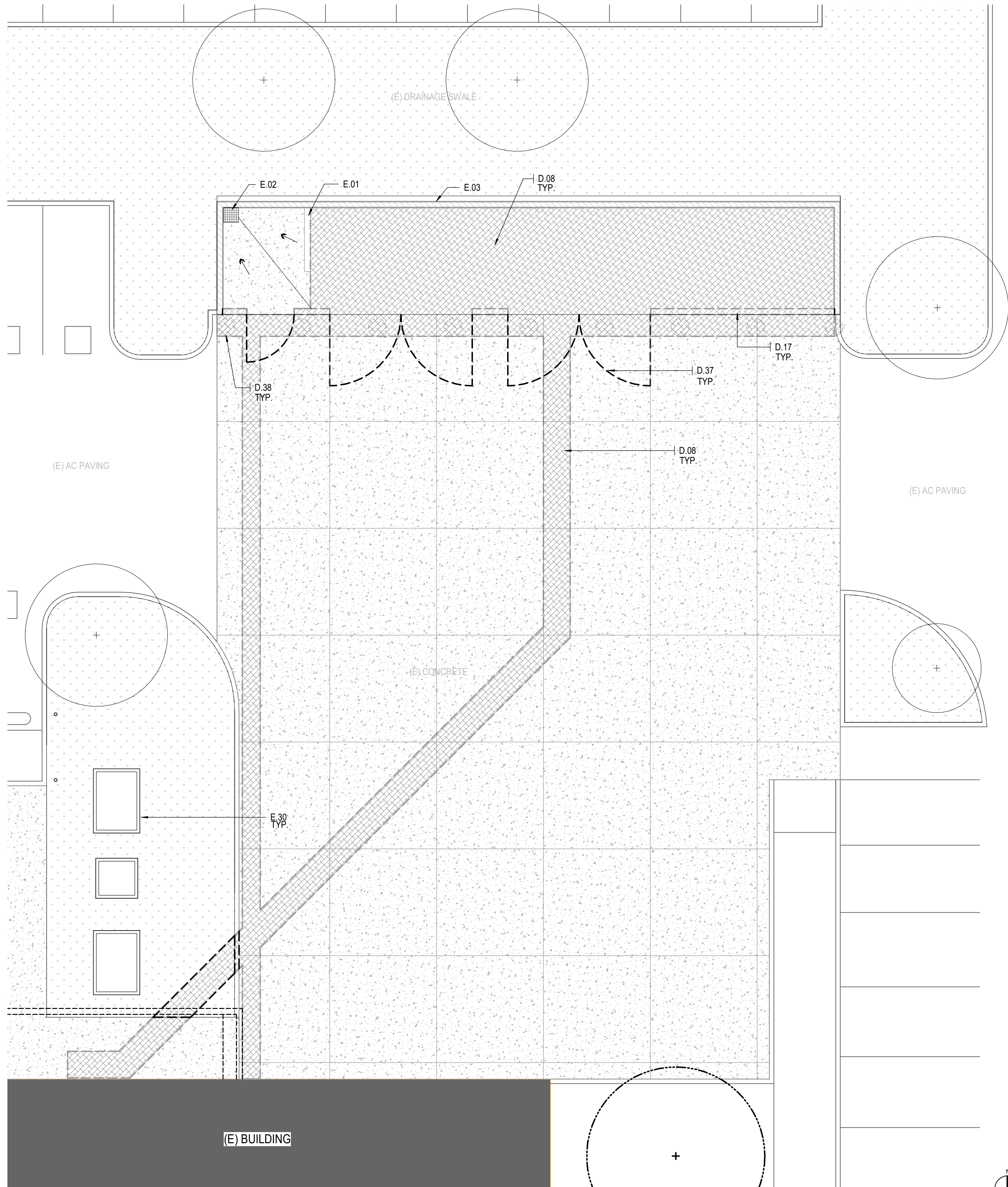
CONSTRUCTION DOCUMENTS
SITE PLAN



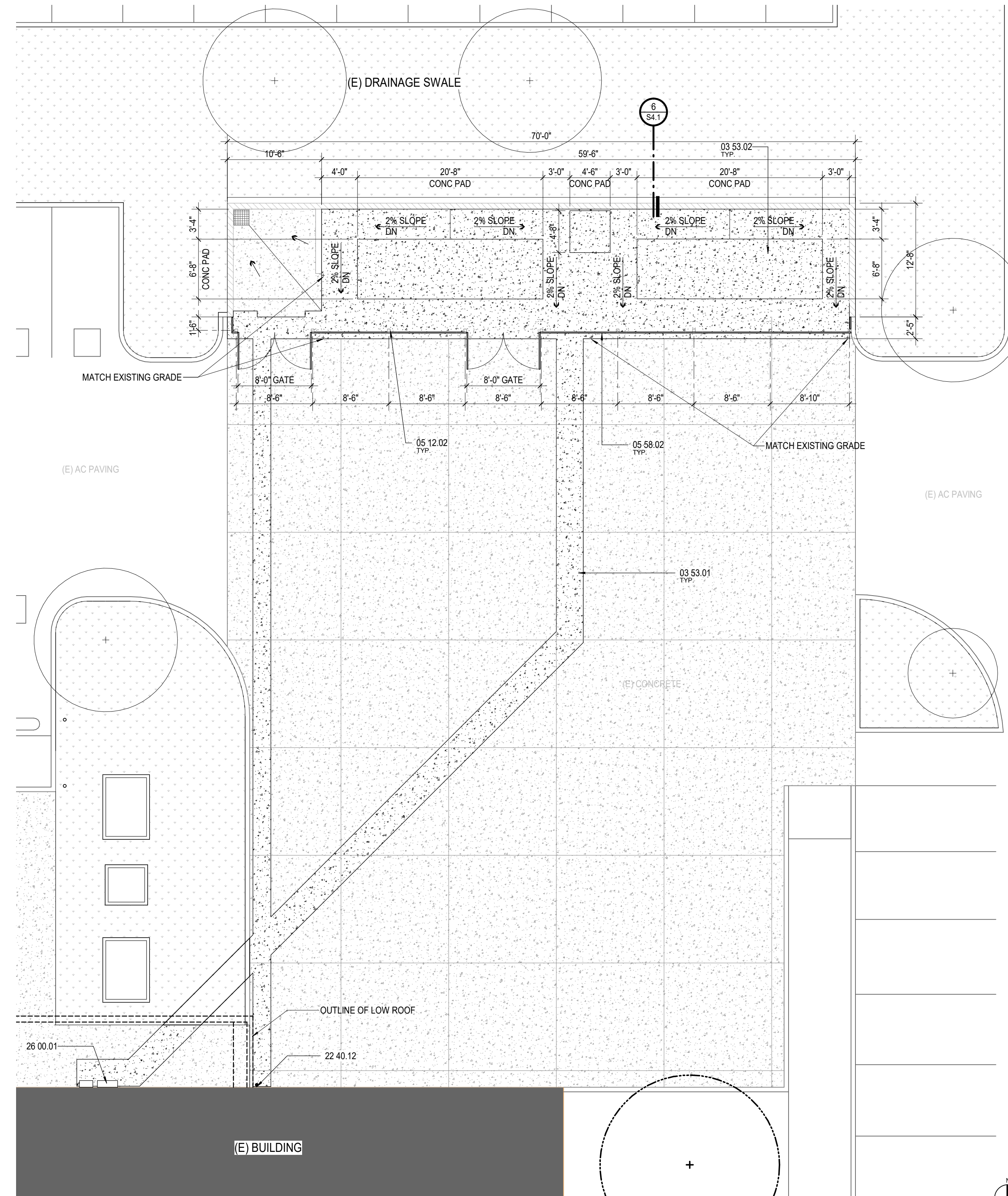
4 ENLARGED SITE PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"



3 ENLARGED SITE PLAN (NEW)
SCALE: 1/8" = 1'-0"



2 ENLARGED SITE PLAN (DEMOLITION)
SCALE: 1/8" = 1'-0"



1 ENLARGED SITE PLAN (PROPOSED)
SCALE: 1/8" = 1'-0"

SITE PLAN NOTES

- COORD. ALL SPOT ELEVATIONS AND DIMENSIONS WITH STRUCTURAL DOCUMENTS.
- PROVIDE AND INSTALL POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS OF 1% MINIMUM, 2% MAXIMUM AT ALL EXTERIOR PAVED PEDESTRIAN AREAS, INCLUDING BUT NOT LIMITED TO, SIDEWALKS, PATIOS, STAIRS, PARKING, U.N.O.
- PROVIDE AND INSTALL POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS OF 5% FOR A HORIZ. DISTANCE OF 10 FEET AT ALL EXTERIOR NON-PAVED AREAS U.N.O.
- REFER TO SHEET A1.00 FOR CONCRETE SIDEWALK EXPANSION JOINTS AND CONCRETE SIDEWALK CONTROL JOINTS.
- VERIFY AND CONFIRM ALL JOINT LAYOUTS AT ALL CONCRETE SIDEWALKS WITH ARCH. PRIOR TO POURING OF CONCRETE.
- PROVIDE AND INSTALL CONCRETE SIDEWALK EXPANSION JOINTS AT AREAS NOT SPECIFICALLY INDICATED AT 50 FEET ON-CENTER MAX. U.N.O.
- PROVIDE AND INSTALL CONCRETE SIDEWALK CONTROL JOINTS AT AREAS NOT SPECIFICALLY INDICATED AT DISTANCES EQUIVALENT TO SIDEWALK WIDTH, BUT NOT TO EXCEED 10 FEET ON-CENTER MAX.
- VERIFY ALL SITE SIGNAGE LOCATIONS WITH ARCH. PRIOR TO INSTALLATION OF SITE SIGNAGE.
- SEE SPECS FOR REMOVAL/SALVAGE OF DEMOLISHED MATERIAL.

SITE PLAN LEGEND

- PROPERTY LINE
- (E) BUILDING
- CONCRETE PAVING
- (E) ASPHALT PAVING
- (E) LANDSCAPED AREA
- (E) ITEMS TO BE DEMOLISHED
- (E) PLANTS/TREES
- (E) CMU

KEYNOTE LEGEND

- 03.53.01 CONCRETE SLAB TO MATCH (E) COLOR/FINISH JOINT LINES, SEE DET. 5/54.1
- 03.53.02 CONCRETE HOUSEKEEPING PAD, SEE DET. 12/54.1
- 05.12.02 STEEL COLUMN
- 05.58.02 METAL EQUIPMENT SCREEN, SEE DET. 1/55.1
- 22.40.12 3" GAS LINE FROM ROOF (RE. PLUMBING)
- 28.00.01 ELECTRICAL EQUIPMENT, SEE 2/E3.1 FOR CONTINUATION OF WORK
- 28.00.02 INDUSTRIAL SPARK-ARRESTED GENERATOR (RE. ELECTRICAL)
- 28.00.03 GENERATOR CONNECTION CABINET (RE. ELECTRICAL)
- D.07 REMOVE (E) TREE AND RELOCATE, VERIFY W/ DISTRICT TO PROVIDE NEW LOCATION
- D.08 REMOVE (E) CONCRETE AND FLOORING, EXCAVATE FOR TRENCHING PER DETAIL T/E5.2, REFER TO E1.0 ELECT. SITE PLAN
- D.11 REMOVE (E) MECHANICAL EQUIPMENT, REFER TO MECHANICAL
- D.12 REMOVE (E) CEILING FINISH, FRAMING TO REMAIN
- D.15 REMOVE (E) CONCRETE CURB
- D.17 REMOVE (E) CMU WALL
- D.23 REMOVE (E) AC PAVING
- D.37 REMOVE (E) 4" HIGH CONCRETE CURB
- D.38 REMOVE (E) SERVICE GATE
- E.01 CORE DRILL/SAWCUT COLUMN LOCATIONS
- E.02 REMOVE (E) CONCRETE CURB
- E.03 (E) CMU WALL, TYP TO REMAIN, PROTECT (E) FOOTING
- E.30 (E) ELECTRICAL UTILITY (RE. ELECTRICAL)



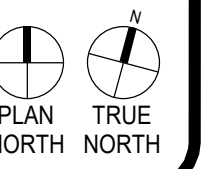
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KEY PLAN



LICENSED PROFESSIONAL

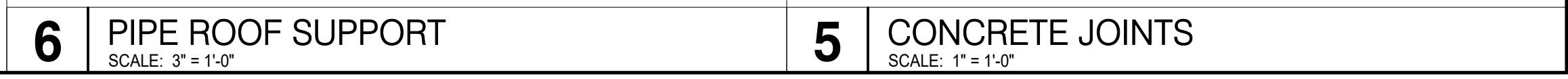
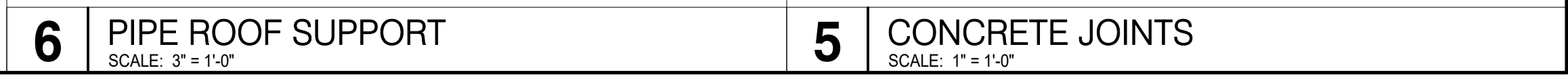
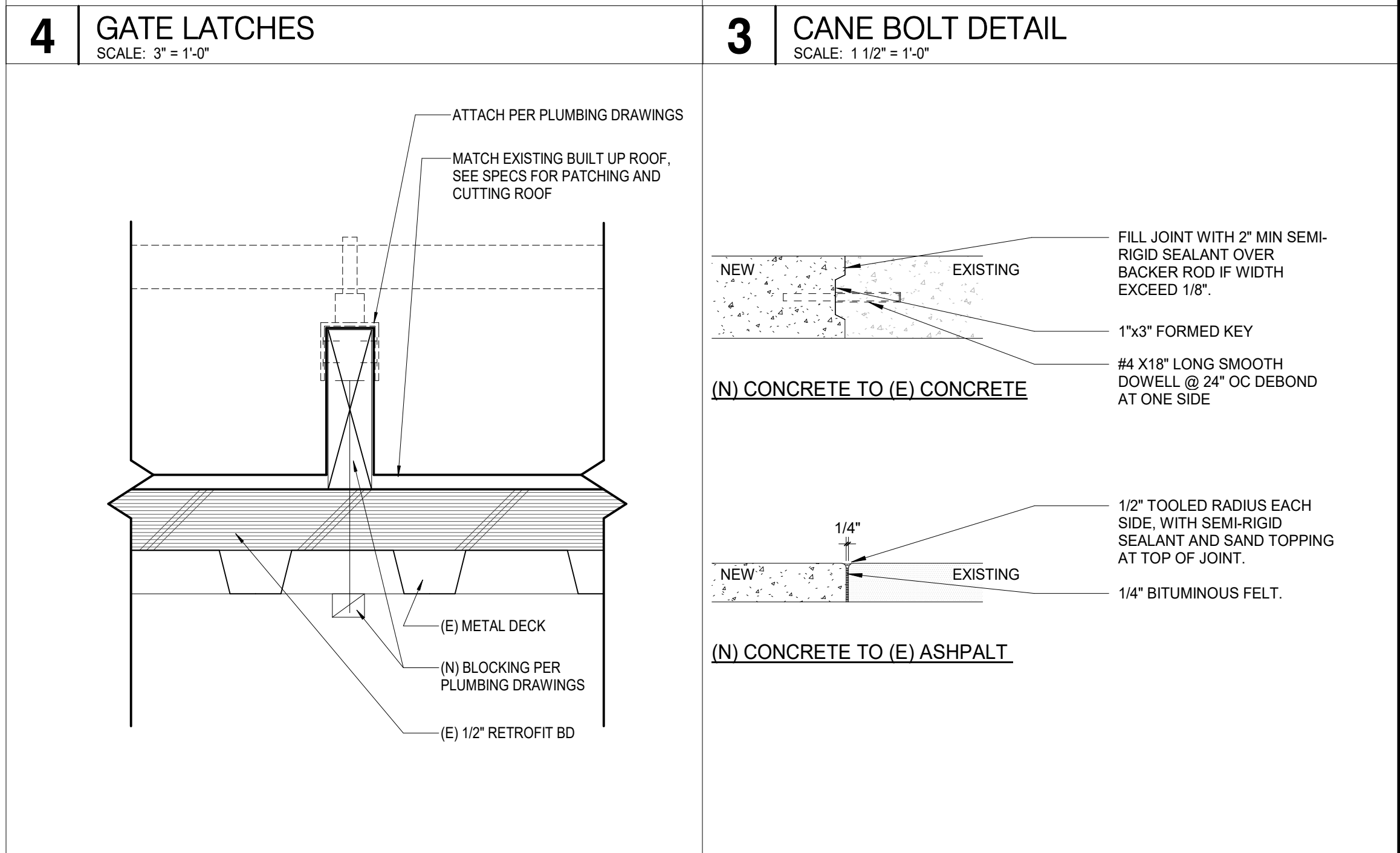
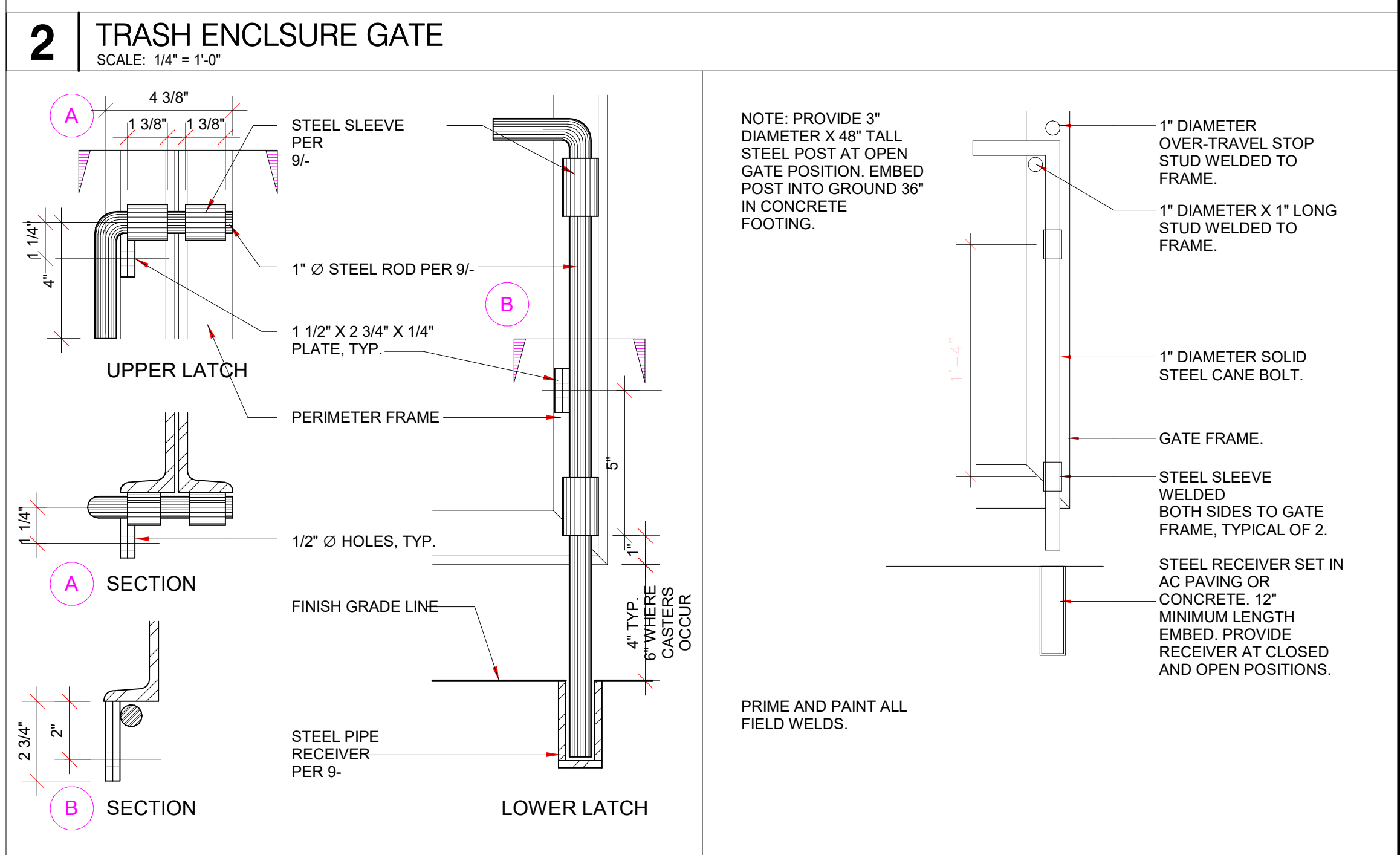
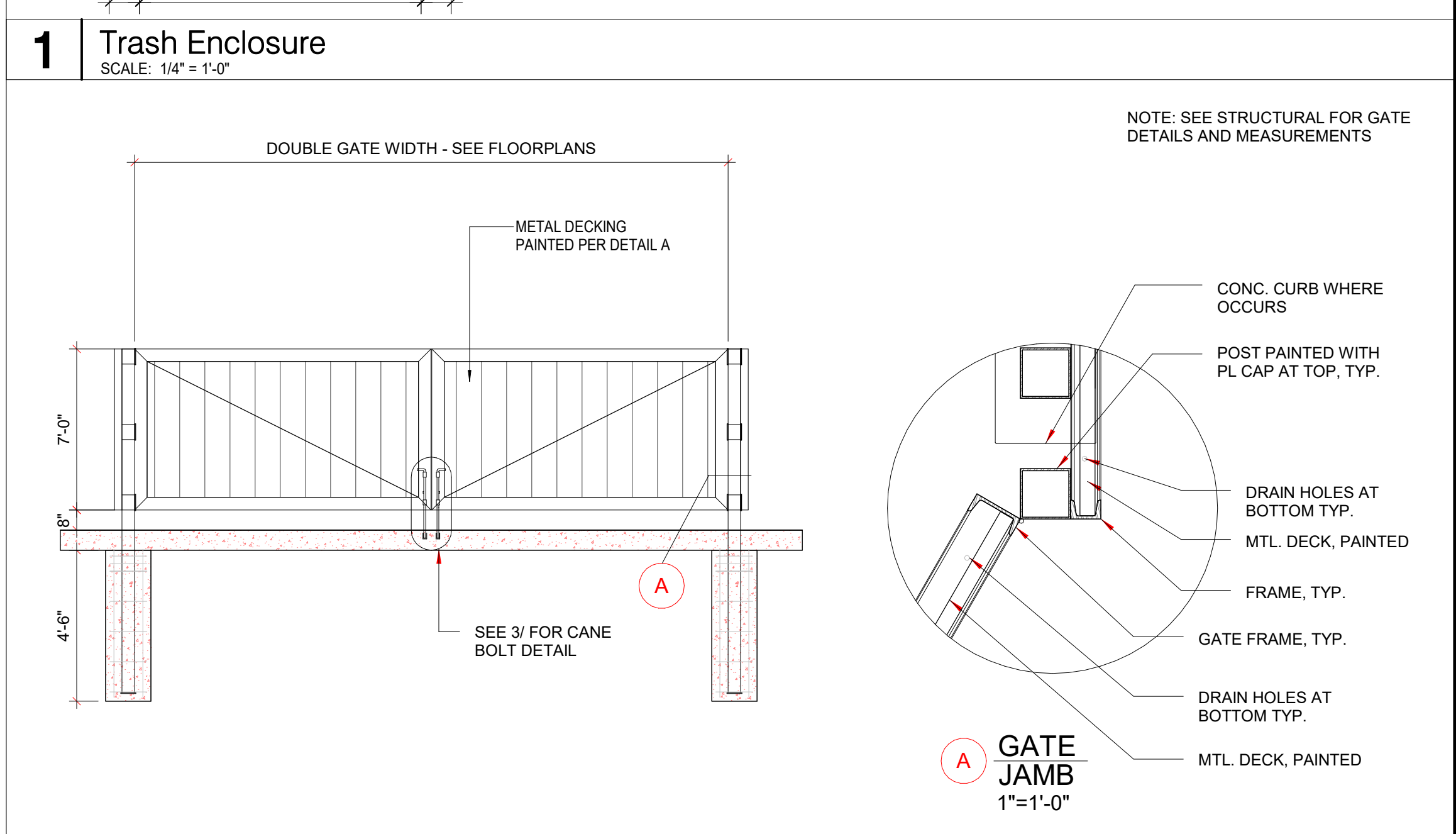
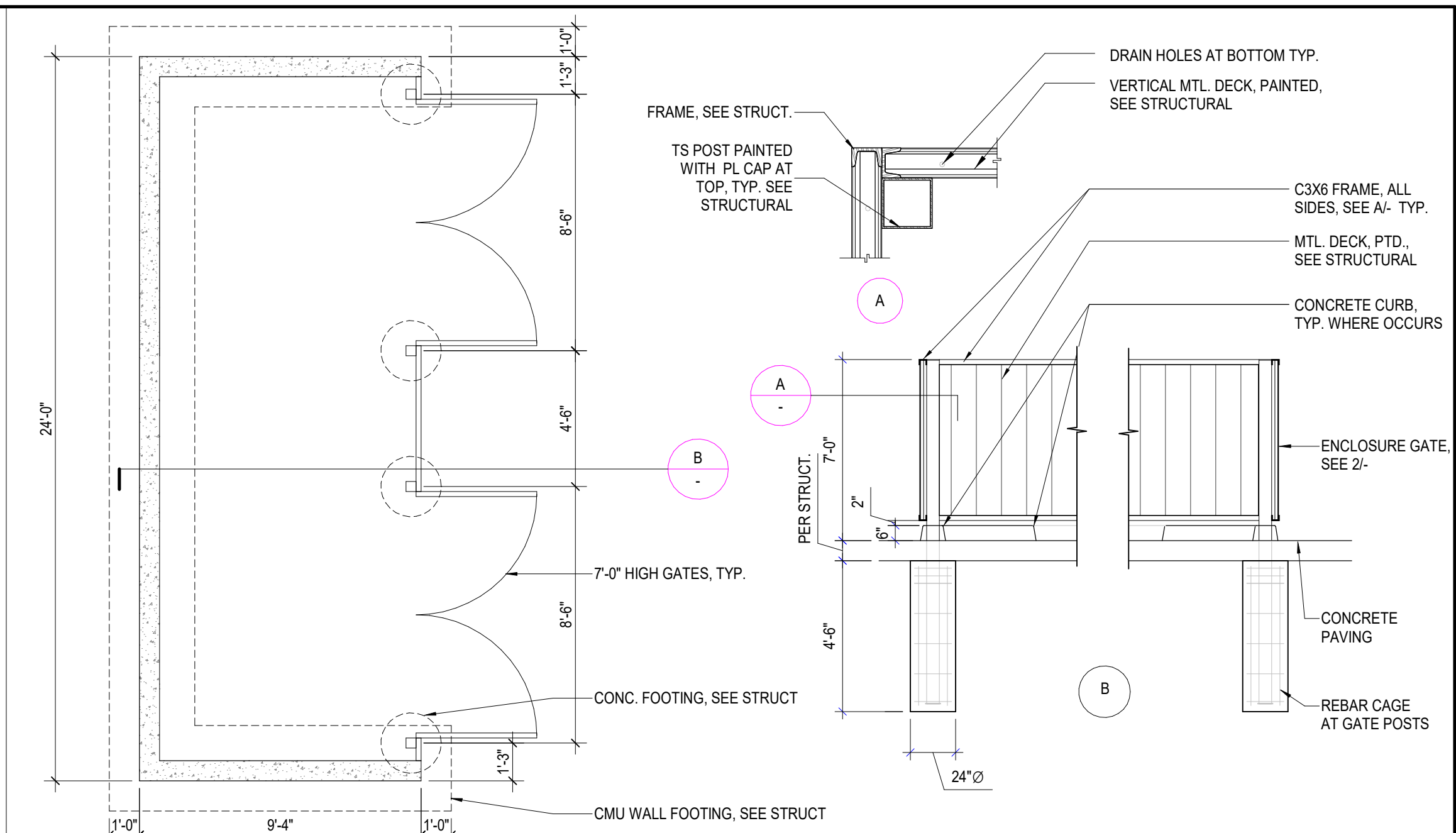


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CONSTRUCTION DOCUMENTS

ENLARGED PLANS

A1.01



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SITE DETAILS

A1.02

MASONRY - MINIMUM SPECIAL INSPECTION table with columns for Inspection Task, Frequency, Level, and Reference for Criteria.

MASONRY - MINIMUM VERIFICATION REQUIREMENT

Table with columns for Minimum Verification, Required for Quality Assurance, and Reference for Criteria.

INSPECTIONS NOTES

THE OWNER WILL EMPLOY AN APPROVED SPECIAL INSPECTION AGENCY THAT WILL PROVIDE THE SPECIAL INSPECTIONS PRESCRIBED BY THE CODE AND THE CONSTRUCTION DOCUMENTS.

CONCRETE

Table for Concrete inspections with columns for Verification and Inspection, Frequency, and Reference for Criteria.

STEEL

Table for Steel inspections with columns for Verification and Inspection, Frequency, and Reference for Criteria.

COLD FORMED STEEL FRAMING

Table for Cold Formed Steel Framing inspections with columns for Verification and Inspection, Frequency, and Reference for Criteria.

MASONRY

- 1. CONCRETE BLOCK SHALL BE HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS CONFORMING TO ASTM C-90, GRADE N, MEDIUM WEIGHT UNITS, USE OPEN END UNITS...

CONCRETE

- 1. ALL CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19 OF THE CBC AND WITH PROVISIONS OF ACI 318-19 AND ACI SPEC-301-20.

METAL STUDS

- 1. ALL METAL STUDS SHALL COMPLY WITH AISI S100 FOR STRUCTURAL MEMBERS AND AISI S200.

CONCRETE

- 1. ALL CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19 OF THE CBC AND WITH PROVISIONS OF ACI 318-19 AND ACI SPEC-301-20.

Table with columns: Member, Strength (psi), Max Density (pcf), Max W/C Ratio, Max Shrinkage % at 28 Days, Max Aggregate Size (in).

- 3. CONCRETE MIXES SHALL BE DESIGNED BY THE CONCRETE SUPPLIER PER THE REQUIREMENTS IN THE CONSTRUCTION DOCUMENTS AND IN ACCORDANCE WITH ACI 301 AND ACI 214R.

REINFORCING STEEL (FOR CONCRETE AND MASONRY)

- 1. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 19 OF THE CODE ACI 318, ACI 301, ACI 315 AND ASTM A615, GRADE 60 UNO.

FOUNDATION

- 1. FOUNDATION DESIGN BASED ON THE FOLLOWING INFORMATION: ALLOWABLE BEARING PRESSURE = 1500 PSF

STRUCTURAL STEEL

- 1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED BY AN APPROVED AND LICENSED FABRICATOR IN ACCORDANCE WITH AISC 360, AND AISC 341.

CONSTRUCTION NOTES

- 1. ALL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OF STRUCTURAL ELEMENTS.

STEEL DECK

- 1. ROOF AND FLOOR DECKS SHALL BE AS NOTED IN THE DRAWINGS. MINIMUM PROPERTIES ARE AS FOLLOWS:

SHEET INDEX

- GENERAL NOTES, SHEET INDEX AND SPECIAL INSPECTION

GENERAL

- 1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.



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STRUCTURAL ENGINEER KPFF

kpf logo 1101 Capistrano Blvd Dr. Suite 110 Roseville, CA 95678 916.772.7680 916.772.7099 www.kpff.com

2022 CALIFORNIA BUILDING CODE AND LATEST REVISIONS REFERRED TO HERE AS "THE CODE", AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES & STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.

THE SERNA CENTER GENERATOR PROJECT SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

5735 47TH AVE SACRAMENTO, CA 95824

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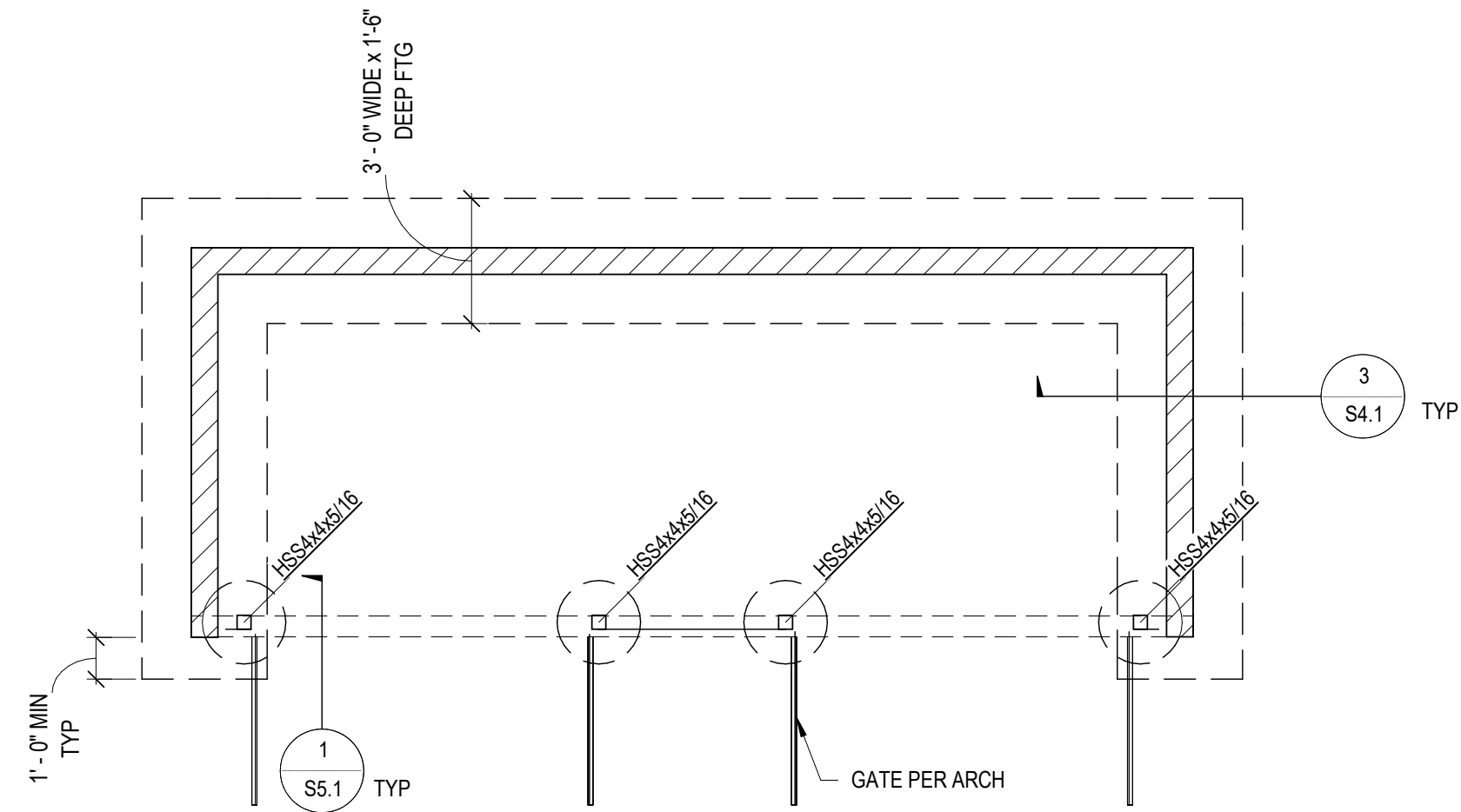
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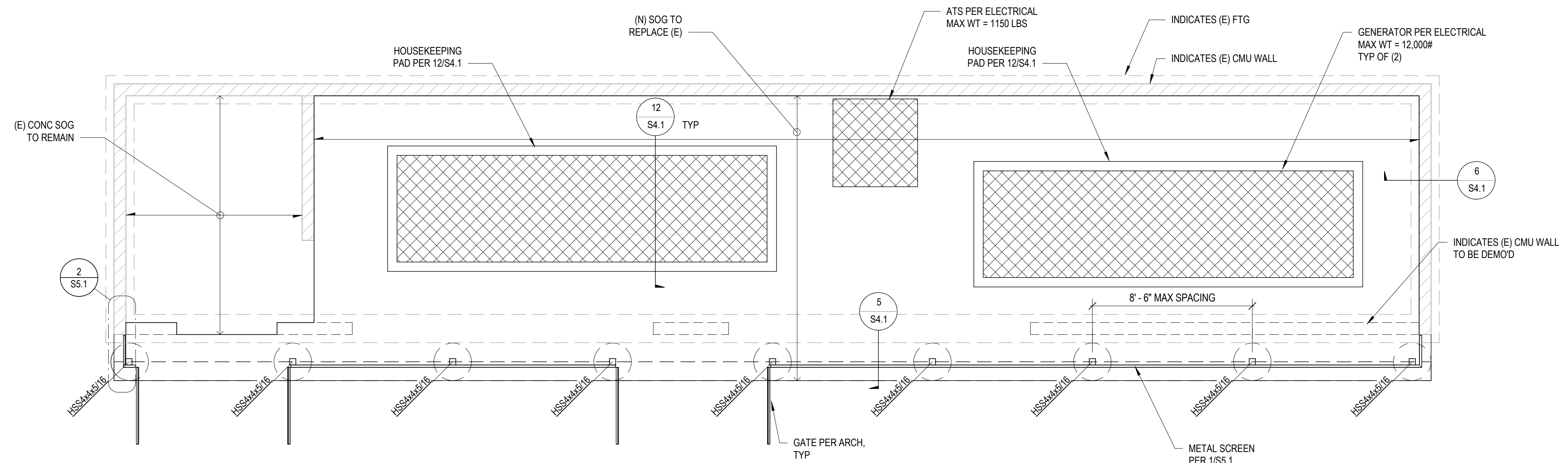
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SACRAMENTO CITY UNIFIED SCHOOL DISTRICT



2 TRASH ENCLOSURE FOUNDATION PLAN
1/4" = 1'-0"



1 GENERATOR PARTIAL FOUNDATION PLAN
1/4" = 1'-0"

PLAN NOTES

1. SEE S1.0 FOR STRUCTURAL GENERAL NOTES.
2. VERIFY/OBTAIN ALL DIMENSIONS FROM THE ARCHITECTURAL DRAWINGS.
3. TYPICAL SLAB ON GRADE SHALL BE 6" THICK WITH #4 @ 18" ON CENTER EACH WAY OVER A BASE AND 4" COMPACT GRAVEL. SEE TYPICAL SLAB DETAIL -I-.
4. PROVIDE AND COORDINATE OPENINGS FOR MECHANICAL WORK AS REQUIRED.
5. INDICATES (N) HSS COLUMN ABOVE PER PLAN.
6. INDICATES OUTLINE OF (N) FOUNDATION, TYPICAL.
7. INDICATES (E) CONCRETE MASONRY WALL ABOVE.
8. INDICATES (N) CONCRETE MASONRY WALL ABOVE.
9. INDICATES (N) MECH UNIT PER PLAN BY OTHERS.

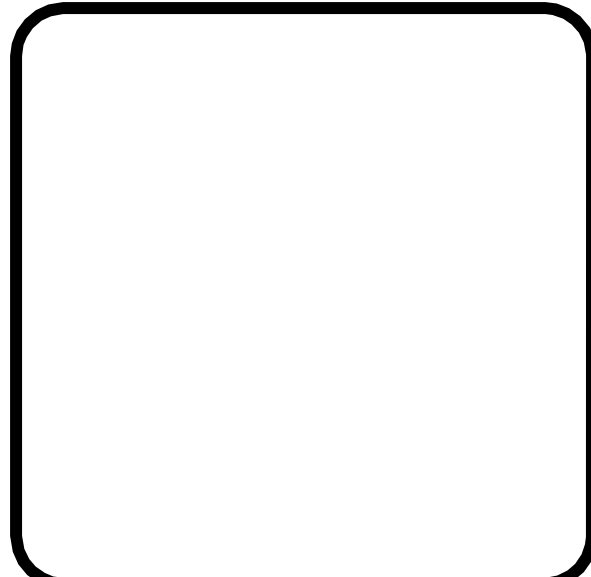
Not for permitting or construction



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THE SERNA CENTER GENERATOR PROJECT
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT



Architect / Engineer

SIGNED: 10/29/24
KPFF PROJECT# 2300-157

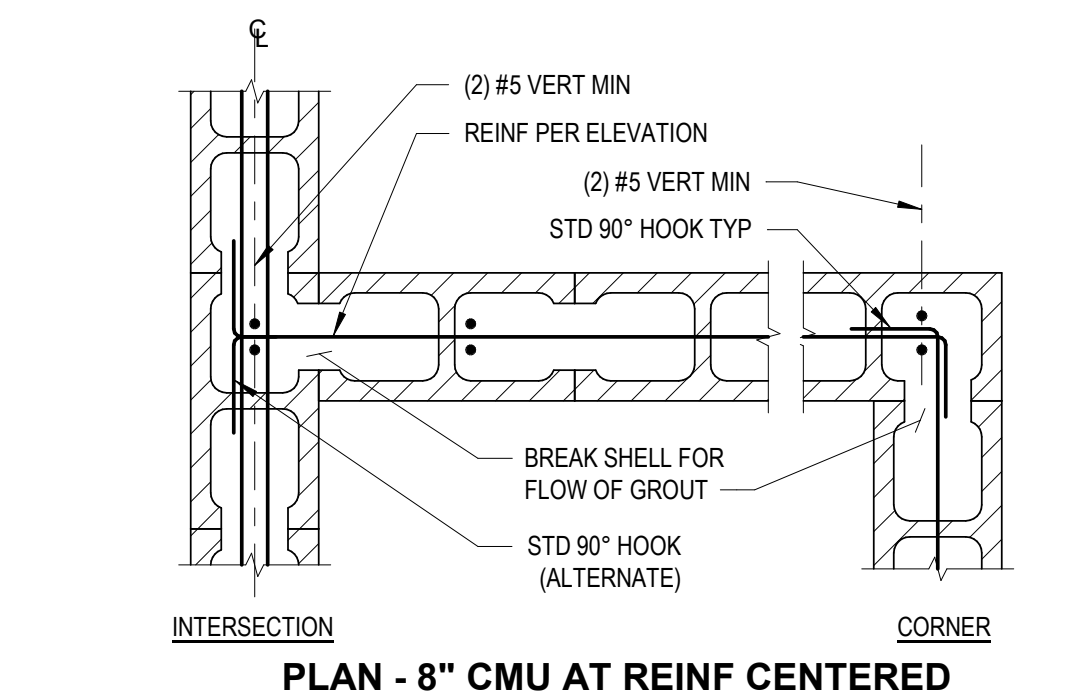
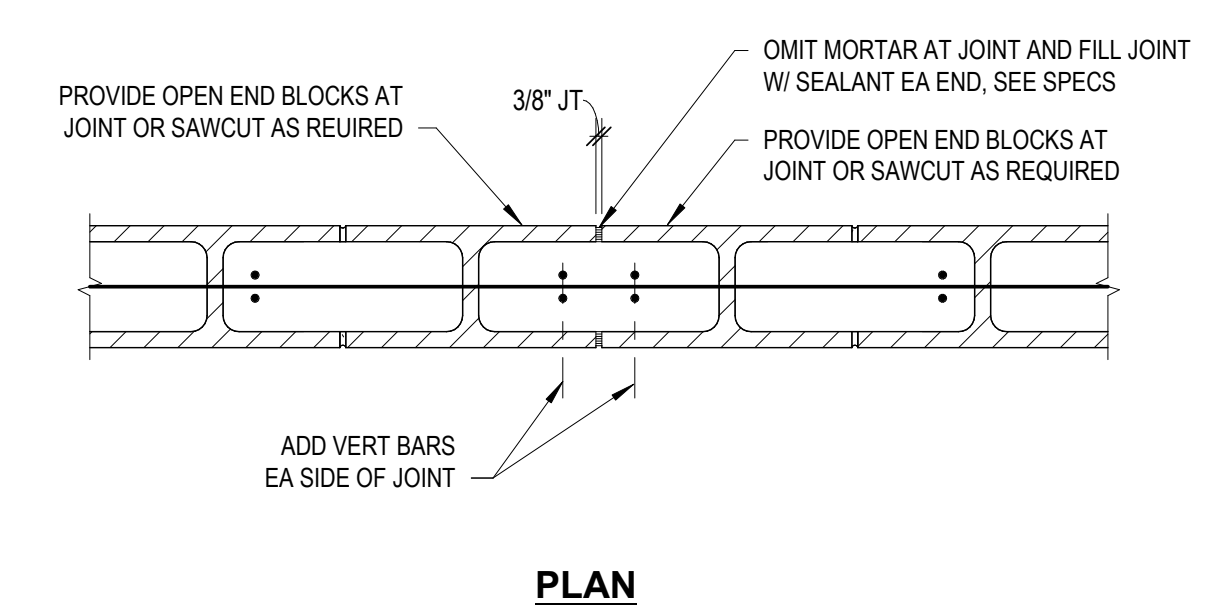
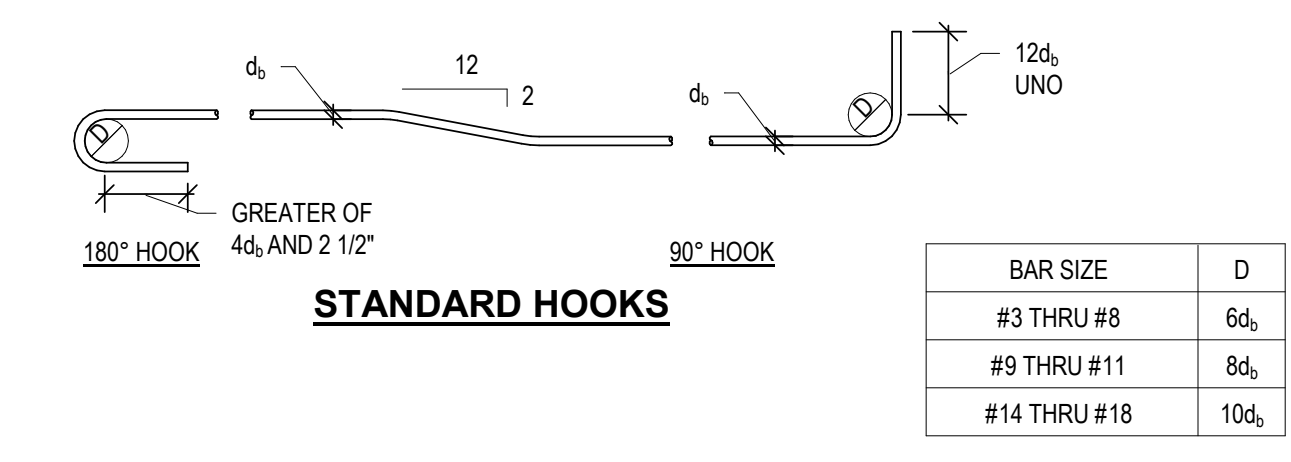
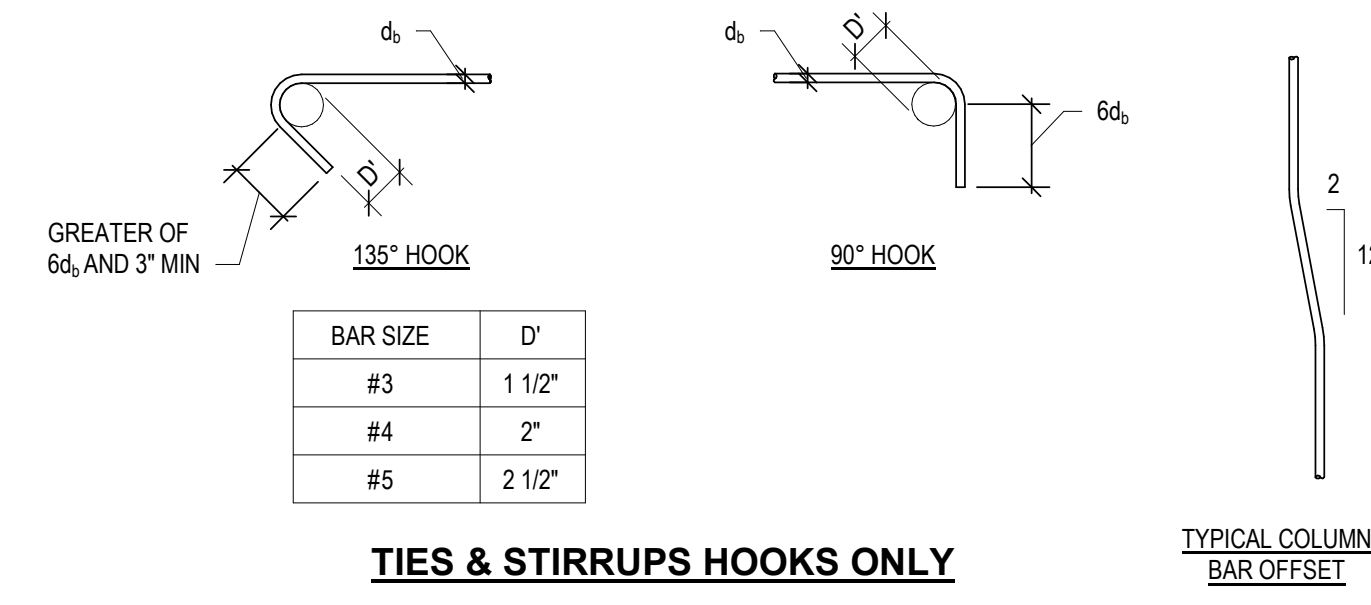
CLIENT	
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT	
PROJECT NUMBER	
230118	
DATE	10/29/24
DRAWN BY: HM	CHKD BY: RN
REVISIONS	
#	DESCRIPTION DATE

CONSTRUCTION DOCUMENTS
PARTIAL FOUNDATION PLANS

This document is for plan review only

CLASS 'B'	TENSION SPlice f _t (PSI)	REINFORCING BAR SPLICE LENGTH			
		3	4	5	6
3000	BAR SIZE GR 60				
	BAR DIAMETER, d _b (IN)	0.375	0.500	0.625	0.750
	TOP BAR	2'-8"	3'-7"	4'-6"	5'-5"
	BOTTOM BAR	2'-0"	2'-9"	3'-5"	4'-2"

- NOTES:
- THE ABOVE VALUES ARE FOR NORMAL WEIGHT CONCRETE.
 - THE ABOVE VALUES ARE FOR UNCOATED REINFORCEMENT.
 - TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF NEW CONCRETE PLACED BELOW THE BAR.
 - BOTTOM BARS ARE ALL VERTICAL BARS, AND HORIZONTAL REINFORCEMENT WITH LESS THAN 12" OF NEW CONCRETE PLACED BELOW THE BAR.

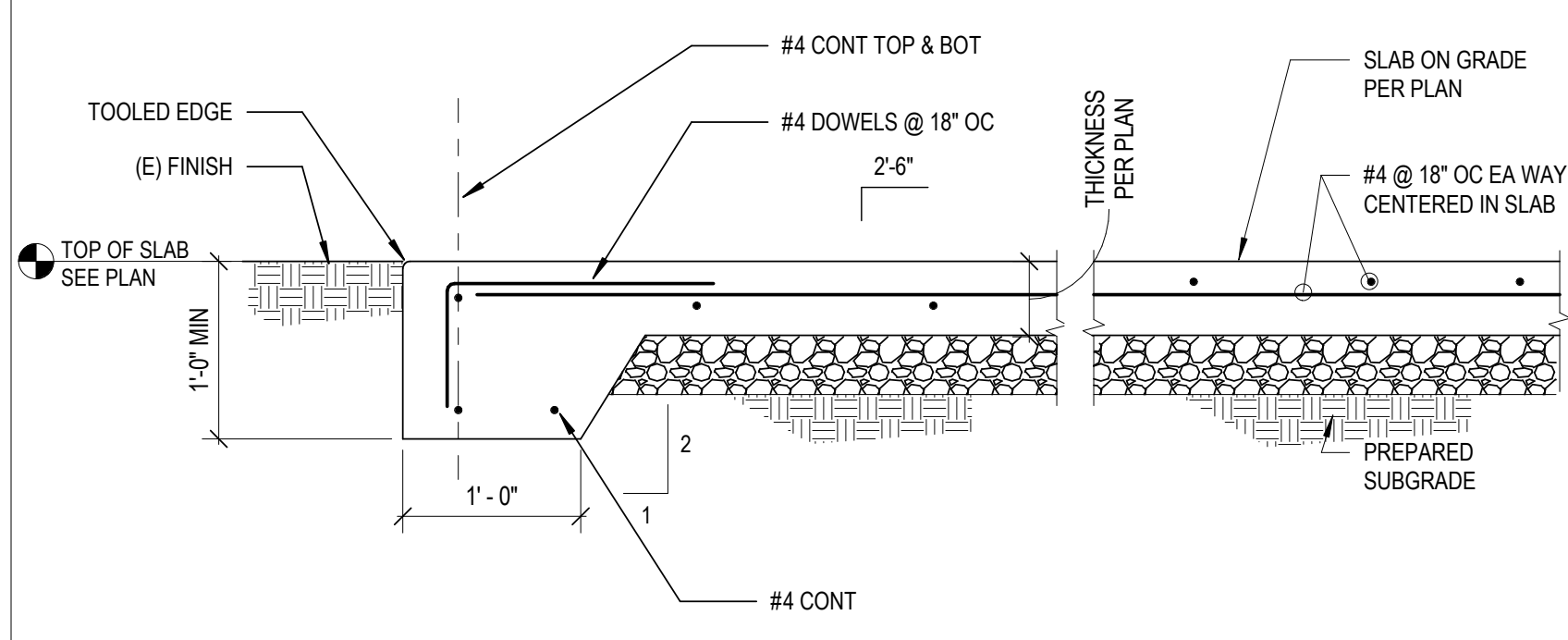
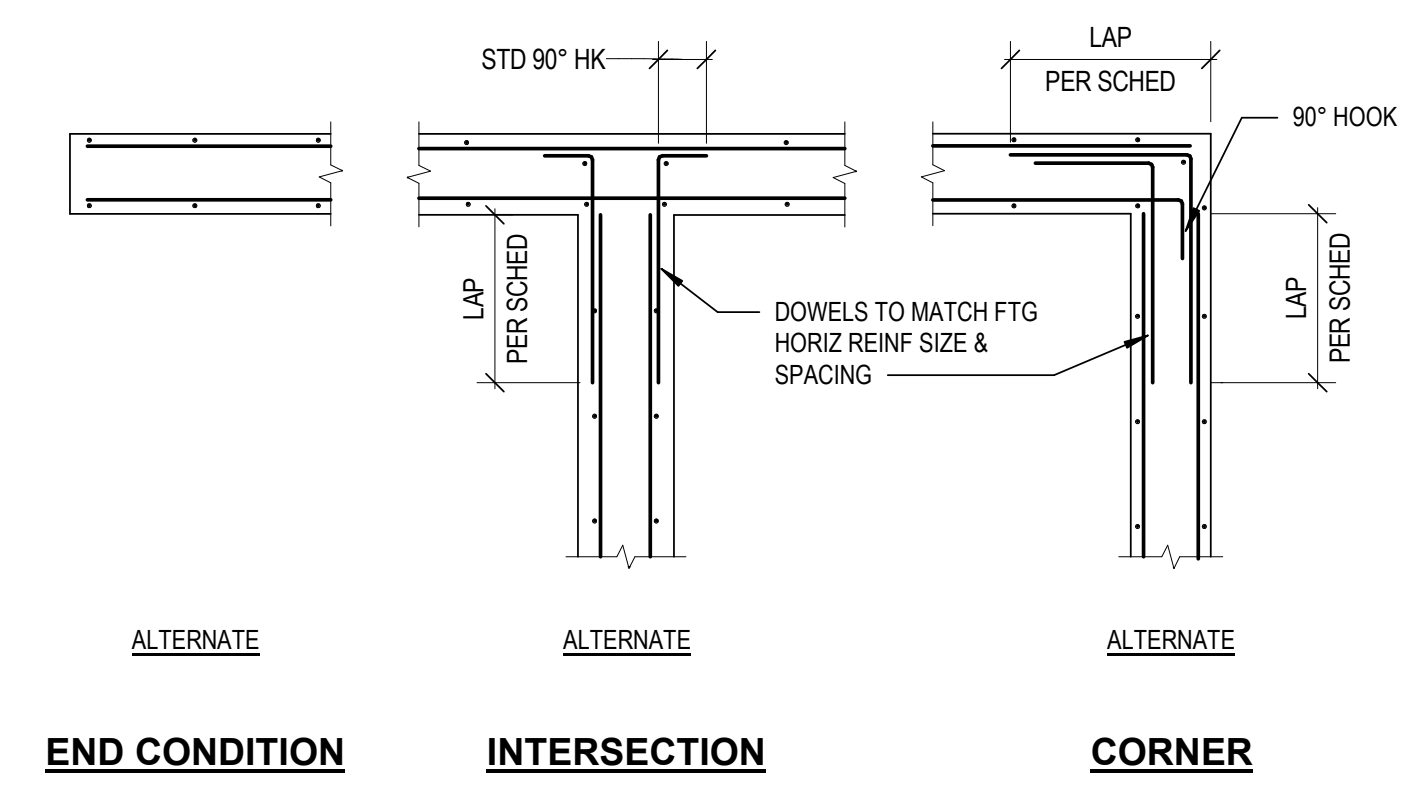
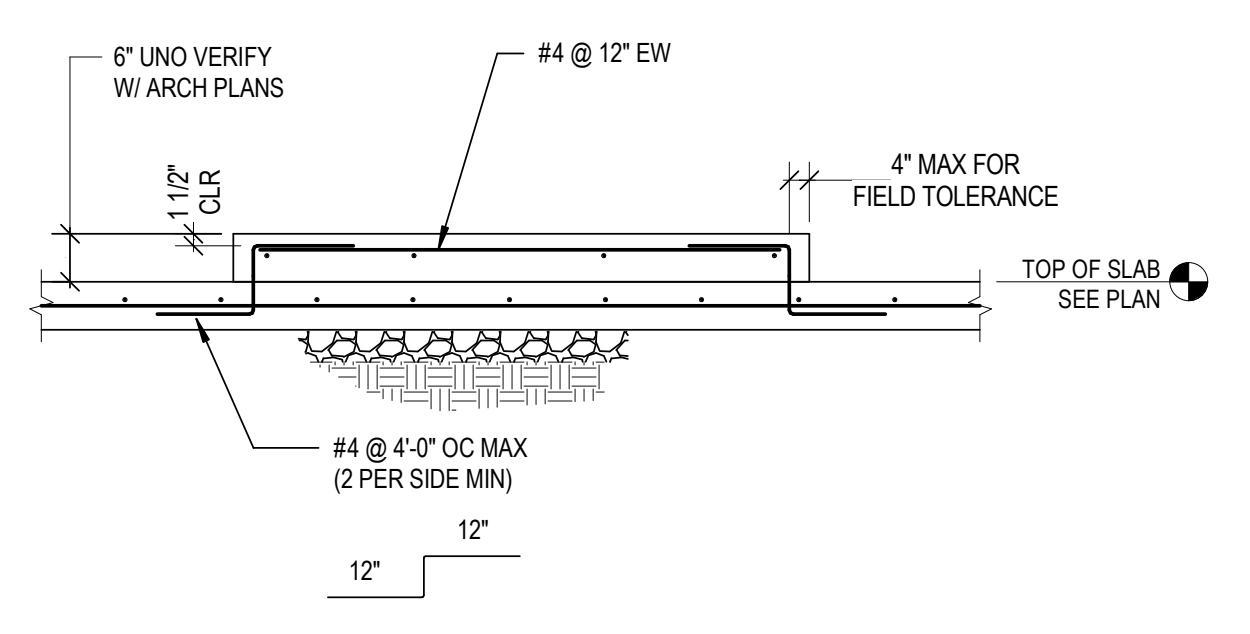


NORMAL WEIGHT CONCRETE LAP SPLICE SCHEDULE 1" = 1'-0" 11

REINFORCING BAR BENDING DETAIL 1/2" = 1'-0" 7

CONTROL JOINT AT CMU SHEARWALL 1" = 1'-0" 4

CMU WALL INTERSECTION AND CORNER DETAIL 1" = 1'-0" 1



f _m (PSI)	REINFORCING BAR SPLICE LENGTH						
	BAR SIZE GR 60	#3	#4	#5	#6	#7	
2000	BAR DIAMETER, d _b (in)	0.375	0.500	0.625	0.750	0.875	
	BAR CENTERED IN 8" CMU	1'-0"	1'-0"	1'-6"	2'-8"	3'-8"	
	BAR CENTERED IN 10" CMU	1'-0"	1'-0"	1'-2"	2'-2"	2'-11"	
	BAR CL AT 1 1/2" FROM FACE OF CMU	1'-5"	2'-6"	3'-10"	7'-2"	9'-8"	

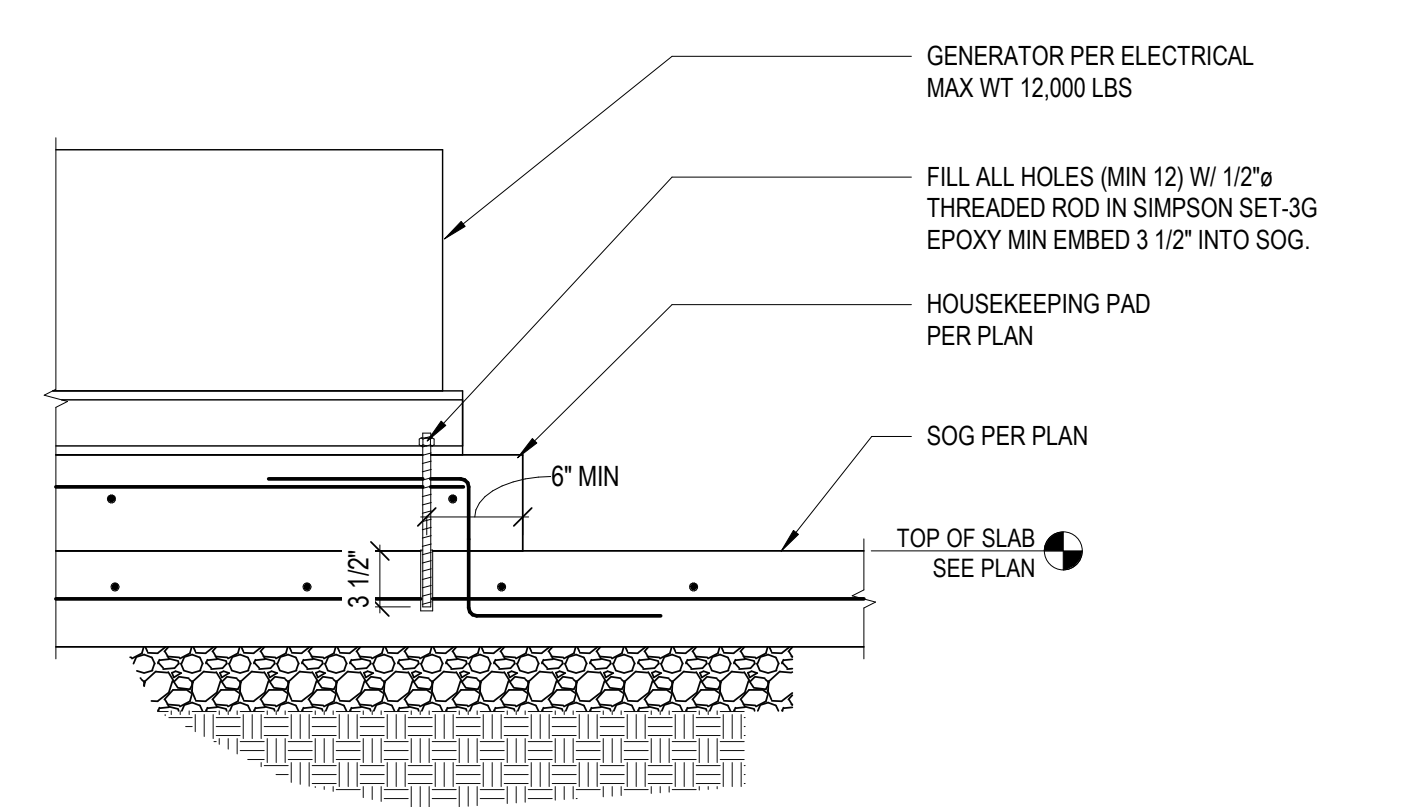
- NOTES:
- REINFORCING BARS SHALL HAVE MASONRY COVER NOT LESS THAN 1 1/2".
 - THE ABOVE VALUES ARE FOR UNCOATED REINFORCEMENT.

HOUSEKEEPING PAD 1/2" = 1'-0" 12

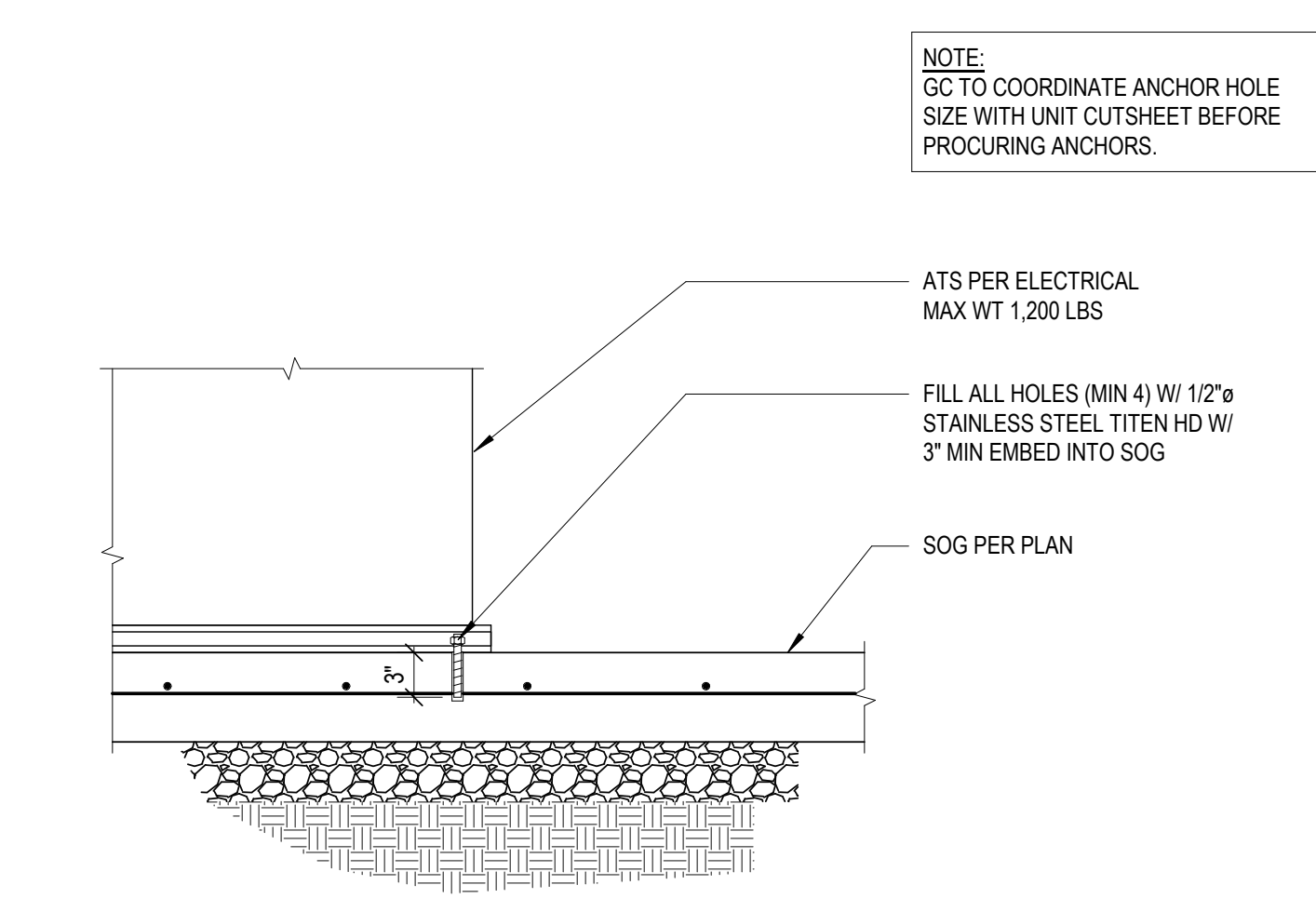
CONCRETE FOOTING REINFORCING 1/2" = 1'-0" 8

TYPICAL SLAB ON GRADE 1" = 1'-0" 5

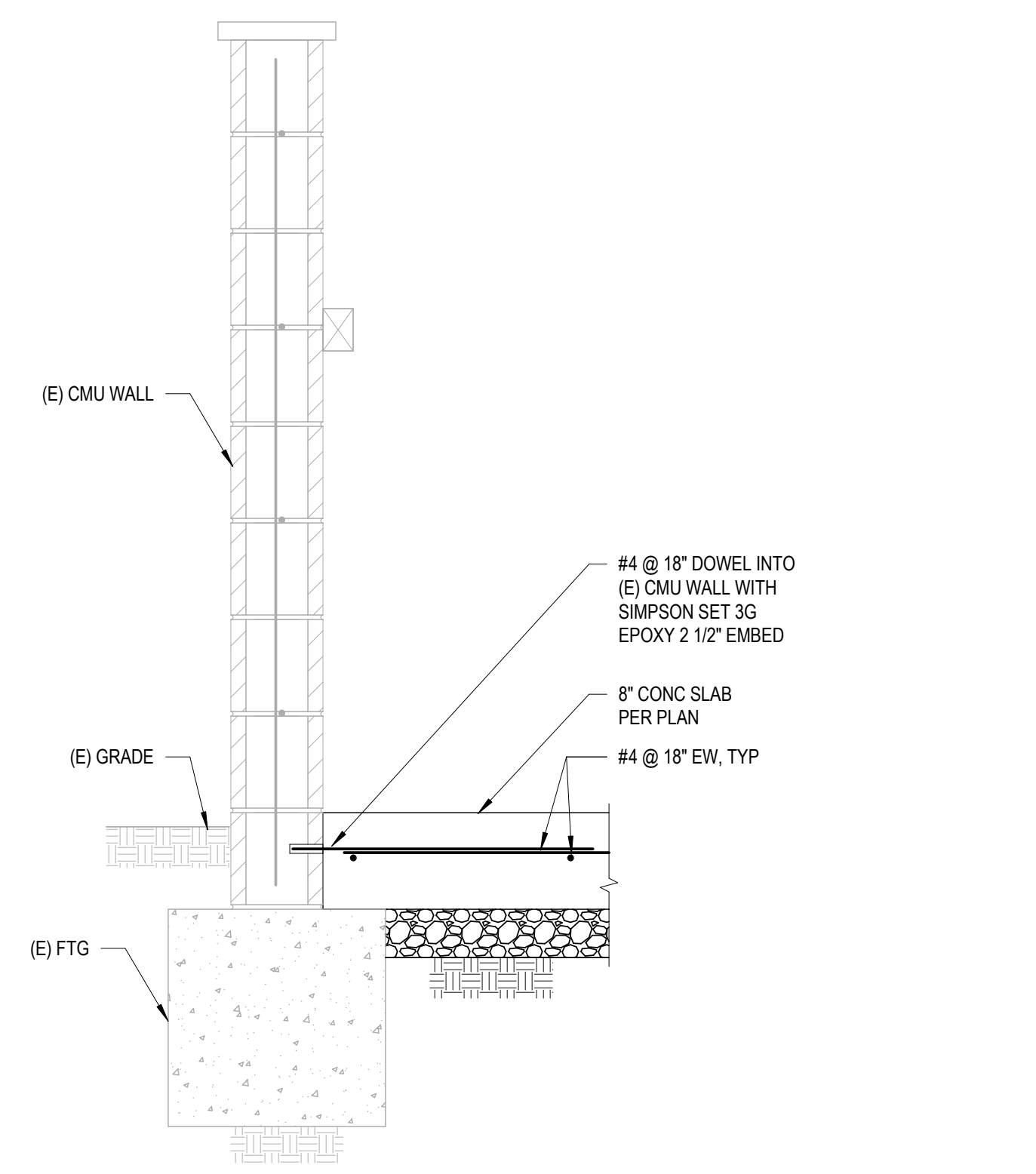
CMU LAP SPLICE SCHEDULE 1" = 1'-0" 2



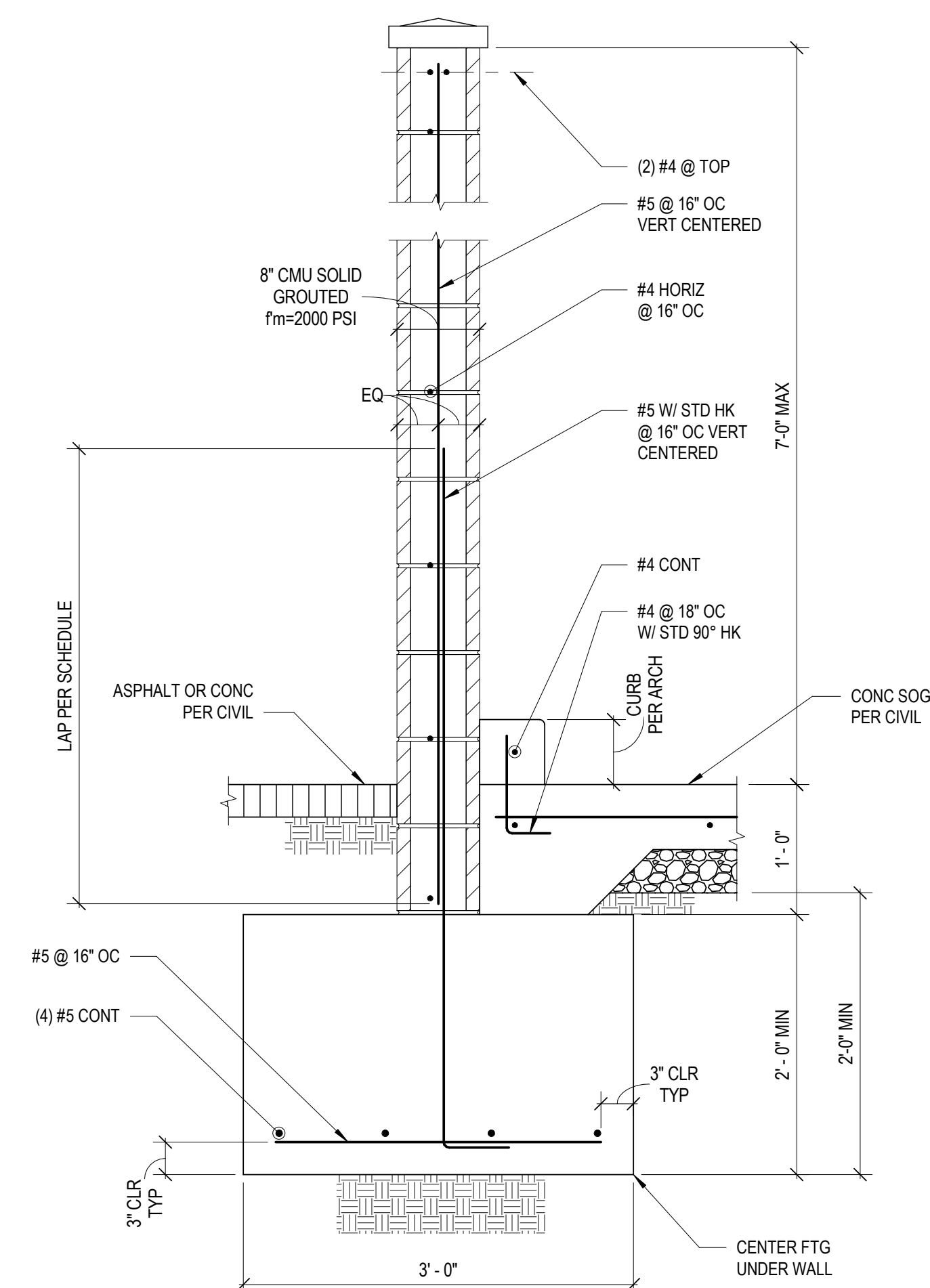
GENERATOR ANCHORAGE 1" = 1'-0" 9



ATS ANCHORAGE 1" = 1'-0" 10



SOG AT (E) CMU WALL 1" = 1'-0" 6



FREE STANDING 6' CMU WALL AT TRASH ENCLOSURE 1" = 1'-0" 3

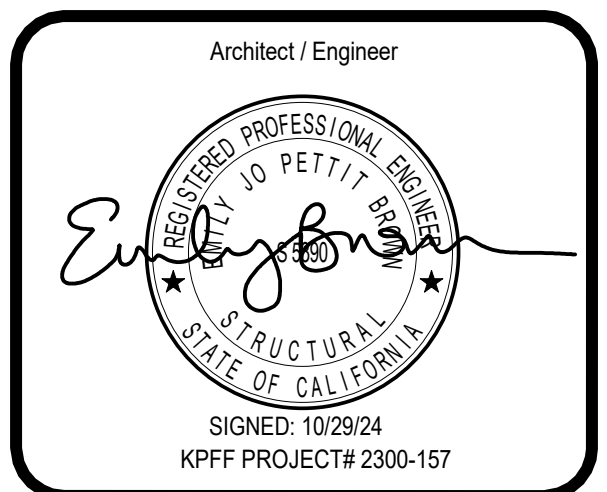


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916.772.7699
www.kpf.com

THE SERNA CENTER GENERATOR PROJECT
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

5735 47TH AVE
SACRAMENTO, CA 95824

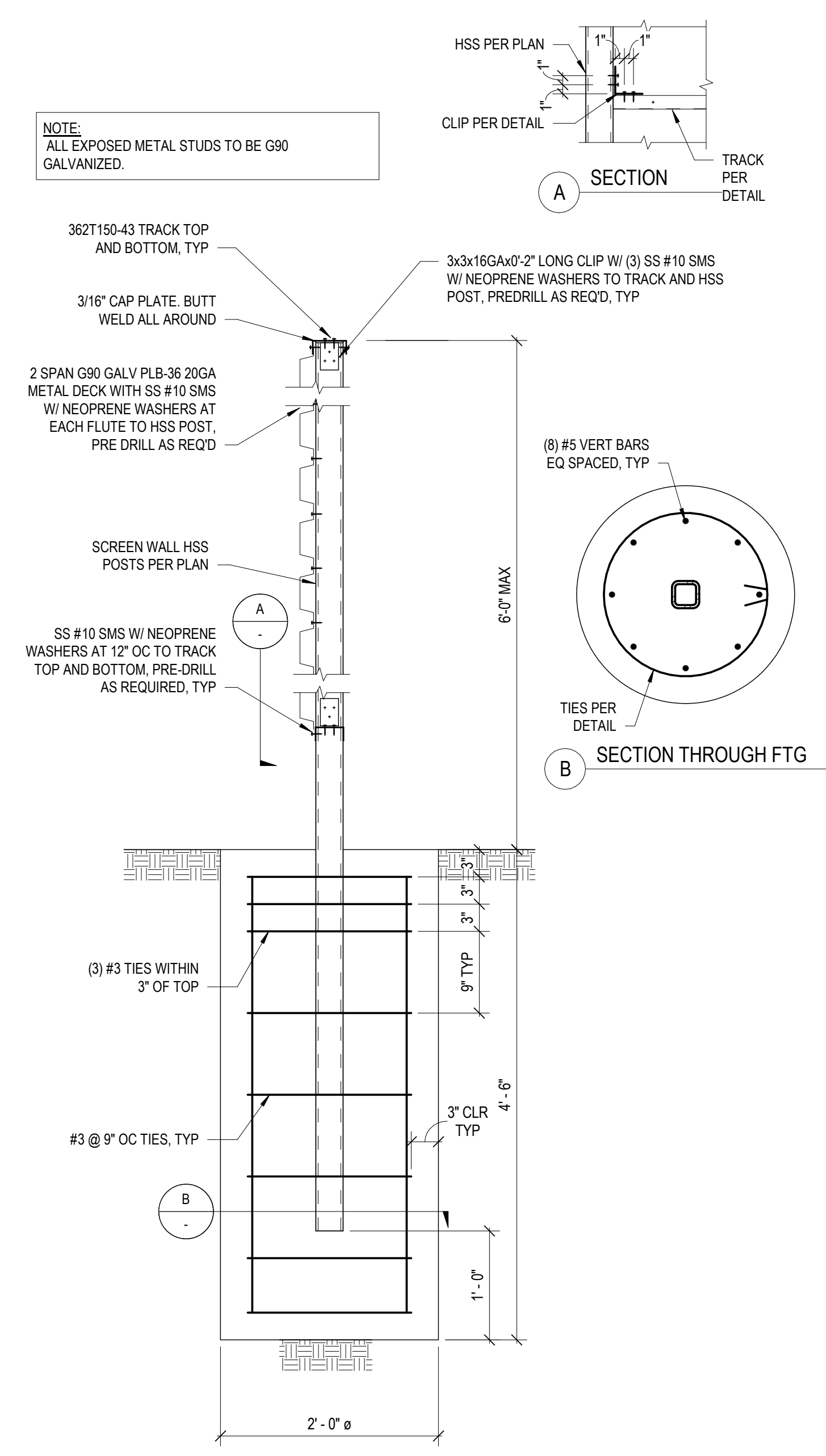


REVISIONS	
#	DESCRIPTION

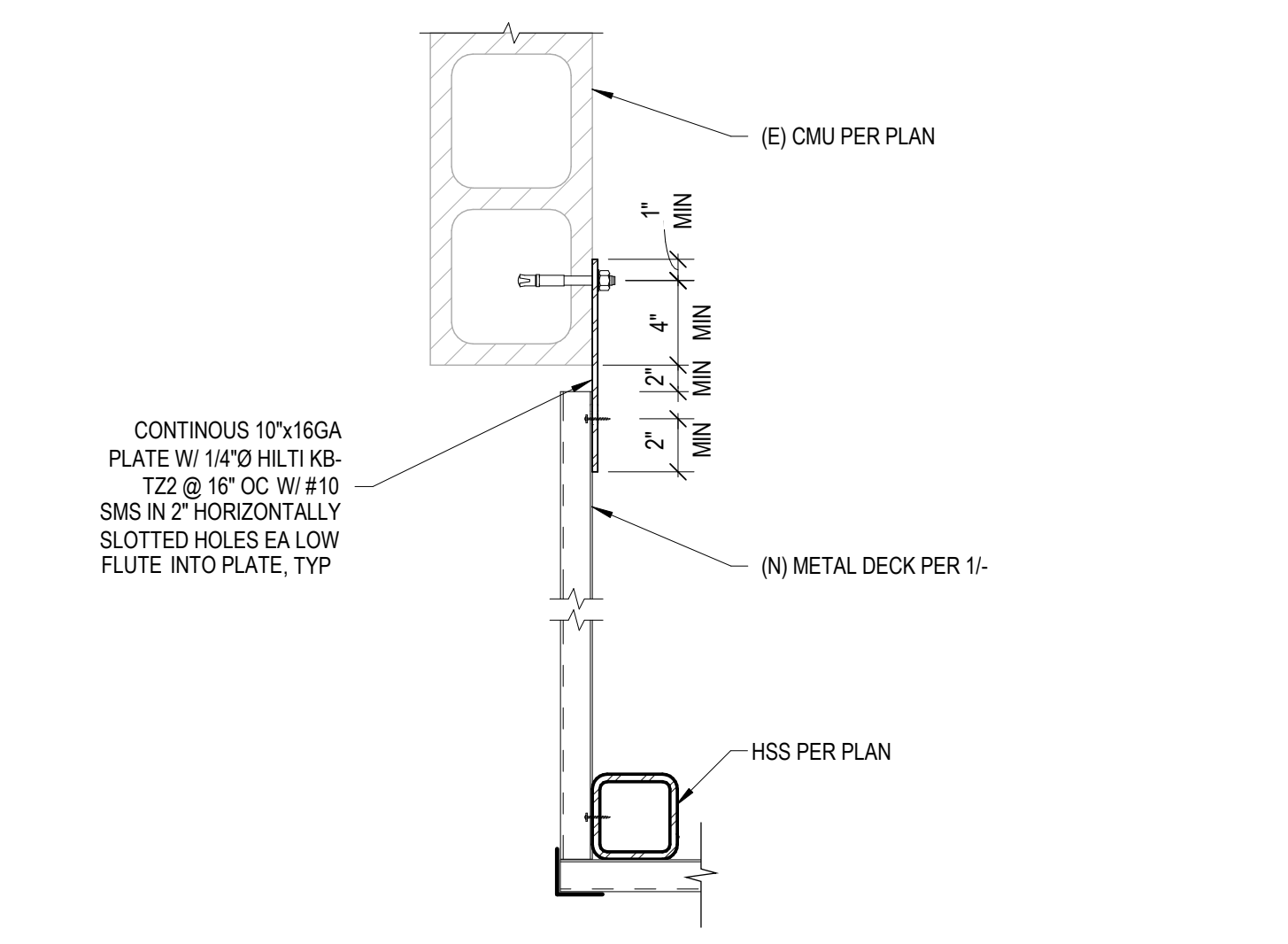
CLIENT
SACRAMENTO CITY UNIFIED SCHOOL DISTRICT
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DATE
10/29/24
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CHECKED BY: RN

CONSTRUCTION DOCUMENTS

CONCRETE & CMU DETAILS



MECHANICAL SCREEN WALL 1" = 1'-0" 1



MECH SCREEN ATTACHMENT TO CMU WALL 1 1/2" = 1'-0" 2

Not for permitting or construction

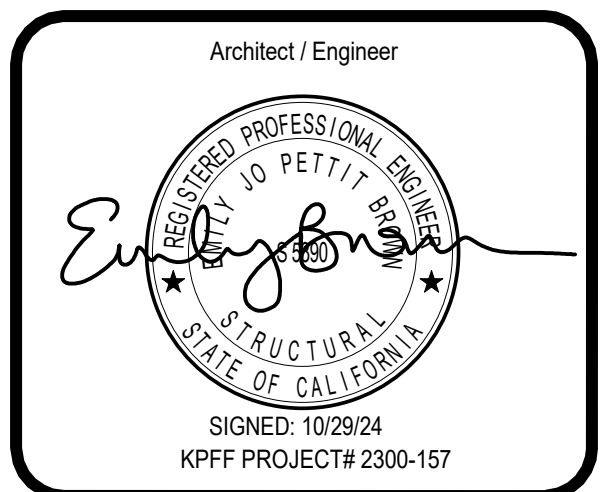


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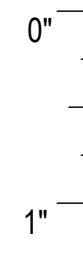
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CONSTRUCTION DOCUMENTS

STEEL DETAILS



PLUMBING LEGEND		
SYMBOL	ITEM	ABBR.
	FIXTURE DESIGNATION UNIT ABBREVIATION NUMBER	
	DETAIL DESIGNATION DETAIL NUMBER SHEET NO. WHERE SHOWN	
	DOMESTIC COLD WATER	CW
	DOMESTIC HOT WATER	HW
	DOMESTIC HW RETURN	HWR
	EXISTING PIPING	
	POINT OF CONNECTION	POC
	CONDENSATE DRAIN	VCD
	SHUT-OFF VALVE IN BOX	SOV
	PIPING RISE	OBD
	PIPING DROP	BDD
	SOIL OR WASTE	S OR W
	VENT	V
	VENT THRU ROOF	VTR
	ACID WASTE	AW
	ACID VENT	AV
	ACID VENT THRU ROOF	AVTR
	FLOOR CLEANOUT	FCO
	CLEANOUT TO GRADE	COTG
	WALL CLEANOUT	WCO
	HOSE BIBB	HB
	ROOF DRAIN	RD
	OVERFLOW DRAIN	OD
	DOWN SPOUT	DS
	UNDERGROUND	UG
	TRAP PRIMER	TP
	STORM DRAIN	SD
	EXISTING (E)	EXIST.
	NEW (N)	NEW
	UNDERFLOOR	UF
	OVERHEAD	OH
	RELIEF	
	DRAIN	
	CONDENSATE DRAIN CLEANOUT	CO
	SECONDARY CONDENSATE DRAIN	
	FURNACE CONDENSATE	
	GAS SHUT OFF VALVE	GSOV
	SAFETY RELIEF VALVE	
	GATE VALVE	GV
	PLUG VALVE	
	BALL VALVE	
	PRESSURE GAUGE	PG
	FIRE WALL PENETRATION	
	CONDENSATE DRAIN TRAP	CDT
	LIQUEFIED PETROLEUM GAS	LPG
	NATURAL GAS	G
	FIRE SPRINKLER RISER	FSR
	FIRE SPRINKLER LINE	FSL
	FIRE DEPARTMENT CONNECTION	FDC
	FINISHED FLOOR	FF
	ABOVE FINISHED FLOOR	AFF
	ABOVE FINISHED GRADE	AFG
	CEILING	CLG
	CONTINUATION	CONT.
	DRAWING	DWG
	EACH	EA
	FEET	FT
	HORSEPOWER	HP
	INVERT ELEVATION	IVT
	KILOWATTS	KW
	MECHANICAL	MECH
	SQUARE FEET	SF
	TYPICAL	TYP
	TRANSFORMER	TF

GENERAL NOTES

- SUPPORT AND BRACING OF ALL PIPING SHALL BE IN ACCORDANCE WITH 2022 C.B.C.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL PIPE ROUTING WITH WORK OF OTHER TRADES AND MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, LIGHT FIXTURES, SKYLIGHTS, ETC.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE FACILITY, UTILITIES AND APPURTENANCE CAUSED BY THE WORK IN THEIR SCOPE. CONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGE AT NO ADDITIONAL COST TO THE OWNERS BY INSTALLATION THE FACILITY OF NEW WORK.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO PROCEEDING WITH INSTALLATION. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY EXISTING CONDITIONS WHICH CONFLICT WITH INFORMATION PROVIDED IN CONSTRUCTION DOCUMENTS.
- WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR.
- GAS PIPE SHALL BE SCHEDULE 40 BLACK STEEL, ASTM A53, BELOW GRADE, PIPE SHALL HAVE PROTECTIVE COATING OF POLYETHYLENE OR BE OF APPROVED PVC.

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:

- ALL PERMANENT EQUIPMENT AND COMPONENTS.
- TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
- TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUND PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2022 CBC, SECTION 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2022 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO START OF AND DURING THE HANGING AND BRACING OF DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MP MD PP E OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM-0295-13).

SHEET INDEX

P0.1	PLUMBING SYMBOLS, NOTES & ABBREVIATIONS
P1.0	PLUMBING OVERALL SITE PLAN
P5.1	PLUMBING DETAILS

ABBREVIATIONS

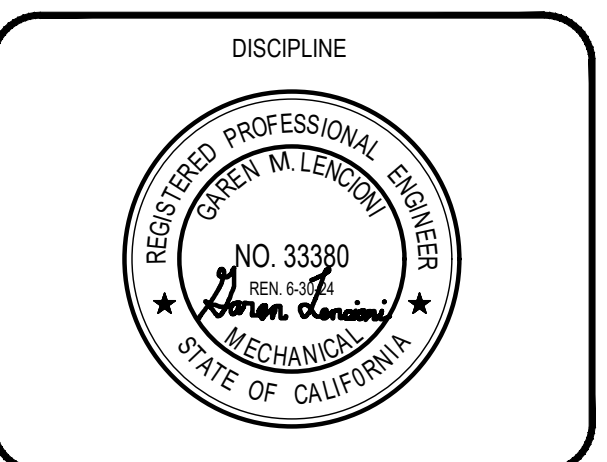
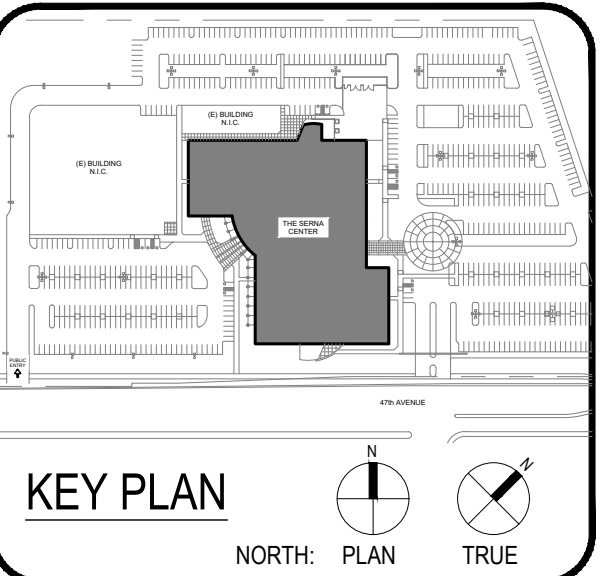
NOTE: NOT ALL LISTED ABBREVIATIONS WILL BE USED ON THESE DRAWINGS.

AAP	AREA ALARM PANEL	MPG	MEDIUM PRESSURE GAS
AAV	AUTOMATIC AIR VENT	MS	MOP SINK
A.F.F.	ABOVE FINISHED FLOOR	N.C.	NORMALLY CLOSED
AP	ACCESS PANEL	NIC	NOT IN CONTRACT
B.F.F.	BELOW FINISHED FLOOR	N.O.	NORMALLY OPEN
BFP	BACKFLOW PREVENTER	O.F./C.I.	OWNER FURNISHED/CONTRACTOR INSTALLED
BOB	BOTTOM OF BEAM	O.F./O.I.	OWNER FURNISHED/OWNER INSTALLED
BOP	BOTTOM OF PIPE	OFD	OVERFLOW DRAIN
BTUH	BRITISH THERMAL UNITS PER HOUR	PH	PHASE
CA	COMPRESSED AIR	PV	POST INDICATOR VALVE
C/C	CUT AND CAP	PRV	PRESSURE REDUCING VALVE
CFH	CUBIC FEET PER HOUR	RD	ROOF DRAIN
CFS	CUBIC FEET PER SECOND	RE:	REFER TO
CI	CAST IRON	R.I.C.	ROUGH-IN AND CONNECT
CLG	CEILING	RO	REVERSE OSMOSIS
CO	CLEANOUT	RPBFP	REDUCED PRESSURE BACKFLOW PREVENTER
CONN	CONNECTION	RPM	REVOLUTIONS PER MINUTE
CONT.	CONTINUATION	RVB	REFRIGERATOR VALVE BOX
DF	DRINKING FOUNTAIN	SD	STORM DRAIN
DPV	DRY PIPE VALVE	S.F.	SQUARE FEET
DWG.	DRAWING	SIA	SIAMESE
EA	EACH	SK	SINK
EL	ELEVATION	T.O.P.	TOP OF PIPE
EDF	ELECTRIC DRINKING FOUNTAIN	TP	TRAP PRIMER
FCO	FLOOR CLEANOUT	TYP	TYPICAL
FD	FLOOR DRAIN	U	URINAL
FDV	FIRE DEPARTMENT VALVE	UF	UNDERFLOOR
F.F.	FINISHED FLOOR	UG	UNDERGROUND
FHC	FIRE HOSE CABINET	VAC. BRKR.	VACUUM BREAKER
F.L.	FLOW LINE	VIF	VERIFY IN FIELD
FS	FLOOR SINK	VTR	VENT THRU ROOF
FT	FEET	WC	WATER CLOSET
FU	FIXTURE UNITS	WCO	WALL CLEANOUT
G	GAS (LOW PRESSURE)	WH	WALL HYDRANT
GPH	GALLONS PER HOUR	WMB	WASHING MACHINE BOX
GPM	GALLONS PER MINUTE	YH	YARD HYDRANT
HB	HOSE BIBB	ZV	ZONE VALVE
HP	HORSEPOWER	(A)	ITEM NOTED TO BE ABANDONED
I.E.	INVERT ELEVATION	(D)	DROP
KW	KILOWATTS	(E)	EXISTING ITEM
LAV	LAVATORY	(N)	NEW ITEM
MBH	ONE THOUSAND BTUH	(R)	RISER
MECH	MECHANICAL		



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SERNA CENTER GENERATOR



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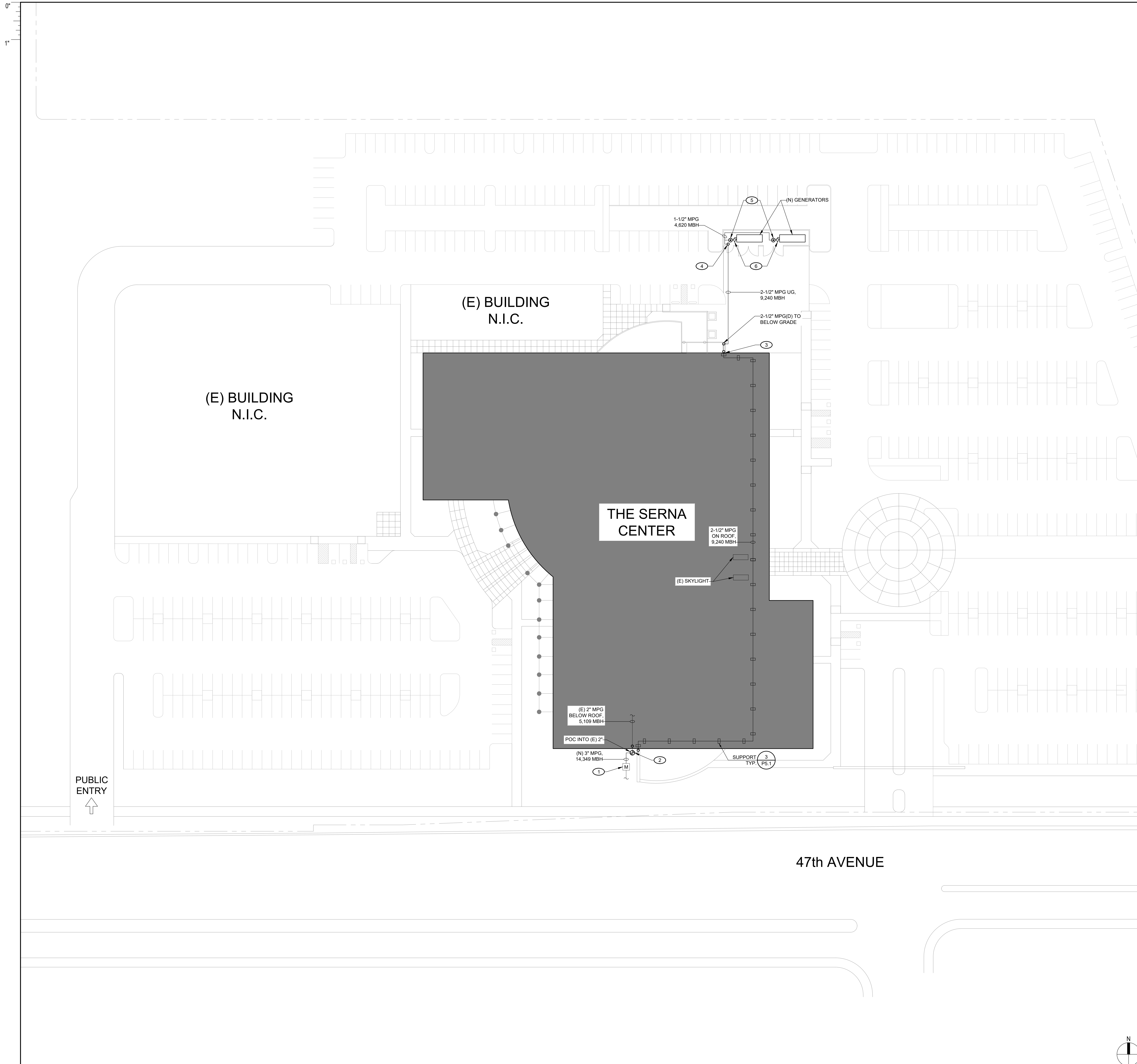
DRAWING HISTORY

No.	Description	Date

Project Status

BUILDING NUMBER

PLUMBING SYMBOLS, NOTES & ABBREVIATIONS



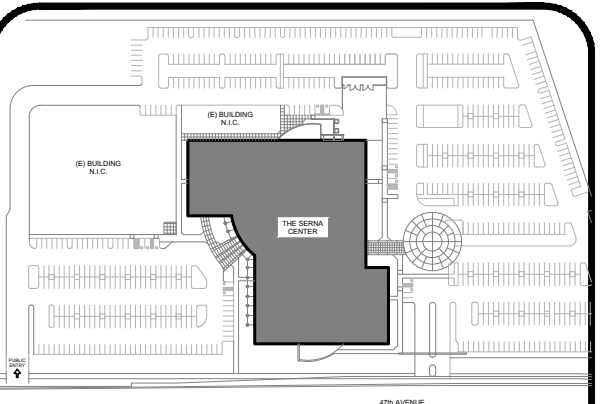
KEYNOTES

- ① (E) GAS METER IN YARD (5 PSI SERVICE). COORDINATE WITH UTILITY COMPANY FOR SERVICE UPGRADE IF NECESSARY. EXISTING DEMAND: 5,109 MBH. NEW DEMAND: 14,349 MBH. 675' TOTAL DEVELOPED LENGTH.
- ② CONNECT 3\"/>

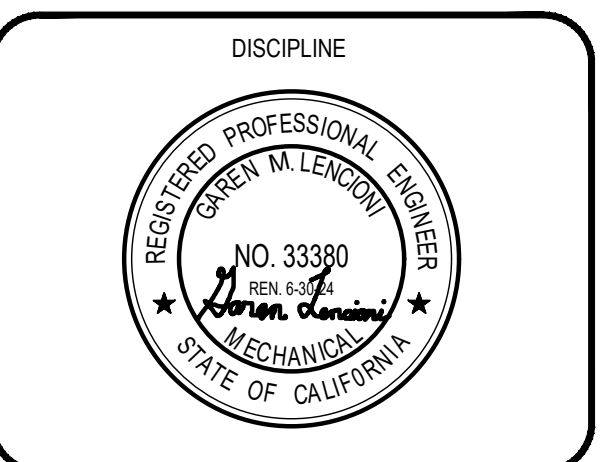


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KEY PLAN
NORTH PLAN TRUE



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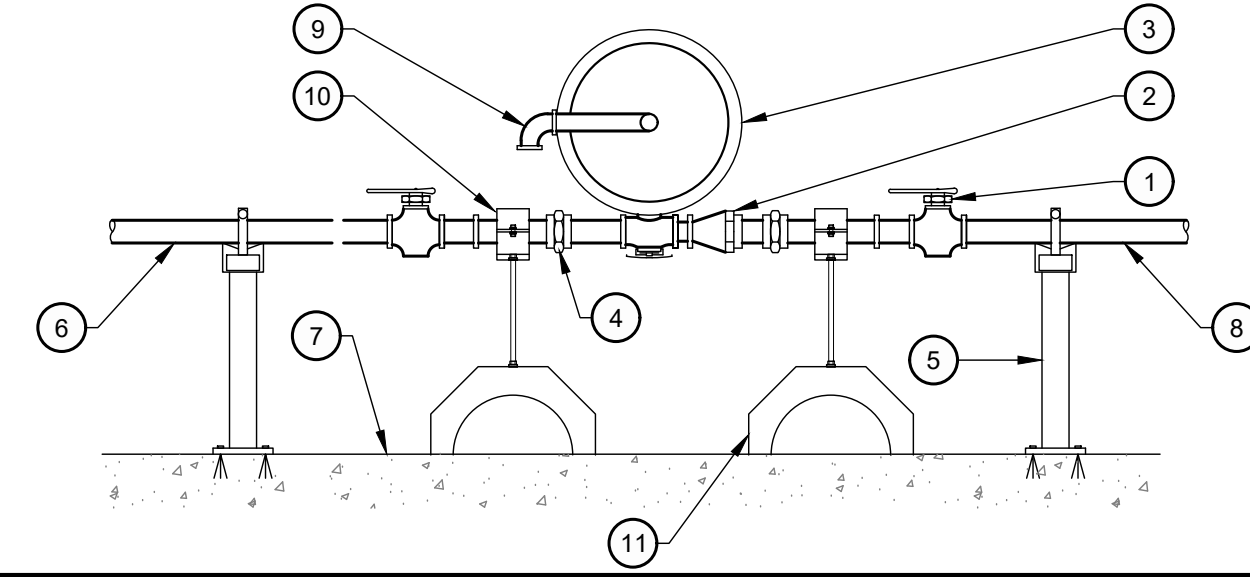
BUILDING NUMBER

PLUMBING OVERALL SITE PLAN

P1.0

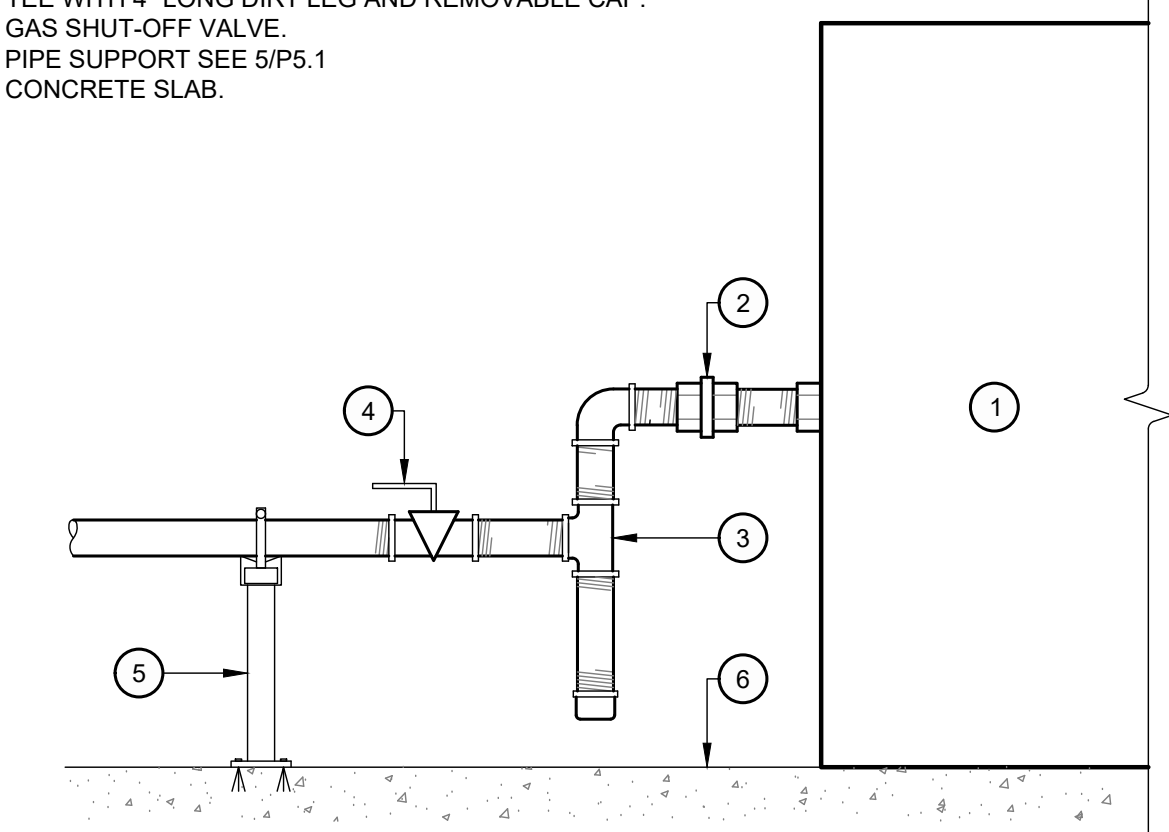


- LUBRICATED PLUG VALVE WITH REMOVABLE LEVER HANDLE.
- REDUCER.
- PRESSURE REGULATOR VALVE.
- UNION.
- PIPE SUPPORT. SEE 5/PS 1.
- HIGH PRESSURE INTAKE.
- EXISTING CONCRETE SLAB.
- LOW PRESSURE TO EQUIPMENT. SEE PLAN FOR CONTINUATIONS.
- REGULATOR VENT ELBOW DOWN.
- PIPE CLAMP. TYP.
- DURA-BLOK DBM SERIES ELEVATED RUBBER ROOF SUPPORT WITH THREADED ROD RISERS AND HINGED PIPE CLAMP.



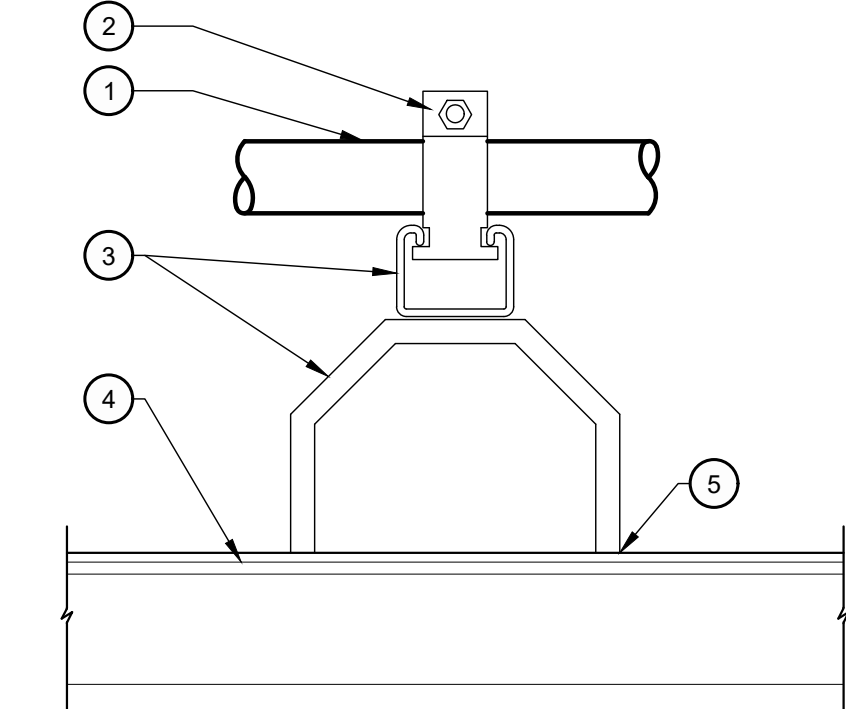
GAS PRESSURE REGULATOR VALVE N.T.S 6

- GAS EQUIPMENT.
- UNION.
- TEE WITH 4" LONG DIRT LEG AND REMOVABLE CAP.
- GAS SHUT-OFF VALVE.
- PIPE SUPPORT SEE 5/PS 1.
- CONCRETE SLAB.

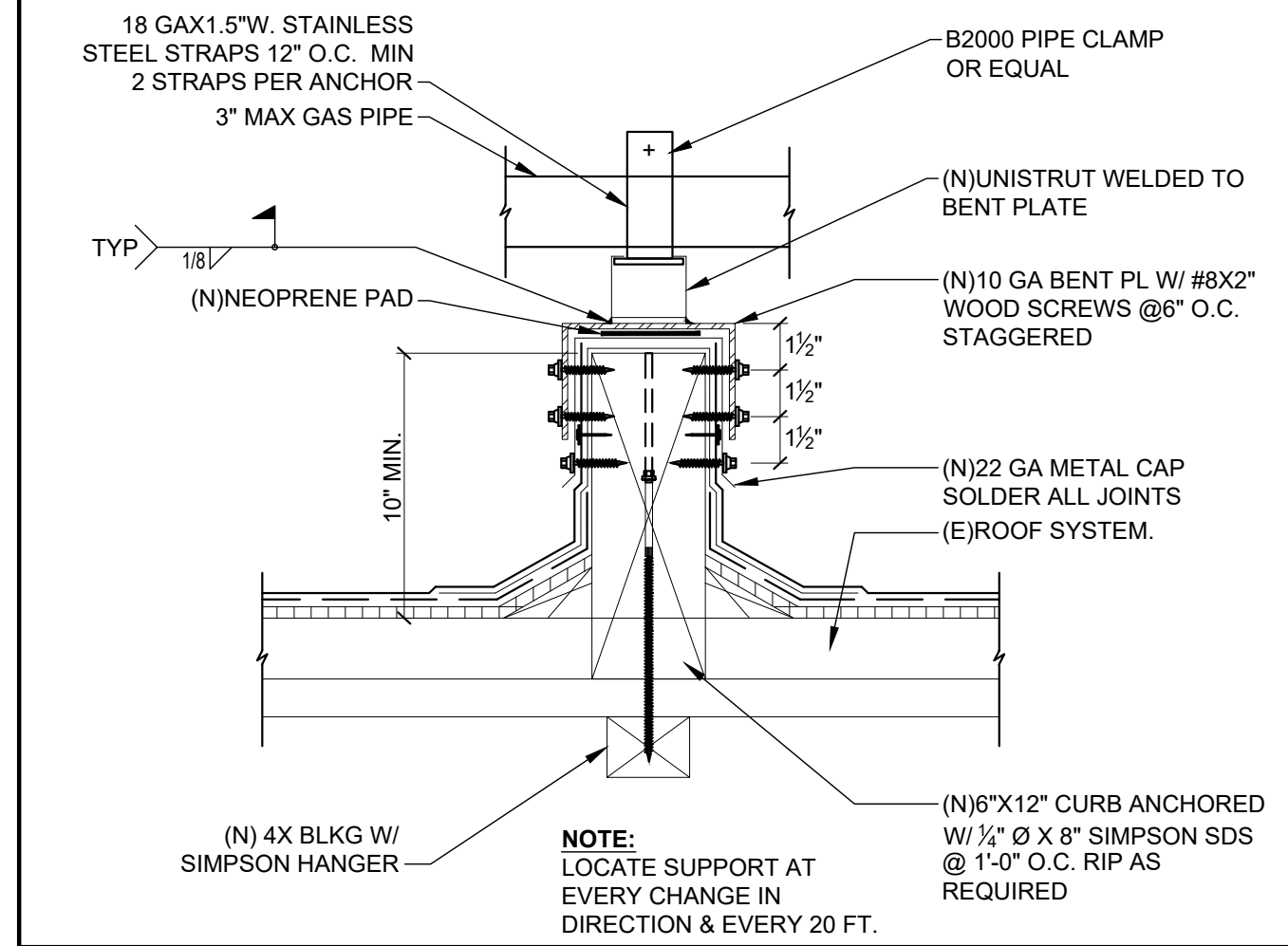


GAS CONNECTION TO EQUIPMENT N.T.S 1

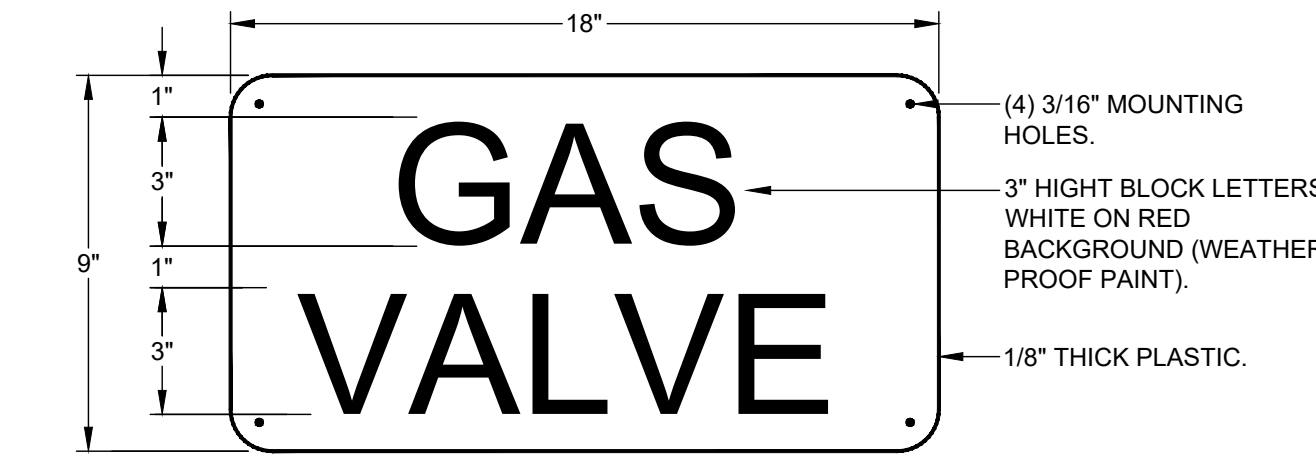
- NOTE:**
SPACE PIPE SUPPORTS AT MAXIMUM INTERVALS OF 8'-0" ON CENTER FOR PIPES 3/4" AND 1" FOR PIPES LARGER THAN 1". MAXIMUM SPAN SHALL BE 10'.
- PIPE (MAX. OF 3")
 - PIPE CLAMP. TYP.
 - DURA-BLOK DB SERIES RUBBER ROOF SUPPORT WITH CHANNEL AND PIPE CLAMP.
 - EXISTING FINISHED ROOF.
 - SET BLOCK IN MASTIC.



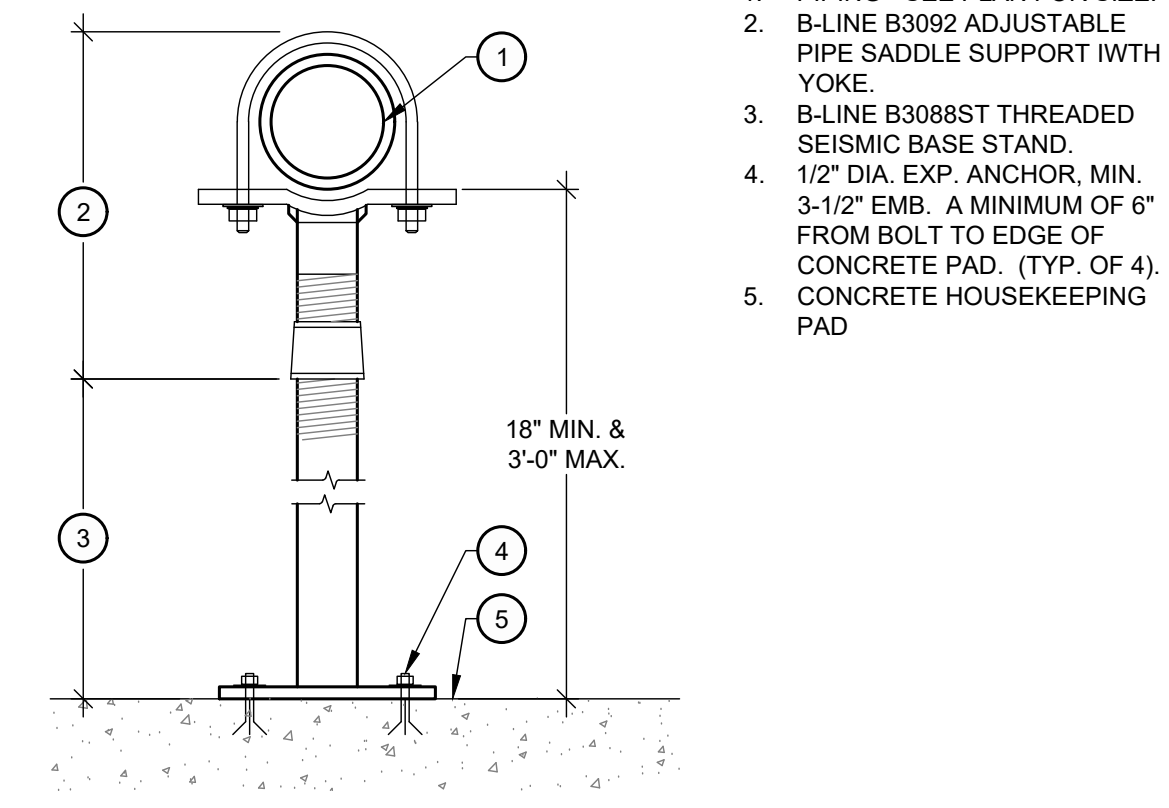
PIPE SUPPORT ROOF ATTACHMENT N.T.S 2



PIPE SEISMIC SUPPORT ROOF ATTACHMENT 3



GAS VALVE SIGN DETAIL N.T.S 4

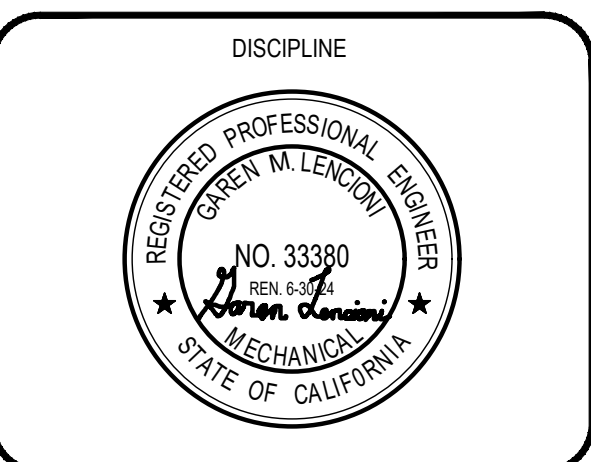
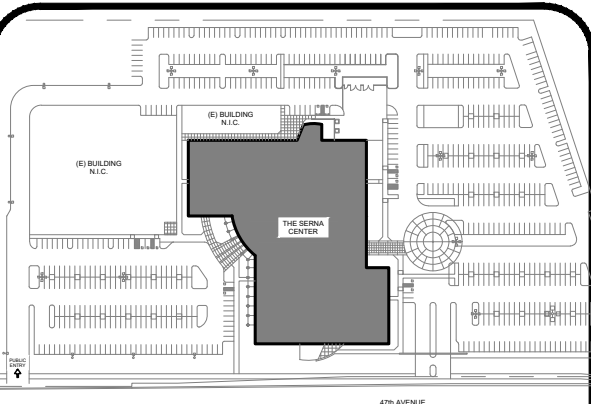


TYP. PIPE SUPPORT TO SLAB N.T.S 5



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SERNA CENTER GENERATOR



CLIENT
SACRAMENTO CITY U.S.D.
DATE 03/31/2023 PROJECT NUMBER
DRAWING HISTORY

No.	Description	Date

Project Status
BUILDING NUMBER

PLUMBING DETAILS

ELECTRICAL NOTES

EQUIPMENT ANCHORAGE NOTES

MEP COMPONENT ANCHORAGE NOTES
ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE.

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.6, 13.6.7, 13.6.8, AND 2019 CBC, SECTION 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2015 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO START OF AND DURING THE HANGING AND BRACING OF DISTRIBUTION SYSTEMS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.
MP MD PP E OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #).

LIST OF APPLICABLE CODES

- 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC) CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 1
2019 CALIFORNIA BUILDING CODE (CBC) CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2, VOLUME 1 & 2
2019 CALIFORNIA ELECTRICAL CODE (CEC) CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 3
2019 CALIFORNIA ENERGY CODE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 6
2019 CALIFORNIA FIRE CODE (CFC) CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 9
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBCS) CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11
2016 NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE WITH CA AMENDMENTS

DEVICE LOCATION NOTE

THE LOCATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS, DETAILS, OR SECTIONS PRIOR TO INSTALLATIONS. ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE RECESSED IN WALLS UNLESS OTHERWISE NOTED. OUTLETS NOT INDICATED ON ARCHITECTURAL ELEVATIONS SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ROUGH-IN, UNLESS OTHERWISE NOTED. ELECTRICAL DEVICES SHALL BE MOUNTED PER ACCESSIBLE DEVICE MOUNTING HEIGHT DETAIL.

COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT SUPPLY POWER AND MAKE CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON THE SINGLE LINE DIAGRAM, ELECTRICAL DRAWINGS, AND DRAWINGS OF OTHER TRADES. REVIEW THE DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT, DISCONNECT SWITCHES, STARTERS, WIRING, CONTROLS, AND CONDUIT FOR MECHANICAL AND PLUMBING OPERATIONS SHALL BE PROVIDED THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURERS SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.

UL LISTINGS NOTE

ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES (UL) AND BEAR THEIR LABEL OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY.

ALL EQUIPMENT/DEVICES INSTALLED RECESSED IN FIRE RATED CEILING OR WALLS SHALL BE ENCLOSED WITH AN APPROVED UL LISTED ENCLOSURE CARRYING THE SAME FIRE RATING AS THE CEILING OR WALL.

STRUCTURAL NOTE

UNLESS SPECIFICALLY SHOWN ON THESE PLANS, STRUCTURAL MEMBERS SHALL NOT BE CUT, DRILLED, OR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT.

DIAGRAMMATIC NOTE

DRAWINGS ARE DIAGRAMMATIC AND DO NOT INDICATE DETAILED CONDUIT ROUTING OR LENGTHS REQUIRED FOR COMPLETE INSTALLATION. ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE CONTRACTOR BUT SHALL BE IN STRICT COMPLIANCE WITH STRUCTURAL REQUIREMENTS, CONTRACT DOCUMENTS AND SPECS UNLESS OTHERWISE NOTED. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES. DO NOT SCALE THE ELECTRICAL DRAWINGS FOR LOCATIONS ANY ELECTRICAL, ARCHITECTURAL, STRUCTURAL AND/OR MECHANICAL ITEMS OR FEATURES. REFER TO ARCHITECTURAL AND STRUCTURAL CONTRACT DOCUMENTS FOR FEATURES. REFER TO ARCHITECTURAL AND STRUCTURAL CONTRACT DOCUMENTS FOR DIMENSIONS.

GENERAL NOTES

- 1. UNLESS SPECIFICALLY INDICATED ON THE ELECTRICAL DRAWINGS, OUTLETS LOCATED AT COUNTERS AND CABINETS SHALL BE MOUNTED AS SHOWN ON ARCHITECTURAL DETAILS AND ELEVATIONS, OR AS DIRECTED BY ARCHITECT.
2. COORDINATE MOUNTING HEIGHTS AND DETAILS OF ALL OUTLETS (POWER, SIGNAL, ETC.) WITH ARCHITECTURAL CASEWORK DRAWINGS PRIOR TO DIVISION 26 ROUGH-IN. PROVIDE COORDINATION DRAWINGS IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS WHERE CONFLICTS EXIST. OBTAIN APPROVAL FROM ARCHITECT BEFORE ELECTRICAL ROUGH-IN WHEN CONFLICTS ARISE.
3. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL HVAC AND PLUMBING EQUIPMENT.
4. CIRCUITING
A. BRANCH CIRCUITING IS SCHEMATIC IN NATURE AND IS INTENDED TO INDICATE CIRCUIT LOADING AND CONTROL, NOT METHODS OF INSTALLATION. REFER TO SPECIFICATIONS FOR METHODS OF INSTALLATION AND MATERIALS, INCLUDING WHETHER OR NOT BX IS ALLOWED AND WHETHER "THROUGH-FIXTURE" OR "CCTOPUS (EMT WITH FLEXIBLE WHIPS)" TYPE LIGHTING BRANCH CIRCUITING IS REQUIRED.
B. WHERE WIRE SIZE AND CONDUIT SIZE IS NOT INDICATED ON THE DRAWINGS AND/OR PANEL SCHEDULES, REFER TO SPECIFICATIONS FOR MINIMUM SIZE REQUIRED.
C. BRANCH CIRCUITS ON THE DRAWINGS ARE GENERALLY NOT SHOWN GROUPED IN SINGLE RACEWAYS. HOWEVER, GROUPING IS ALLOWED UNDER CERTAIN CONDITIONS. REFER TO DIVISION 26 SPECIFICATIONS UNDER SECTION ENTITLED "ELECTRICAL WIRING" FOR REQUIREMENTS.
D. THE DRAWINGS GENERALLY INDICATE QUANTITY OF CONDUCTORS ON BRANCH CIRCUIT HOME RUNS ONLY. ELSEWHERE WITHIN CIRCUITS, PROVIDE QUANTITY OF CONDUCTORS AS NEEDED TO ACCOMPLISH CIRCUITING AND SWITCHING REQUIREMENTS SHOWN.
5. WHEN REMOVING EXISTING ELECTRICAL WORK WHERE OTHER ITEMS REMAIN ON THE SAME CIRCUIT, THE CONTRACTOR SHALL TAKE WHATEVER STEPS ARE NECESSARY TO MAINTAIN CIRCUIT CONTINUITY.
6. ALL ITEMS NOTED TO BE REMOVED ARE TO REMAIN THE PROPERTY OF THE OWNER. HOWEVER, CONTRACTOR SHALL REMOVE FROM JOB SITE ALL MATERIAL NOT RETAINED BY OWNER.
7. FIELD VERIFY CONDITION OF, AND MODIFICATIONS AND ADDITIONS TO, ALL EXISTING ELECTRICAL FIXTURES, PANELS, WIRING, ETC.
8. CONTRACTOR SHALL FIELD VERIFY EXISTING BRANCH CIRCUIT LOADING WHEN MAKING MODIFICATIONS AND/OR ADDITIONS TO THAT CIRCUIT. IF NEW WORK WOULD OVERLOAD EXISTING CIRCUIT, CONTRACTOR SHALL LOCATE ANOTHER EXISTING CIRCUIT (THE CLOSEST), WHICH WOULD NOT BE OVERLOADED UPON ADDING NEW LOAD, AND SHALL THE NEW LOAD INTO THAT CIRCUIT.
9. CONTRACTOR TO REFER TO ARCHITECTURAL PHASING PLANS AND HAVE A GOOD UNDERSTANDING OF SCOPE OF PROJECT PRIOR TO COMMENCEMENT OF WORK.
A. PROVIDE MEANS OF SUPPORT FOR LUMINAIRES PER NEC 410-16. T BAR CLIPS SHALL BE INSTALLED ON THE LUMINAIRE AND SHALL BE FIELD SECURED TO THE INVERTED CEILING TEES SO THAT THE LUMINAIRE IS SECURELY FASTENED TO THE CEILING SYSTEM FRAMING MEMBERS.
B. CEILING TILES SHALL NOT BEAR THE WEIGHT OF LUMINAIRES. SURFACE MOUNT LUMINAIRES, RECESSED DOWNLIGHTS, LIGHT TRACK, EXIT SIGN, ETC. SHALL BE SUPPORTED BY PROPER FRAMES OR OTHER ATTACHMENT TO MAIN CEILING SYSTEM GRID OR BUILDING STRUCTURE ABOVE CEILING.
C. LUMINAIRES SHALL BE CENTERED IN CEILING TILE.
D. LUMINAIRE SHALL HAVE FLANGE OR TRIM RING FOR CLOSURE OF CEILING CUTOUT OR OPENING.
E. FIRE-RATED CEILING ASSEMBLY FOR LUMINAIRES TO BE FLUSH-MOUNTED INTO A FIRE-RATED CEILING OR SURFACE MOUNTED TO A FIRE-RATED CEILING, INSTALL WITH INDEPENDENT, SECURE SUPPORT. RACEWAY, CABLE ASSEMBLIES, BOXES AND FITTINGS LOCATED ABOVE A FIRE-RATED FLOOR/CEILING OR ROOF CEILING ASSEMBLY SHALL NOT BE SECURED TO, OR SUPPORTED BY, THE CEILING ASSEMBLY INCLUDING THE CEILING SUPPORT WIRES. PROVIDE AN INDEPENDENT MEANS OF SECURE SUPPORT. INDEPENDENT SUPPORT WIRES SHALL BE DISTINGUISHABLE BY COLOR, TAGGING, OR OTHER EFFECTIVE MEANS FROM THOSE THAT ARE PART OF THE FIRE-RATED DESIGN.
11. CONTRACTOR SHALL FIELD VERIFY ANY EXISTING UNDERGROUND PIPING, WIRING OR OTHER FACILITIES PRIOR TO TRENCHING, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY INSTALLATION OF NEW WORK.
12. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION, CEC, ALL STATE AND LOCAL CODES AND AMENDMENT.

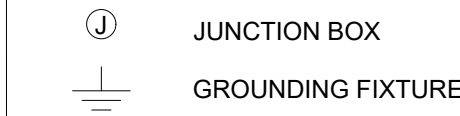
ELECTRICAL SYMBOL LEGEND

LEGEND NOTES

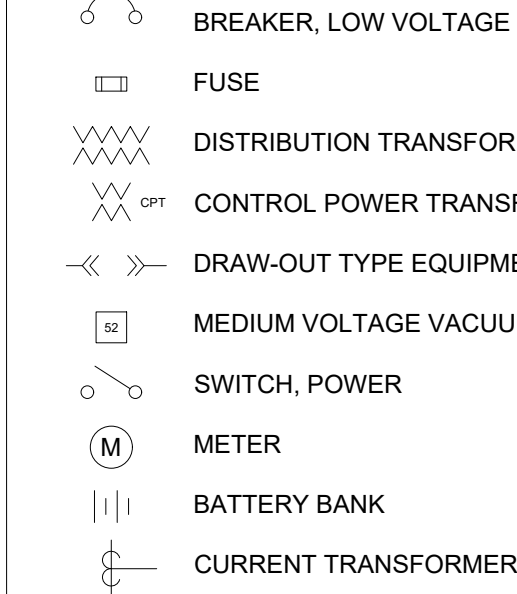
- 1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS.
2. DASHED ELECTRICAL EQUIPMENT GENERALLY INDICATES EXISTING EQUIPMENT.
3. LONG-SHORT-SHORT-LONG DASHING GENERALLY INDICATES MATCH LINE OR DEFINES AREA FOR SPECIAL NOTE.

CIRCUIT RELATED

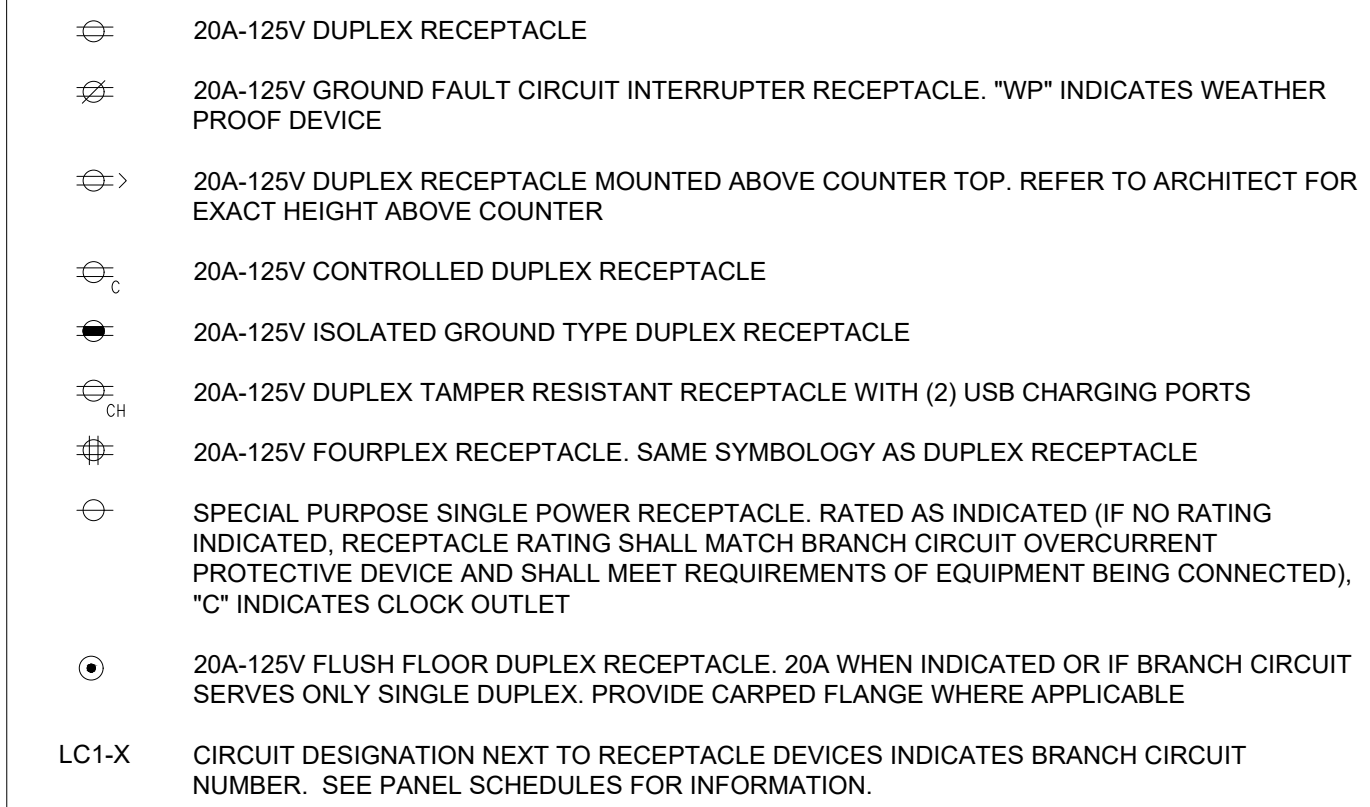
LIGHTING OR POWER CIRCUIT(S). ARROW INDICATES HOME RUN. LONGER TICK(S) INDICATE NEUTRAL WIRE(S). SHORTER STRAIGHT TICK(S) INDICATE PHASE WIRE(S). SLANTED SHORTER TICK(S) INDICATE SWITCH LEG(S). DOT(S) INDICATE GROUNDING CONDUCTOR(S). DASHED WIRING (LONG-SHORT-LONG DASHES) INDICATES WIRING BELOW SLAB OR GRADE. DASHED WIRING (SERIES OF SHORT DASHES) INDICATES EXISTING WIRING. SLASH THROUGH ARROW INDICATES PARTIAL CIRCUIT. "D" ON HOMERUN ARROW INDICATES DEDICATED CIRCUIT. PROVIDE A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR FOR ENTIRE LENGTH OF CIRCUIT FROM PANEL TO OUTLET. COUNT EACH NEUTRAL AS CURRENT-CARRYING AND GROUP A MAXIMUM OF SIX THINWIRE CONDUCTORS IN A SINGLE RACEWAY. GROUNDING CONDUCTOR IS NOT COUNTED.
NOTE: HOMERUN INDICATES INSTALLATION OF NEW WIRE AND CONDUIT (#12 WIRE, 34°C UNLESS OTHERWISE NOTED) FROM SOURCE PANELBOARD TO LOAD. HOMERUN INDICATES CONNECTION OF NEW LOADS TO EXISTING CIRCUITS IN LIEU OF PANELBOARD WHERE NOTED ON PLANS.



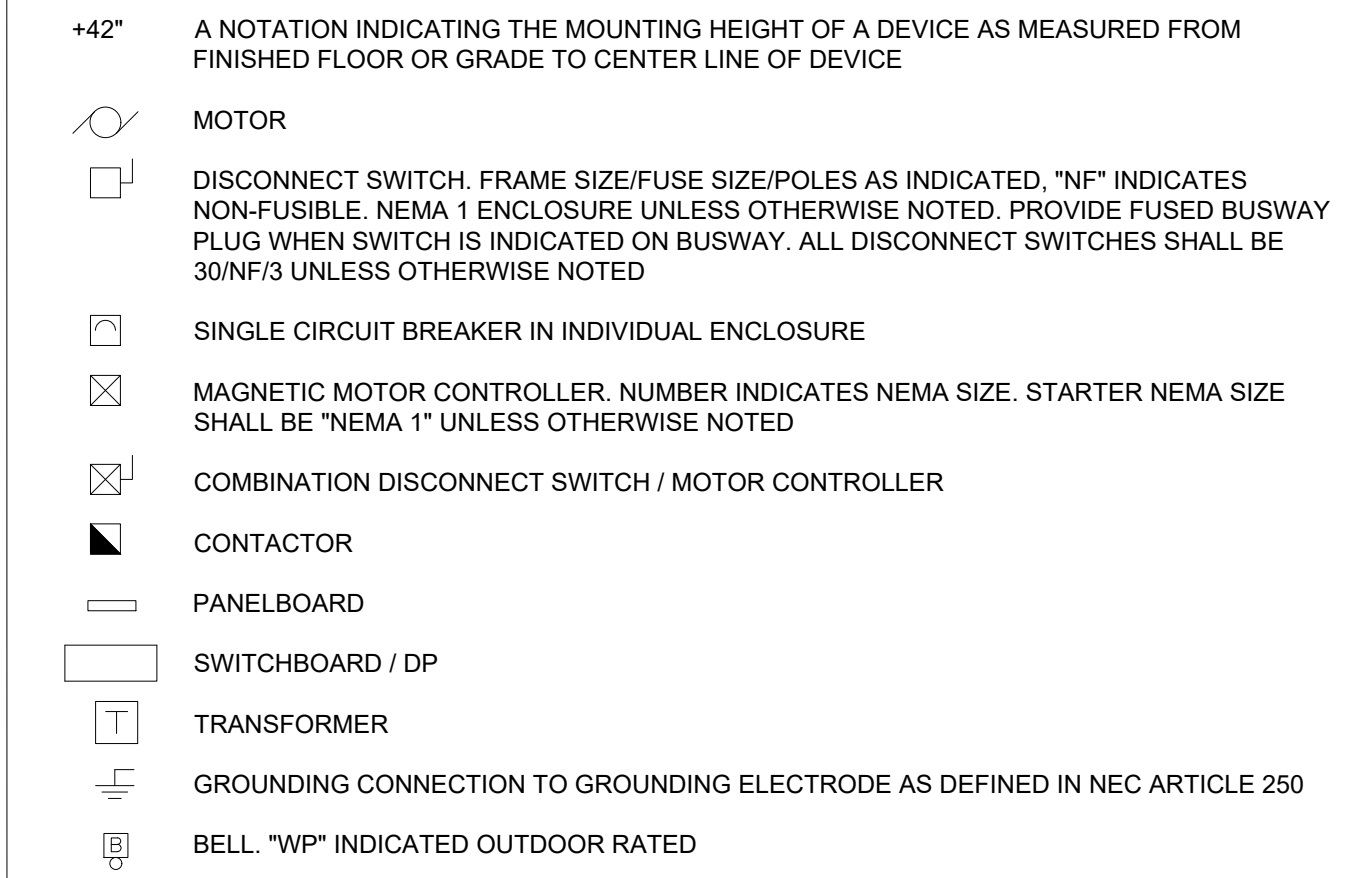
DIAGRAM



POWER OUTLETS



EQUIPMENT



SHEET INDEX

Table with 2 columns: Sheet Number (E.01-E.05) and Description (ELECTRICAL SHEET INDEX, LEGEND & NOTES; ELECTRICAL OVERALL SITE PLAN; ELECTRICAL ENLARGED SITE PLAN; ELECTRICAL ONE LINE DIAGRAMS; ELECTRICAL ROOM PLANS; ELECTRICAL GENERATOR FEEDER ROUTING ELEVATIONS; ELECTRICAL DETAILS)

ELECTRICAL ABBREVIATIONS

Table with 2 columns: Abbreviation (D, E, F, R, etc.) and Full Name (DEMOLISH/REMOVE, EXISTING, FUTURE, etc.)

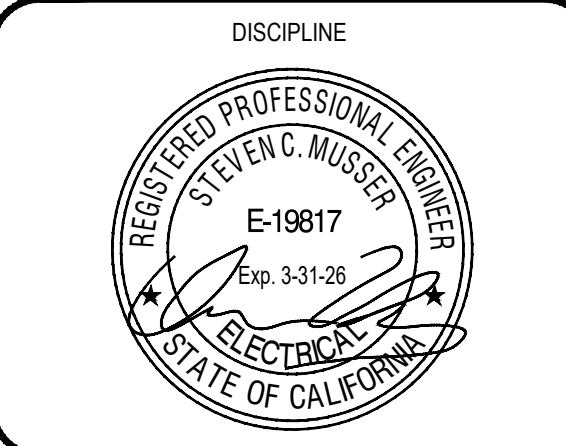


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SERNA CENTER GENERATOR

CLIENT LOGO

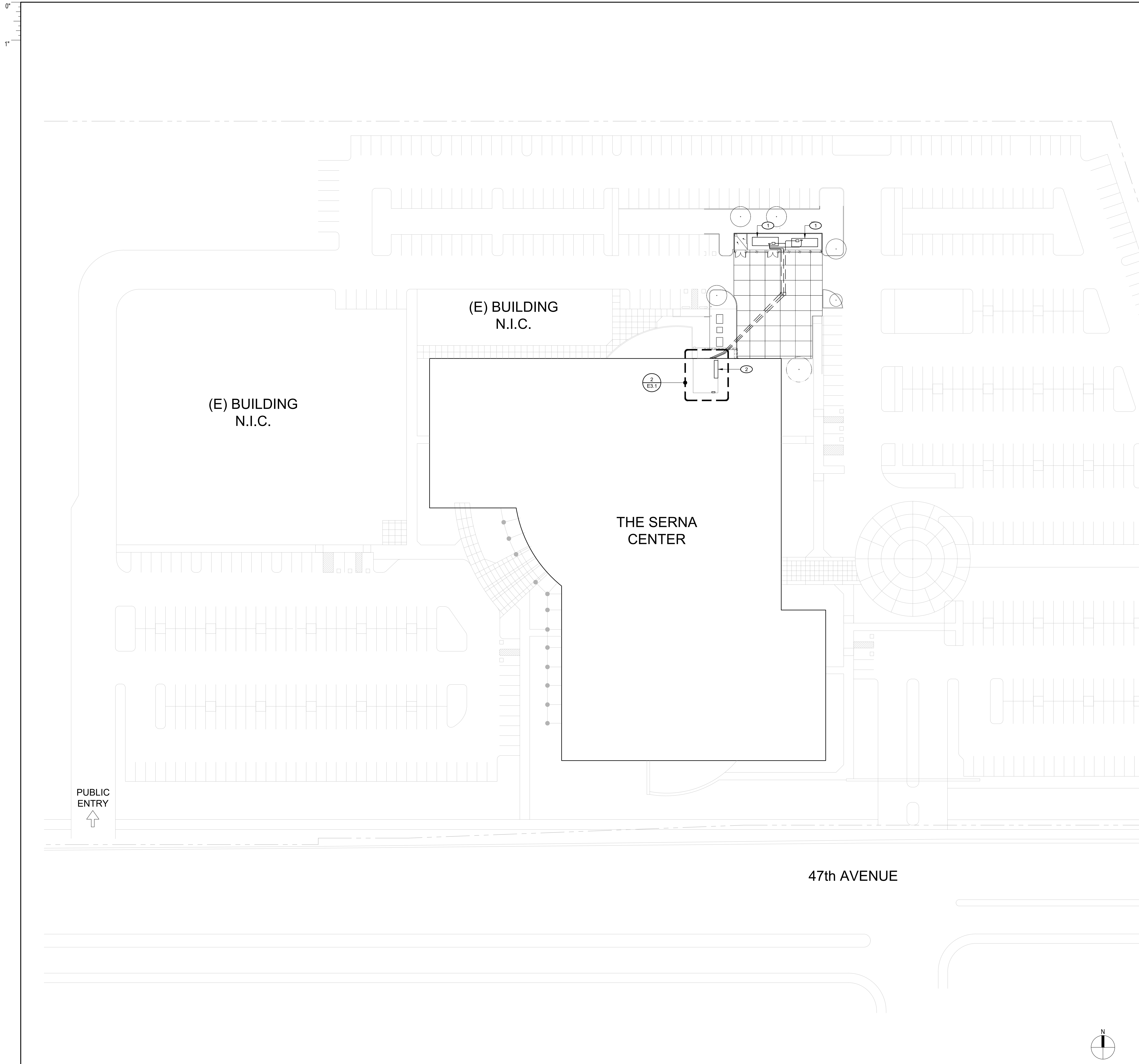


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Table with 3 columns: No., Description, Date

Project Status
BUILDING NUMBER

ELECTRICAL SHEET INDEX, LEGEND & NOTES



GENERAL NOTES

1. MAINTAIN ALL CODE REQUIRED CLEARANCES AROUND EQUIPMENT.
2. SEE ENLARGED SITE PLAN ON E1.1 FOR MORE INFORMATION.

KEYNOTES

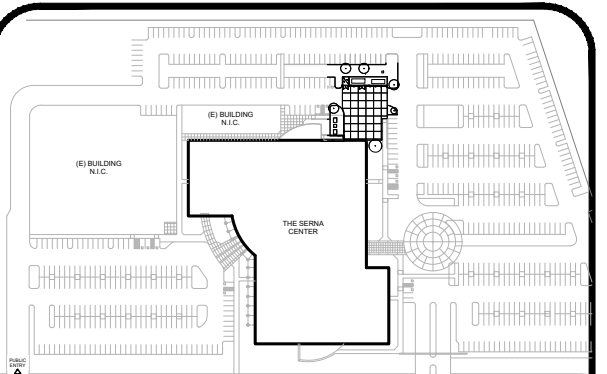
- ① (N) NATURAL GAS GENERATOR (OFCI).
- ② EXISTING MAIN SERVICE SWITCHBOARD TO BE REMOVED AND REPLACED WITH NEW (OFCI).



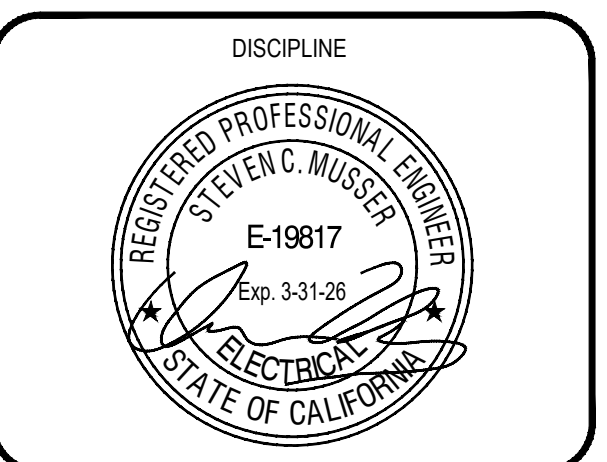
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KEY PLAN
NORTH PLAN TRUE



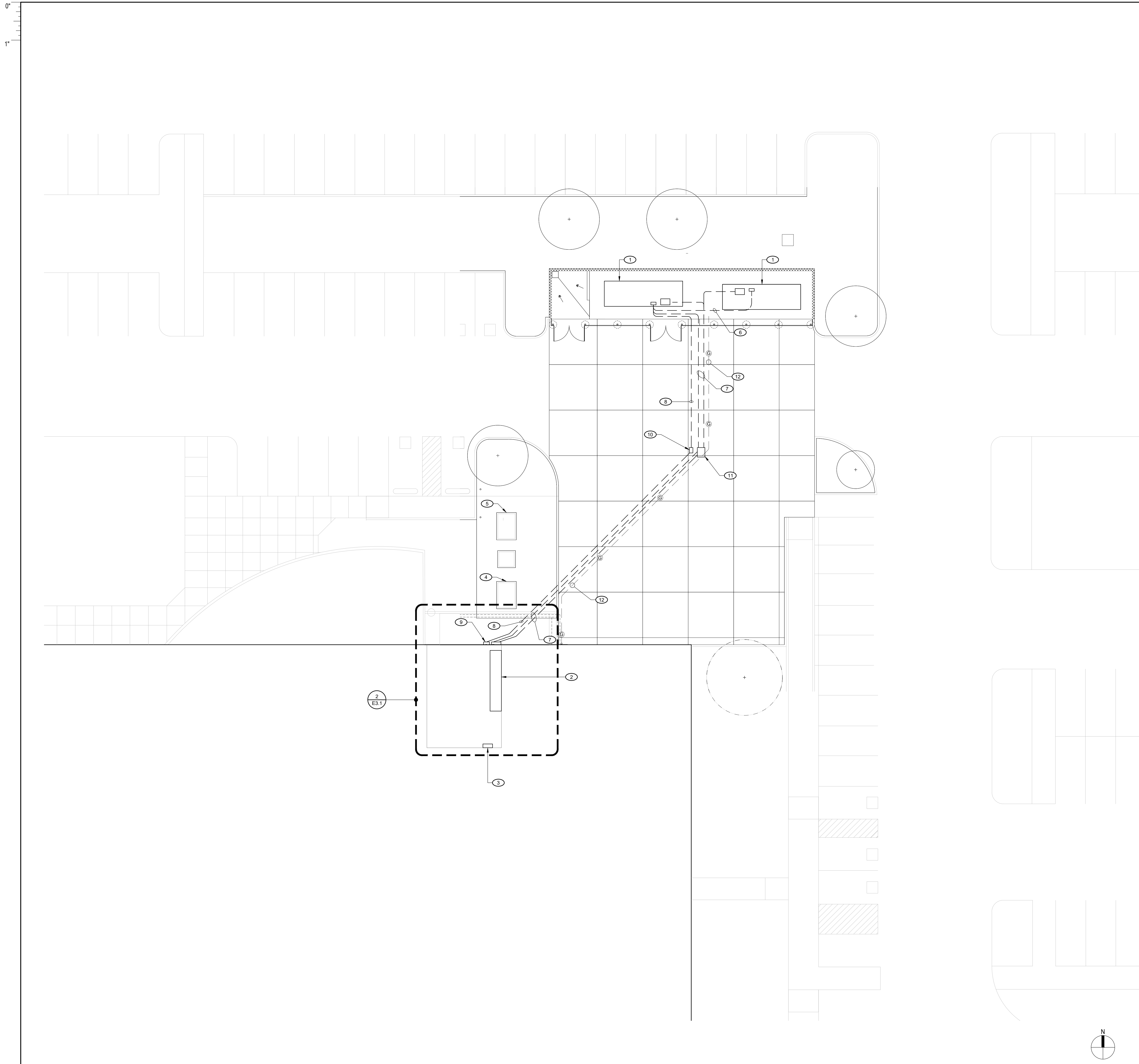
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DRAWING HISTORY		
No.	Description	Date

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BUILDING NUMBER

ELECTRICAL OVERALL SITE PLAN

E1.0



KEYNOTES

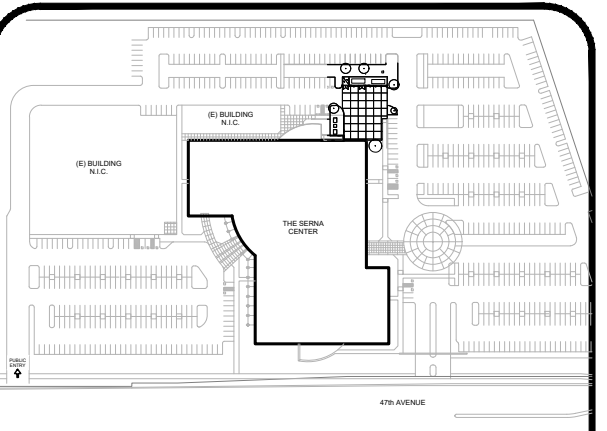
- ① (N) NATURAL GAS GENERATOR (OFC).
- ② THE EXISTING MAIN ELECTRICAL SERVICE AND DISTRIBUTION SWITCHBOARD IS TO BE REMOVED AND REPLACED WITH NEW, SMALLER CAPACITY MAIN ELECTRICAL SERVICE AND DISTRIBUTION SWITCHBOARD WITH AN INTEGRATED AUTOMATIC TRANSFER SWITCH (ATS). REFER TO THE SINGLE LINE DIAGRAMS. NEW SERVICE SWITCHBOARD IS TO BE OWNER FURNISHED CONTRACTOR INSTALLED.
- ③ INSTALL NEW MASTER CONTROL PANEL (OFC) FOR GENERATOR ADJACENT TO EXISTING FIRE ALARM CONTROL PANEL.
- ④ EXISTING UTILITY TRANSFORMER TO REMAIN.
- ⑤ EXISTING UTILITY TRANSFORMER TO BE REMOVED. COORDINATE WITH SMUD FOR REMOVAL OF THEIR EQUIPMENT AND CONDUCTORS.
- ⑥ PROVIDE:
- (1) 1" C - LOW VOLTAGE & START CIRCUIT
- (1) 1" C - 3 #10, #10 GND. (120/208V, 3W GENERATOR LOAD CENTER)
- ⑦ PROVIDE:
- (4) 4" C (480V GENERATOR OUTPUT) SEE SLD FOR CONDUCTOR SIZE.
- (1) 1" C - 6 #10, 2 #10 GND. (120/208V, 3W GENERATOR LOAD CENTER)
- ⑧ SAW CUT AND PATCH EXISTING CONCRETE/ ASPHALT FOR NEW UNDERGROUND CONDUITS. SEE DETAIL 01/E5.2 FOR TYPICAL TRENCH DETAIL.
- ⑨ PROVIDE 1" C - (LOW VOLTAGE & START CIRCUIT)
SAW CUT AND PATCH EXISTING CONCRETE/ ASPHALT FOR NEW UNDERGROUND CONDUITS. SEE DETAIL 01/E5.2 FOR TYPICAL TRENCH DETAIL.
- ⑩ TRANSITION FROM OVERHEAD INTERIOR TO UNDERGROUND EXTERIOR CONDUITS FOR THE GENERATOR INTERCONNECTION. SEE SHEET E4.1 FOR MORE INFORMATION.
- ⑪ PROVIDE 11"X17" UNDERGROUND PULL BOX. SEE DETAIL 07/E5.2 FOR MORE INFORMATION.
- ⑫ PROVIDE 24"X36" UNDERGROUND PULL BOX. SEE DETAIL 07/E5.2 FOR MORE INFORMATION.
- ⑬ (N) NATURAL GAS LINE TO SHARE JOINT TRENCH TO NEW GENSETS. COORDINATE WITH MECHANICAL/PLUMBING CONTRACTOR AND MAINTAIN REQUIRED DISTANCES FROM OTHER UTILITIES AS REQUIRED BY AHJ AND DETAIL 01/E5.2.



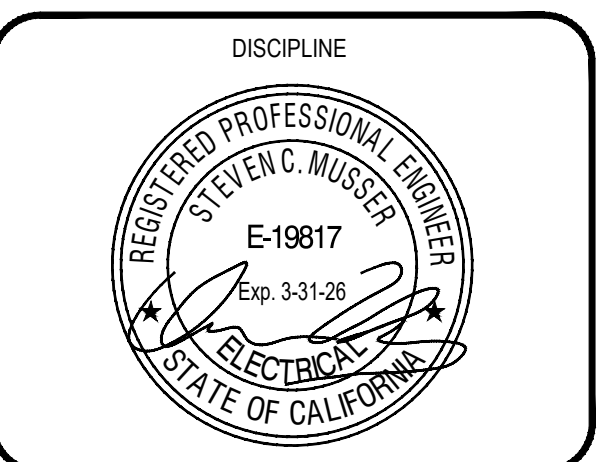
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KEY PLAN
NORTH PLAN TRUE



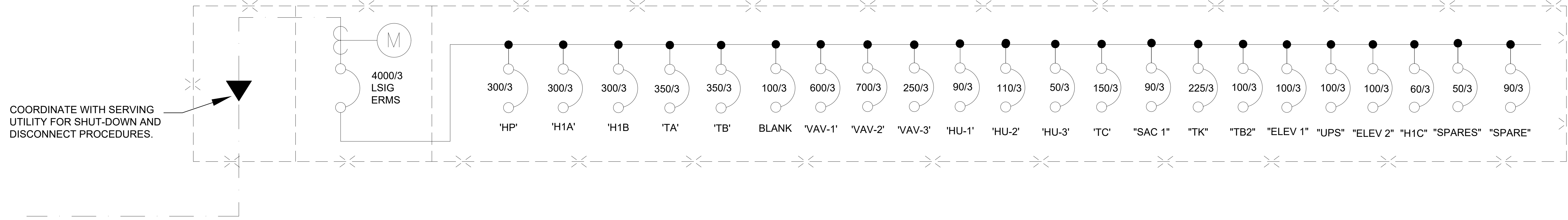
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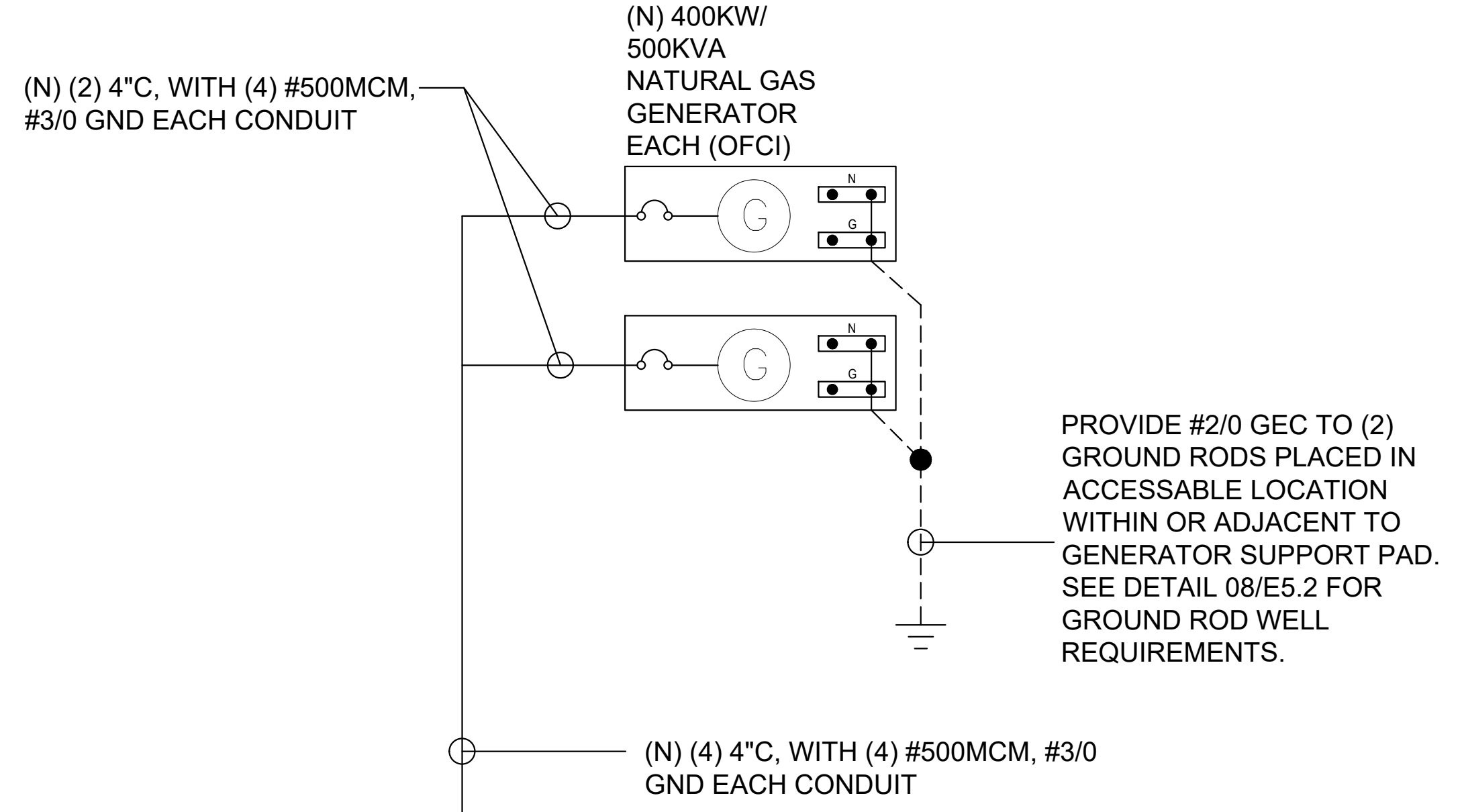
ELECTRICAL ENLARGED SITE PLAN

(E) 4000AMP 480V MAIN SWITCHBOARD (TO BE REMOVED) 65000 A.I.C.

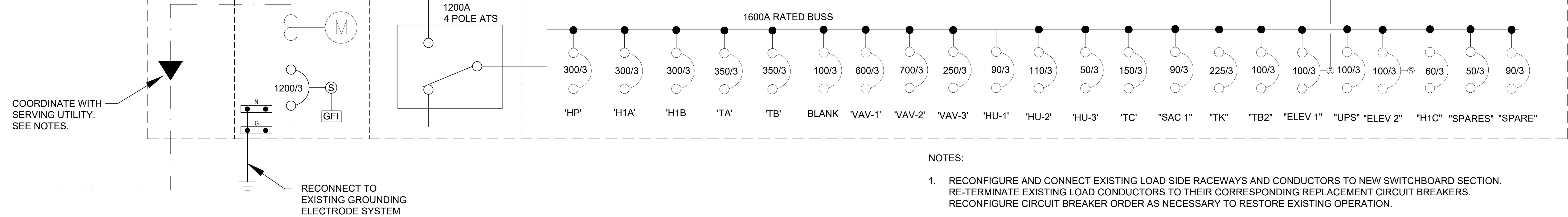


- NOTES:
- DISCONNECT AND REMOVE EXISTING SWITCHGEAR AND CIRCUIT BREAKERS.
 - PRESERVE EXISTING RACEWAYS AND CONDUCTORS TO ACCOMMODATE REMOVAL OF EQUIPMENT AND INSTALLATION OF NEW SWITCHGEAR.

01 ONE LINE - DEMO
SCALE: NONE



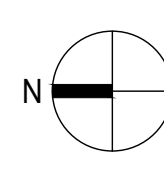
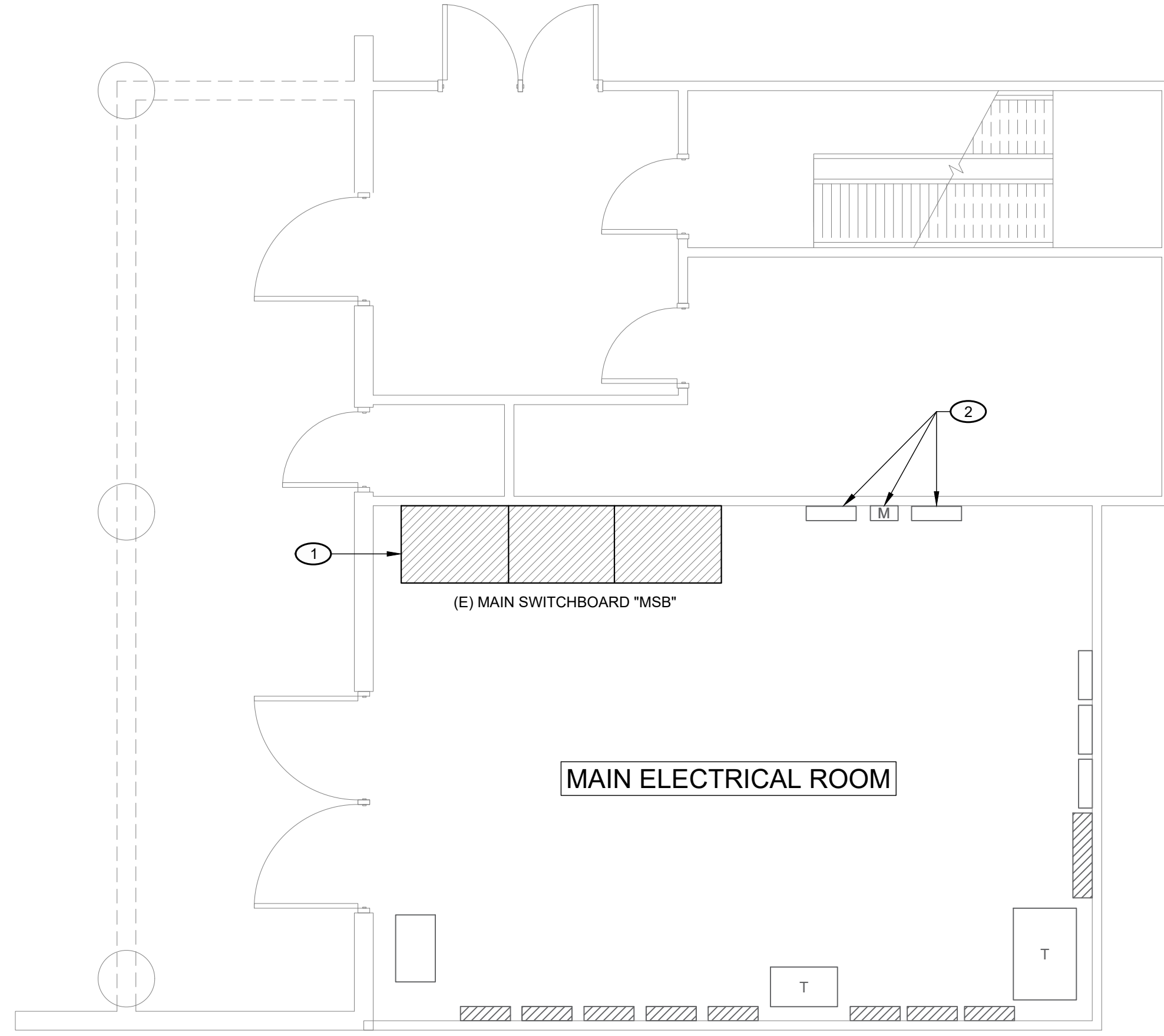
(N) 277/480V MAIN SWITCHBOARD WITH INTEGRATED ATS. NEMA 1. 65KA A.I.C. (OFCI)



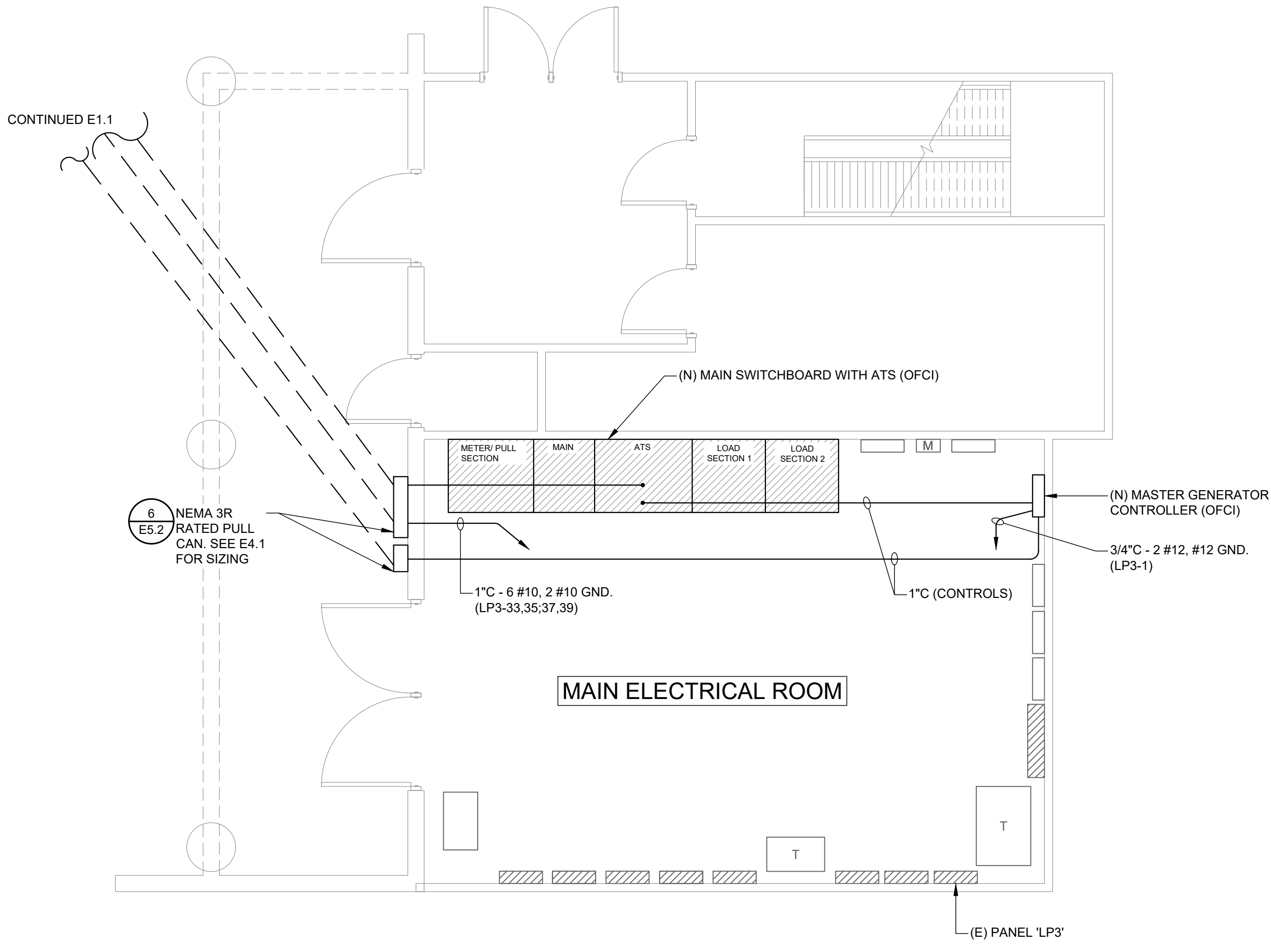
- NOTES:
- RECONFIGURE AND CONNECT EXISTING LOAD SIDE RACEWAYS AND CONDUCTORS TO NEW SWITCHBOARD SECTION. RE-TERMINATE EXISTING LOAD CONDUCTORS TO THEIR CORRESPONDING REPLACEMENT CIRCUIT BREAKERS. RECONFIGURE CIRCUIT BREAKER ORDER AS NECESSARY TO RESTORE EXISTING OPERATION.
 - COORDINATE WITH THE SERVING UTILITY AS REQUIRED FOR REDUCING/ADAPTING EXISTING INFRASTRUCTURE TO NEW TERMINATION SECTION REDUCED AMP RATING. VERIFY RECONNECTED SUPPLY HAS SAME ROTATION SEQUENCE AS PRIOR SERVICE TERMINATION. LABEL NEW GEAR WITH PROPER ROTATION SEQUENCE.
 - TEST NEW GFCCI AT SERVICE MAIN IS FULLY FUNCTIONING AND OPERATIONAL.
 - SEE DETAIL 08/E5.2 FOR GROUNDING ROD REQUIREMENTS AT NEW GENERATORS.

2 ONE LINE - NEW
SCALE: NONE

KEYNOTES	
①	REMOVE AND SALVAGE (E) MAIN SWITCHBOARD AND BREAKERS. PRESERVE EXISTING LINE AND LOAD SIDE FEEDERS AND RACEWAYS TO BE RE-INSTALLED WITH NEW SWITCHBOARD AND BREAKERS.
②	REMOVE AND RELOCATE EXISTING ELECTRICAL EQUIPMENT AS REQUIRED TO MAKE WAY FOR NEW SWITCHBOARD. EXTEND AND RECONFIGURE BOTH UNDERGROUND AND OVERHEAD CONDUITS AND FEEDERS TO NEW EQUIPMENT LOCATIONS AS REQUIRED FOR RECONNECTION OF EXISTING CIRCUITS.



1 ELECTRICAL ROOM PLAN - DEMOLITION
SCALE: 1/8" = 1'-0"



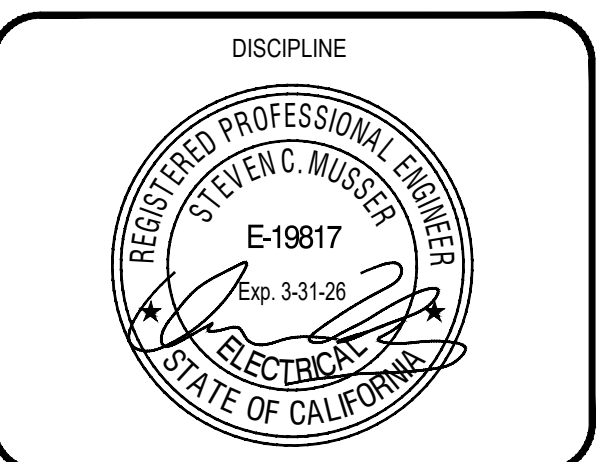
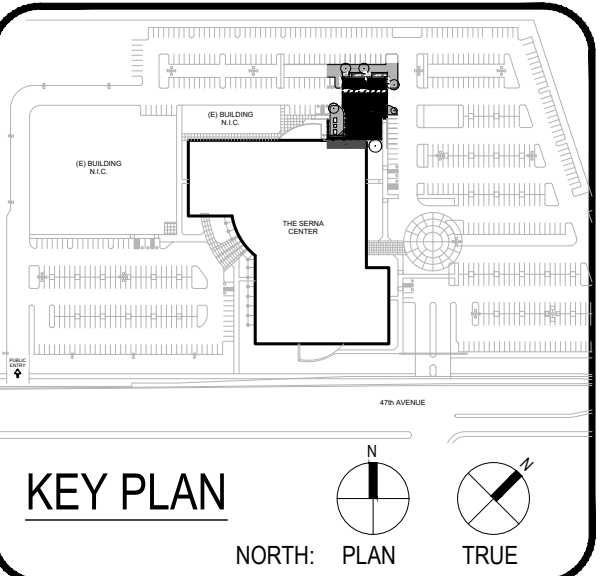
PANEL: (E) 'LP3' VOLTAGE: 208Y/120V 3PH 4W	ENCLOSURE:				BUS: 100A	
	LOAD	VA	BKR	CIR	SURFACE	MAIN LUGS
(N) MASTER GEN. CONTR.	240	20/1	1	2	20/1	(E) SPARE
(E) SPARE		20/1	3	4	20/1	(E) SPARE
(E) SPARE		20/1	5	6	20/1	(E) SPARE
(E) SPARE		20/1	7	8	20/1	(E) SPARE
(E) SPARE		20/1	9	10	20/1	(E) SPARE
(E) SPARE		20/1	11	12	20/1	(E) SPARE
(E) CU-7	1800		13	14	400	(E) FC-7
---	1800	20/2	15	16	400	---
(E) CU-8	1000		17	18	200	(E) FC-8
---	1000	20/2	19	20	200	---
(E) CU-9	1000		21	22	200	(E) FC-9
---	1000	30/2	23	24	200	---
(E) CU-10	1000		25	26	200	(E) FC-10
---	1000	30/2	27	28	200	---
(E) CU-11	1000		29	30	400	(E) FC-11
---	1000	30/2	31	32	400	---
(N) GEN. 1 LOAD CENTER	1700		33	34		SPACE
---	1700	30/2	35	36		SPACE
(N) GEN. 2 LOAD CENTER	1700		37	38		SPACE
---	1700	30/2	39	40		SPACE
SPACE			41	42		SPACE
KVA FOR PHASE A	7.7				64.5	AMPERES
KVA FOR PHASE B	7.8				65.0	AMPERES
KVA FOR PHASE C	5.5				45.8	AMPERES
TOTAL KVA	21.0					



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SERNA CENTER GENERATOR



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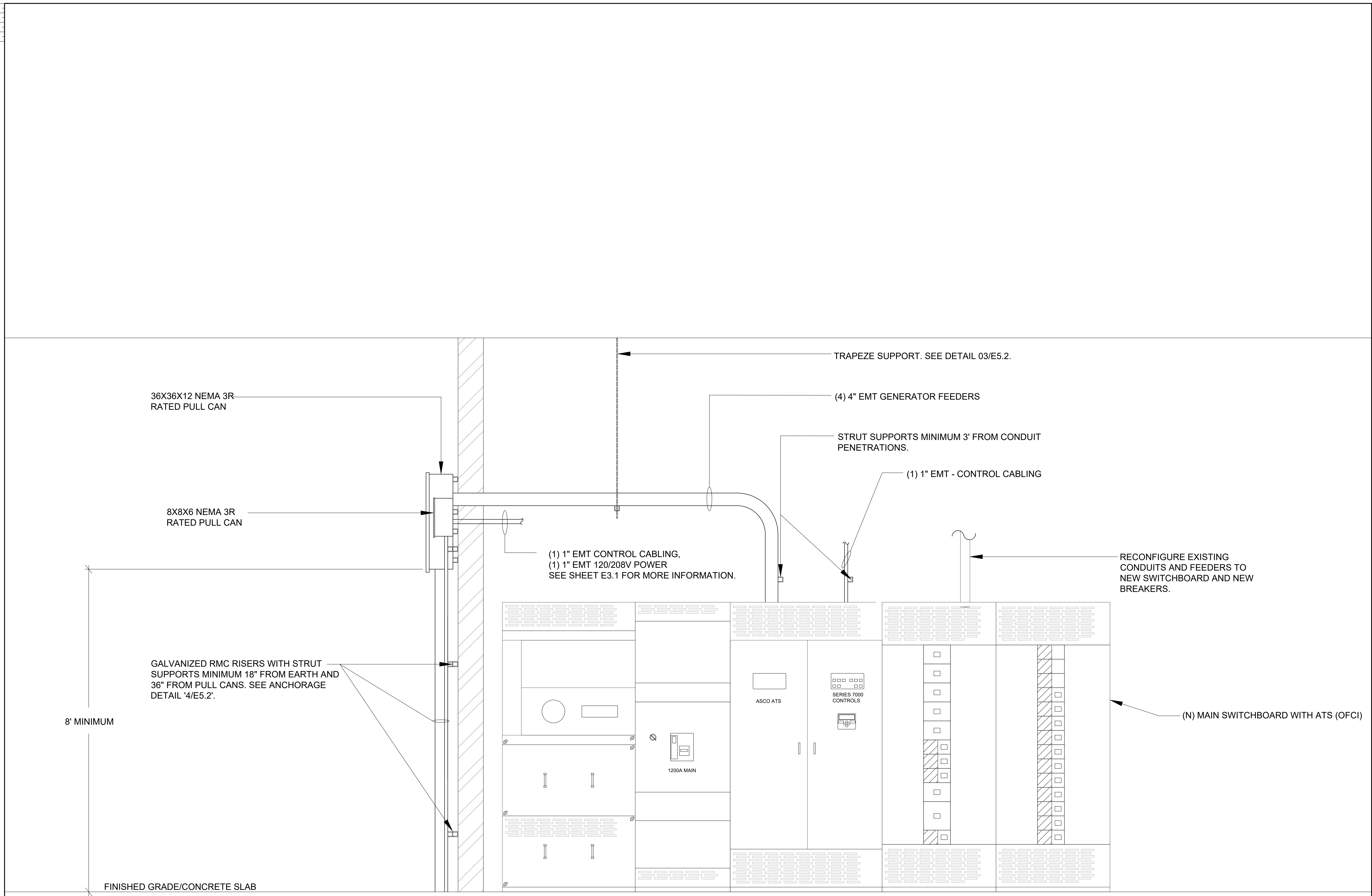
ELECTRICAL ROOM PLANS

2 ELECTRICAL ROOM PLAN - NEW LAYOUT
SCALE: 1/8" = 1'-0"

No.	Description	Date

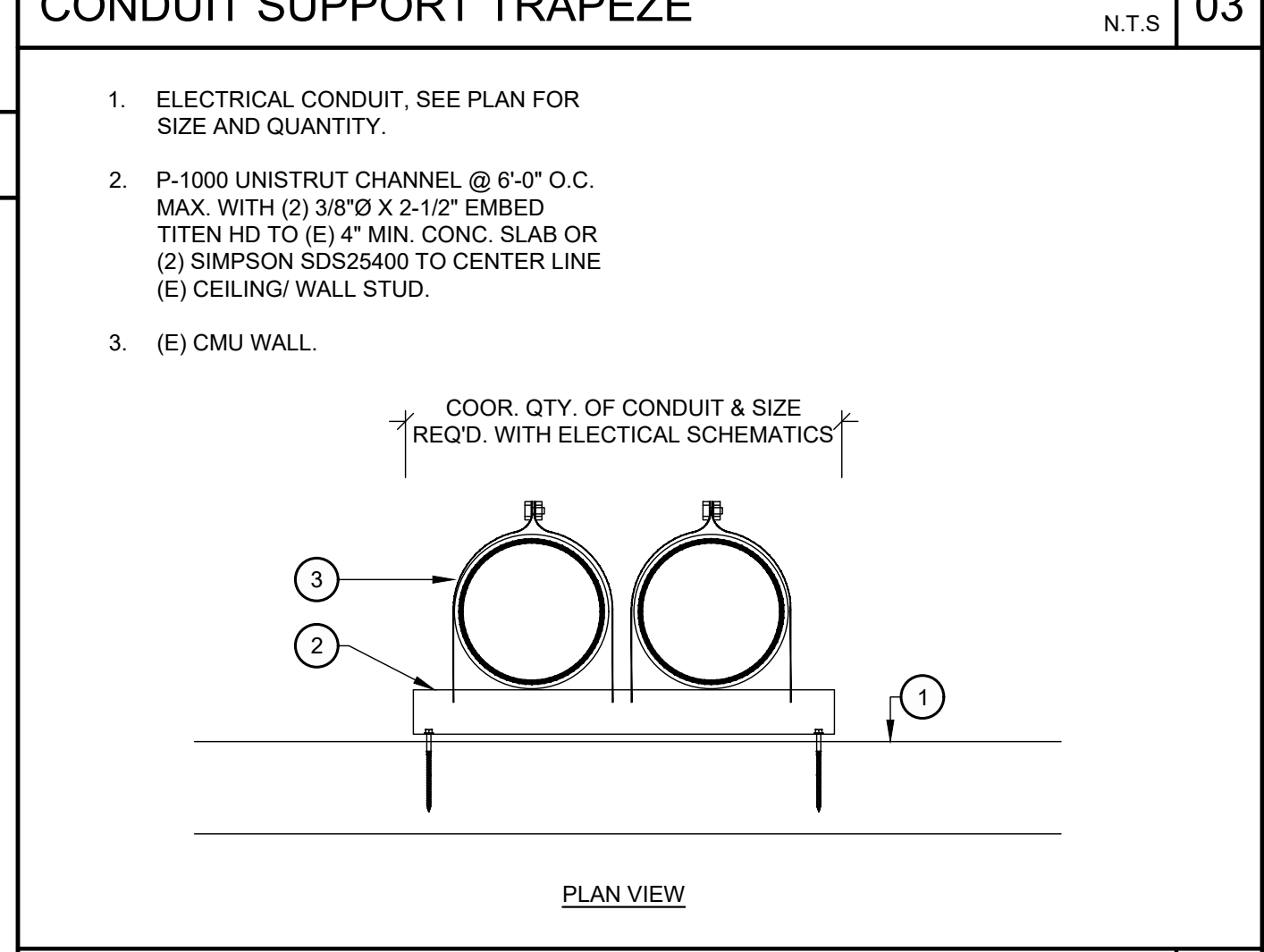
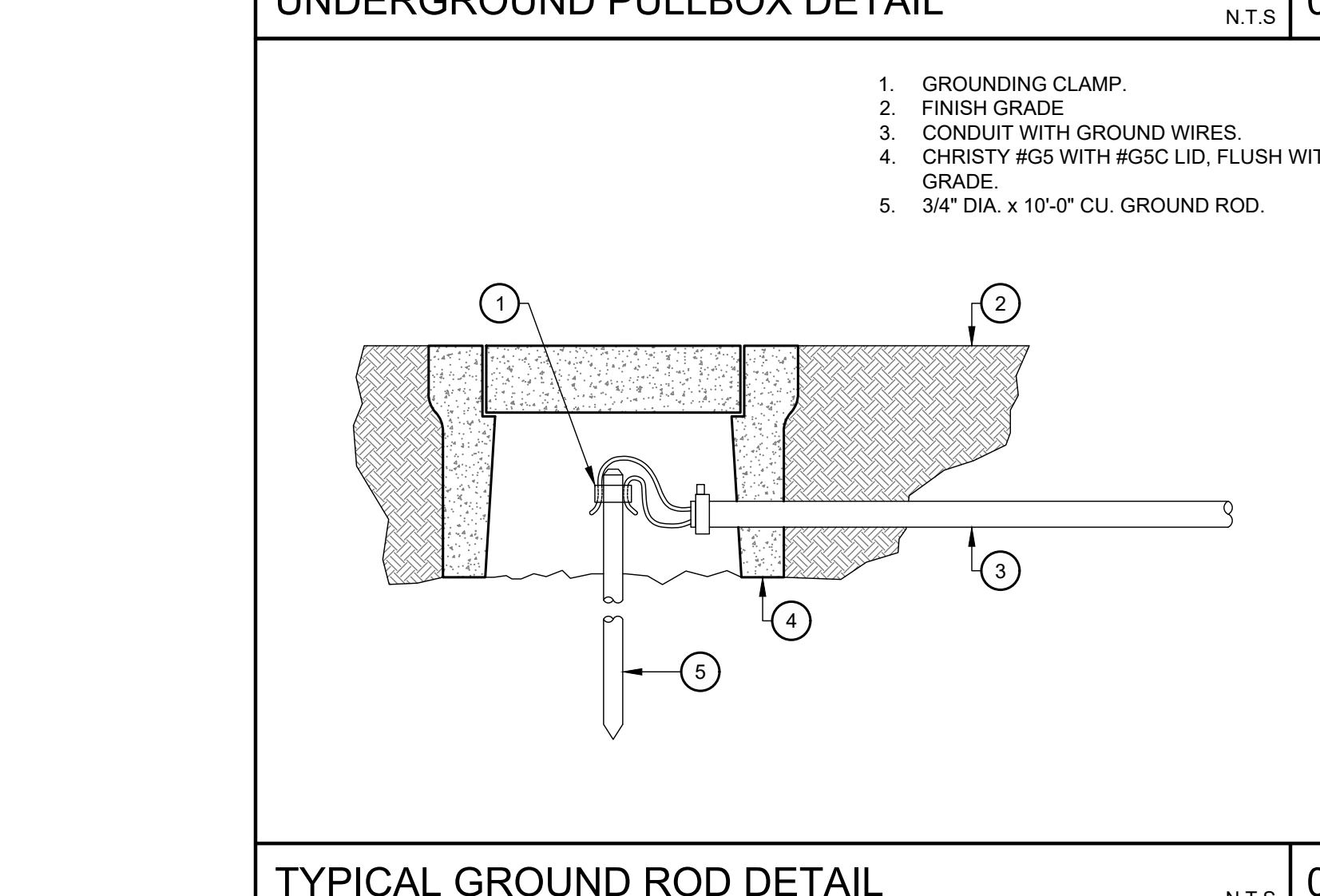
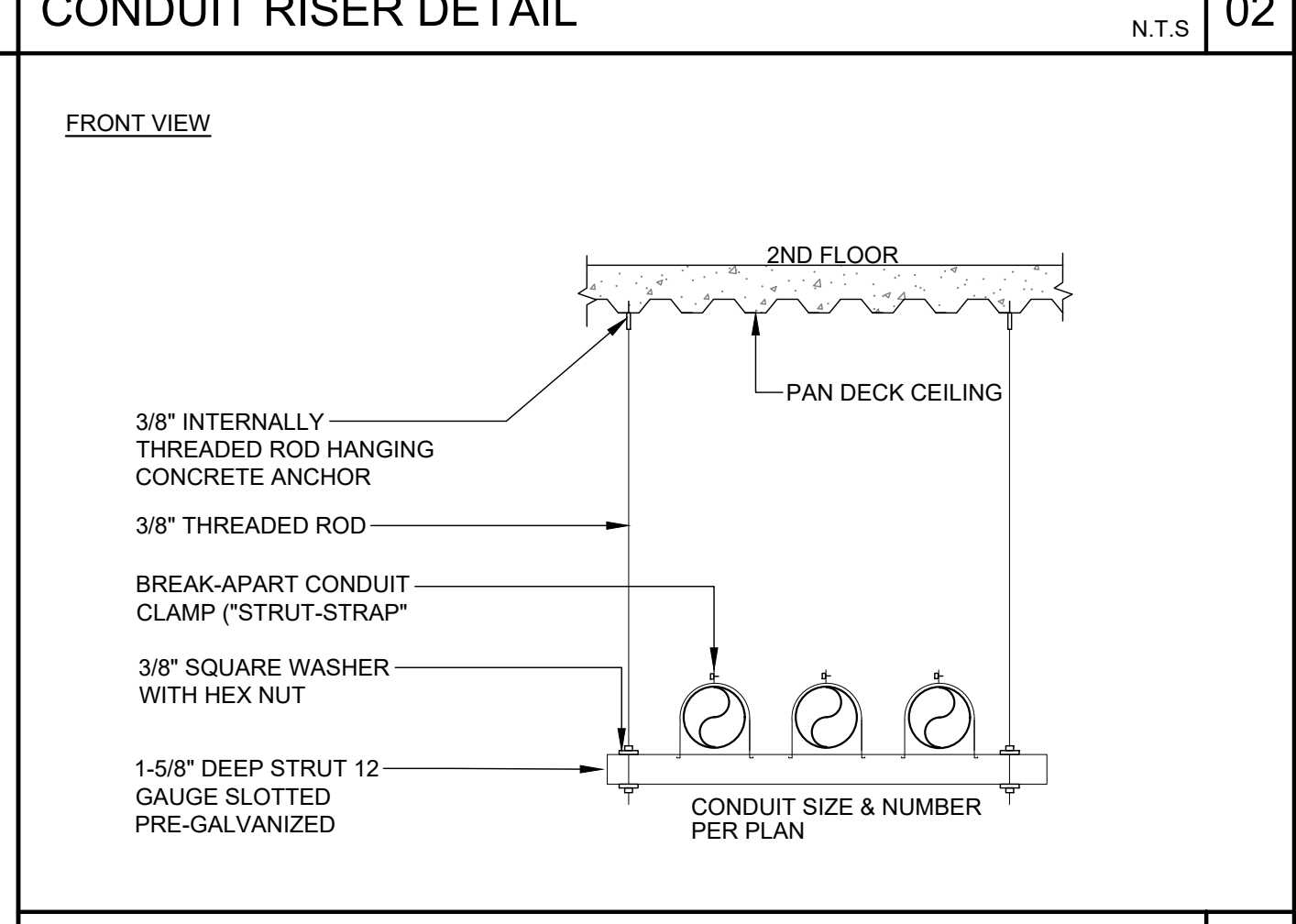
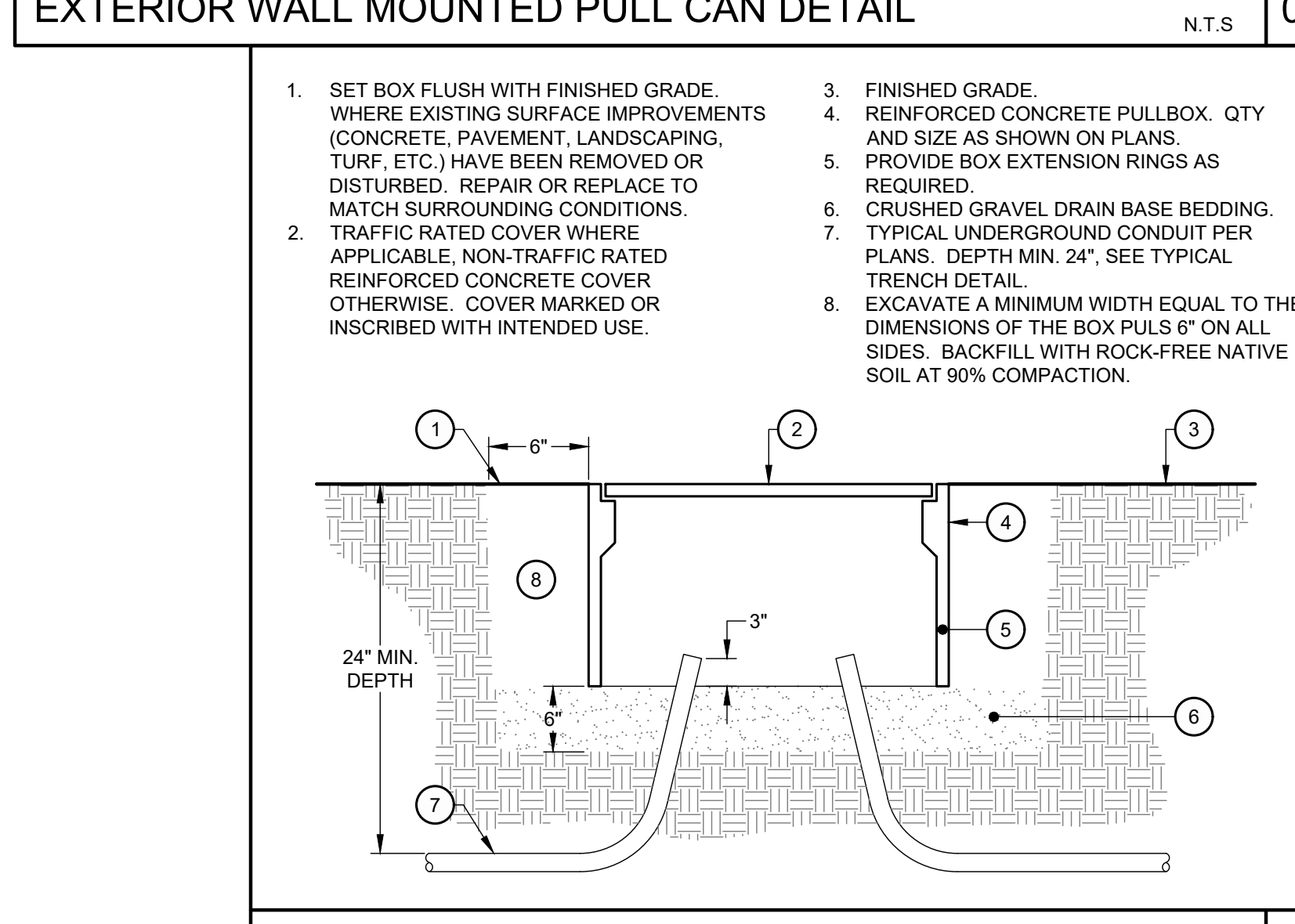
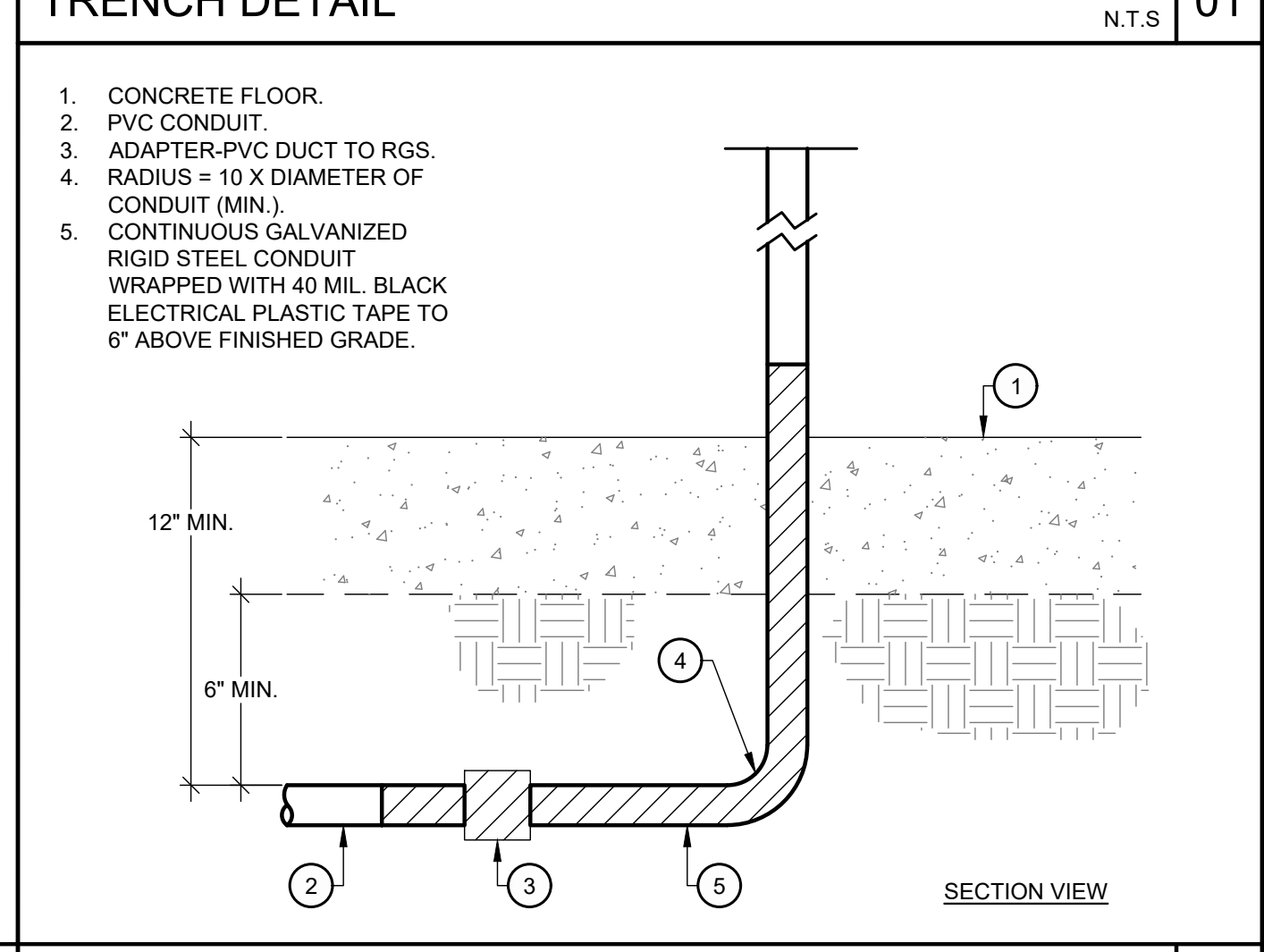
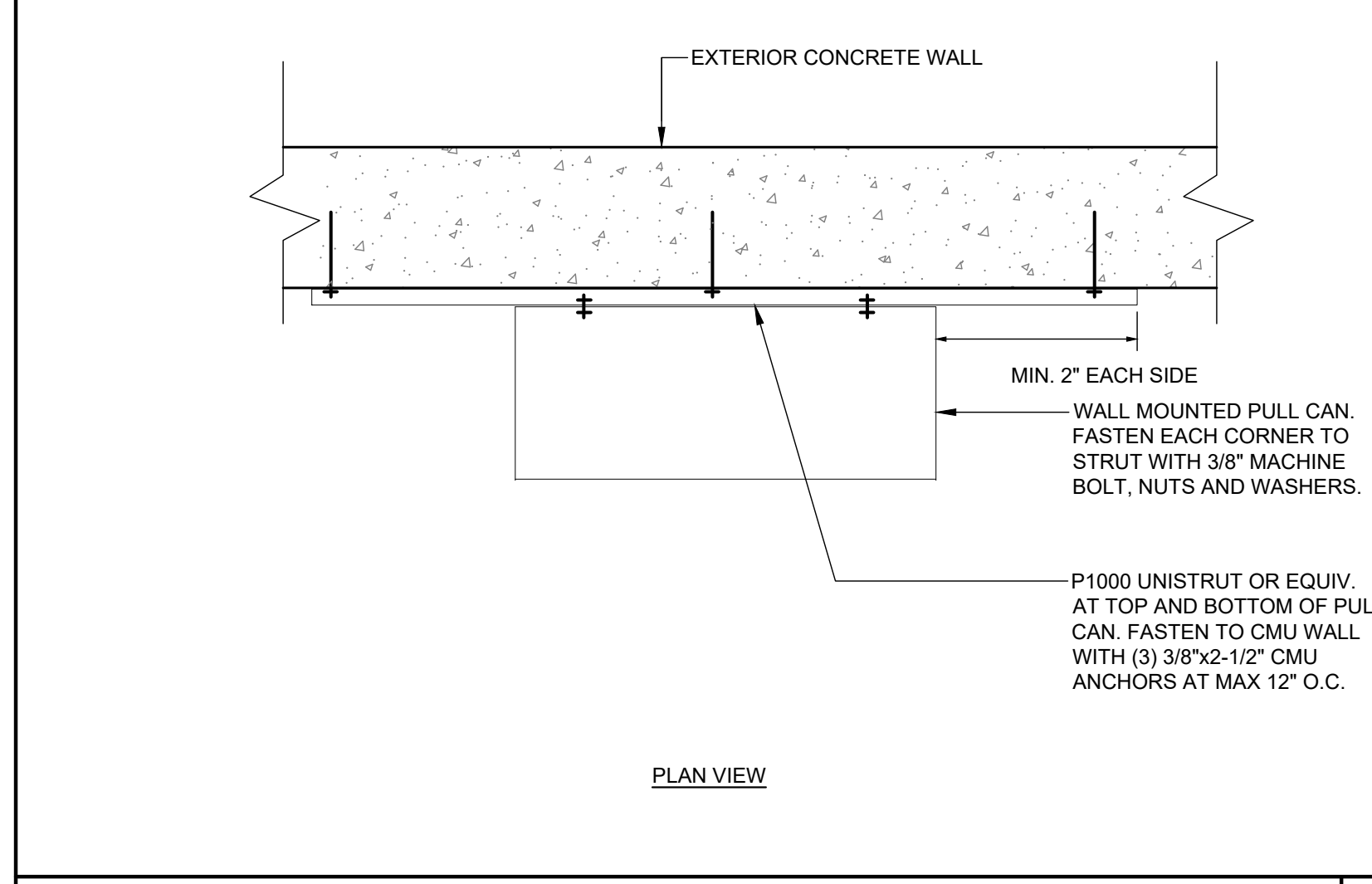
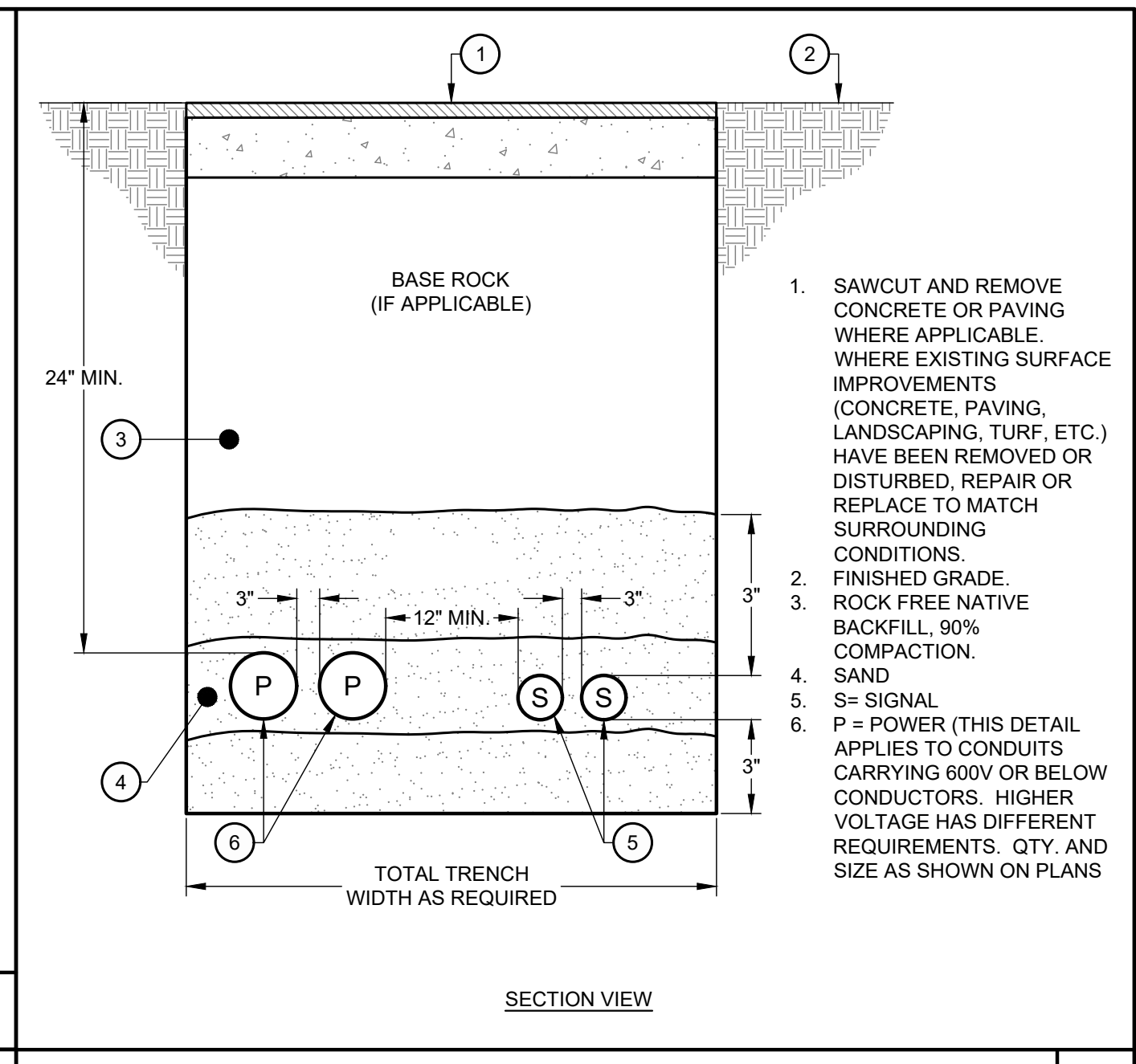
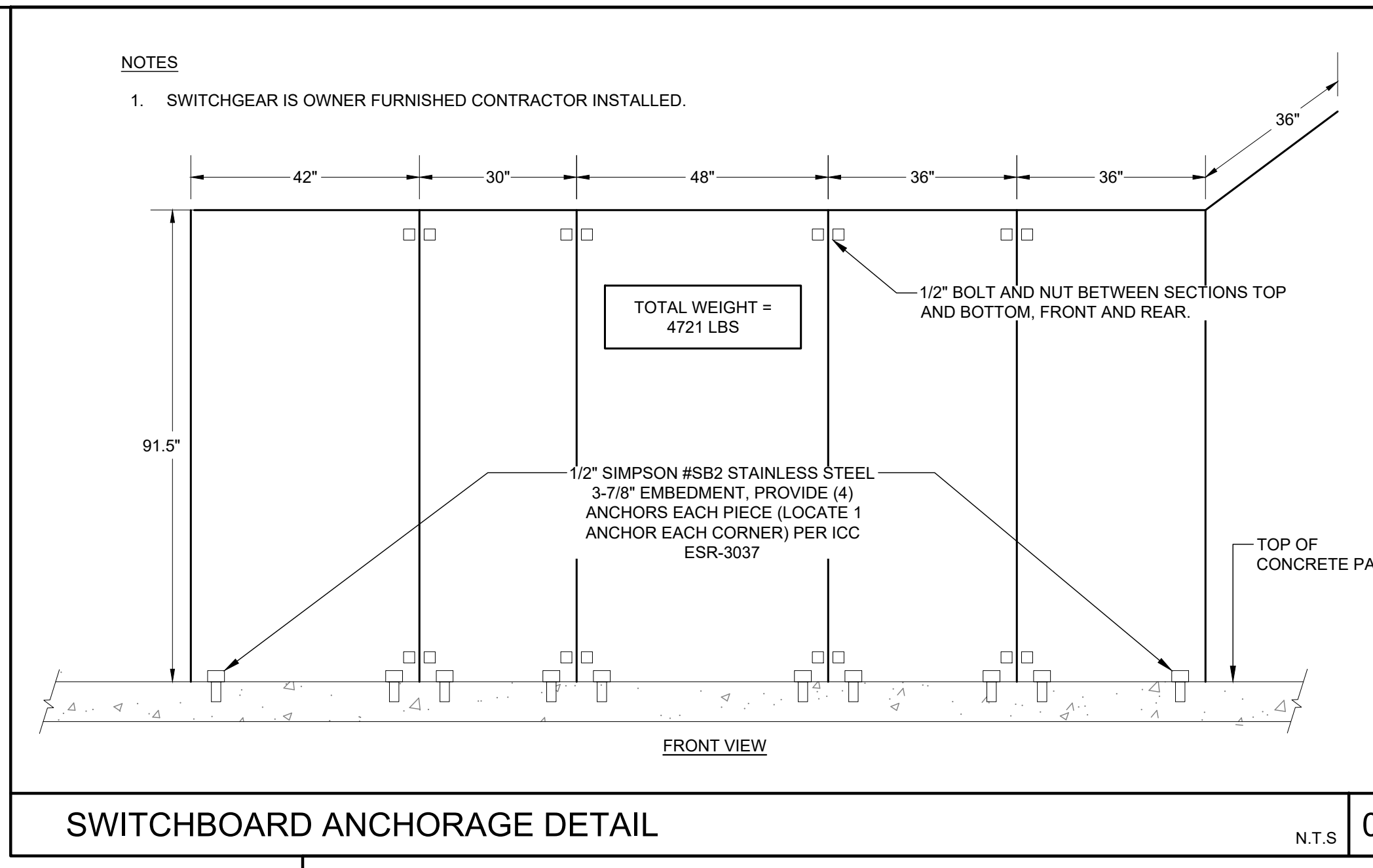
Project Status

BUILDING NUMBER
ELECTRICAL GENERATOR FEEDER ROUTING ELEVATIONS



1 ELECTRICAL GENERATOR YARD PLAN
 SCALE: 1/8" = 1'-0"

*EQUIPMENT LINE-UP IS BASED ON SQUARE D PRODUCTS. ALTERNATE MANUFACTURER IS ACCEPTABLE PROVIDED THAT IT MEETS THE DESIGN INTENT AND CLEARANCE REQUIREMENTS.

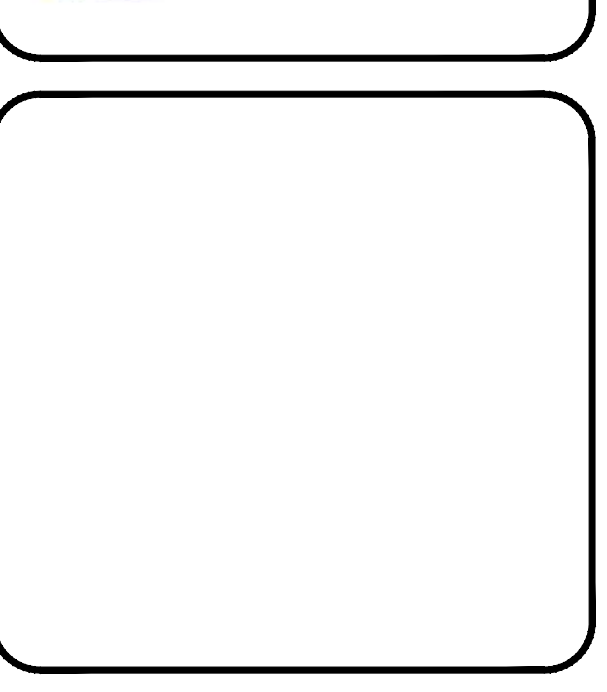


ARCHITECT SACRAMENTO PBK-WLC, Inc.
2520 Venture Oaks Way, Suite 440
Sacramento, CA 95833
916-682-9494 P
916-682-0990 F

MEP Engineering Technology
LEAF ENGINEERS
FOLDSM
1100 Iron Point Rd., Suite 209
Folsom, CA 95630
916-376-8862 P
leafengineers.com

SERNA CENTER GENERATOR

5735.47th AVE
SACRAMENTO, CA



CLIENT
SACRAMENTO CITY U.S.D.
DATE: 01/10/2023 PROJECT NUMBER: 230118

No.	Description	Date

Project Status

BUILDING NUMBER

ELECTRICAL DETAILS

E5.2

EXHIBIT C – Escrow Agreement
ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between _____
_____ whose address is _____
_____ hereinafter called "Owner,"
_____ whose address is _____
_____ hereinafter called "Contractor" and
_____ whose address is _____
_____ hereinafter called "Escrow Agent."

For the consideration hereinafter set forth, the Owner, Contractor, and Escrow Agent agree as follows:

(1) Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between the Owner and Contractor for _____ in the amount of _____ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within 10 days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the Owner and Contractor. Securities shall be held in the name of _____, and shall designate the Contractor as the beneficial owner.

(2) **Option 1:** The Owner shall make progress payments to the Contractor for those funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

(3) **Option 2:** When the Owner makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until the time that the escrow created under this contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.

(4) Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the Owner. The Owner's expense are \$100 administrative fee charged per draw (for Option 2 only; see paragraph (11)).

(5) The interest earned on the securities or the money market account held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.

(6) Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from the Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.

(7) The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from the owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.

(8) Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

(9) Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this Agreement and the Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

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(10) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

(11) OPTIONS FOR ESCROW PAYMENTS:

Option No. 1: _____ Total Amount of Retention
Option No. 2: _____ Owner to make payment based on amount of retention

On behalf of Owner:

On behalf of Contractor:

Title

Title

Name

Name

Signature

Signature

Address

Address

On behalf of Escrow Agent:

Title

Name

Signature

Address

At the time the Escrow Account is opened, the Owner and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

On behalf of Owner:

On behalf of Contractor:

Title

Title

Name

Name

Signature

Signature

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EXHIBIT D – DSA 103-1
Structural Test and Inspection Requirements

NOT USED

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EXHIBIT E – Hazardous Materials Manual

NOT USED

EXHIBIT F – Construction Forms Manual

Attached Separately (Book 2 of 2)

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EXHIBIT G – Project Labor Agreement

PROJECT LABOR AGREEMENT

for the

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

PREAMBLE

This Project Labor Agreement ("Agreement") is entered into by and between the Sacramento City Unified School District ("District"), together with contractors and/or subcontractors, who shall become signatory to this Agreement by signing the "Agreement To Be Bound" (Attachment A), and the Sacramento-Sierra Building & Construction Trades Council ("Council") and the local Unions that have executed this Agreement.

RECITALS

WHEREAS, the purpose of this Agreement is to promote efficiency of construction operations during the construction of the District's projects subject to this Agreement, through the use of skilled labor resulting in quality construction outcomes, and to provide for the peaceful settlement of labor disputes and grievances without work disruptions or delays, thereby promoting the District's interest and the public's interest in assuring the timely and cost-effective completion of the District's construction projects; and

WHEREAS, the purpose of this Agreement is to also mutually acknowledge and support the District's Core Value statement and Equity, Access, and Social Justice Guiding Principle; and

WHEREAS, the District's Core Value statement states, *we recognize that our system is inequitable by design and we vigilantly work to confront and interrupt inequities that exist to level the playing field and provide opportunities for everyone to learn, grow, and reach their greatness*; and

WHEREAS, the District's Equity, Access, and Social Justice Guiding Principle ("Guiding Principle") states that *all students are given an equal opportunity to graduate with the greatest number of postsecondary choices from the widest array of options*; and

WHEREAS, the District places high priority upon comprehensive educational programs, training, work-based learning, and workforce development programs for District students and staff in order to best achieve the District's Guiding Principle and to provide meaningful and sustainable careers in the building and construction industry; and

WHEREAS, the successful and efficient completion of the District's construction projects is of the utmost importance to the District and its educational programs and mission; and

WHEREAS, large numbers of workers of various skills will be required in the performance of the construction work, including those to be represented by the Unions affiliated with the Council; and

WHEREAS, the use of skilled labor on construction work increases the safety of construction projects as well as the quality of completed work; and

WHEREAS, the Council and Unions commit to use of skilled and trained workforce requirements described in sections 17250.25 and 17407.5 of the Education Code and sections 2600 through 2602 of the Public Contract Code on applicable Projects covered by this Agreement; and

WHEREAS, it is recognized that District construction projects require multiple contractors and bargaining units on the job site at the same time over an extended period of time, and that the potential for work disruption is substantial in the absence of a binding commitment to maintain continuity of work; and

WHEREAS, the Employers and the Unions desire to mutually establish and stabilize wages, hours and working conditions for the workers employed on the construction projects subject to this Agreement in order to promote a satisfactory, continuous and harmonious relationship among the parties to this Agreement; and

WHEREAS, the District desires to provide construction training and employment opportunities for students of and residents within the District through local hire, apprentice and pre-apprentice programs; and

WHEREAS, the parties signatory to this Agreement pledge their full good faith and trust to work towards mutually satisfactory and successful completion of all District construction projects subject to the Agreement; and

WHEREAS, the Sacramento City Unified School District has previously adopted Resolution No. 2774 regarding the use of Project Labor Agreements on District projects.

NOW, THEREFORE, the parties, in consideration of the mutual promises and covenants herein contained, do mutually agree as follows:

ARTICLE 1

DEFINITIONS

- 1.1 "Agreement" means this Project Labor Agreement.
- 1.2 "Agreement to be Bound" means the agreement (attached hereto and incorporated herein as Attachment A) required to be executed by any Employer(s) working on the Project as a precondition to performing Covered Work on the Project.
- 1.3 "Council" means the Sacramento-Sierra Building and Construction Trades Council, which is the local jurisdictional division of the State Building and Construction Trades Council of California, with affiliated trades unions within its geographical jurisdiction of Sacramento, Yolo, Placer, El Dorado, Amador, Nevada, and Sierra Counties.

- 1.4 "Completion" means the point at which there is Final Acceptance by the District of a Construction Contract. For purposes of this definition of "Completion," "Final Acceptance" shall mean that point in time at which the District has determined upon final inspection that the work on a Construction Contract has been completed in all respects and all required contract documents, including repairs, warranty work, modifications or punch list work as required under a Construction Contract or when a Contractor performs work under a change order for a Construction Contract, contract drawings, warranties, certificates, manuals and data have been submitted and training completed in accordance with the contract documents and the District has executed a written acceptance of the work.
- 1.5 "Construction Contract" means, except as to section 2.5 (exclusions from Covered Work) public works or improvement contracts approved by the District, including design-bid, design-build, lease-leaseback, or other contracts under which construction work is performed, that are necessary to complete the Project.
- 1.6 "District" means the Sacramento Unified School District and the administrative employees under its Superintendent, including any in house Project Manager designated by the District for the Project.
- 1.7 "Contractor(s)" means any person, firm, corporation, or other entity, or any combination thereof, including joint ventures, and any of its contractors or subcontractors of any tier, or any successor or assigns of such persons or entities, that has entered into a contract with the District, or with any other person or entity contracting for work on the Project on behalf of the District (whether by design-bid, design-build, lease-leaseback or other means), with respect to the construction of any part of the Project under contract terms and conditions approved by the District.
- 1.8 "Local Area" shall be defined as the area within the boundaries of the District, the City of Sacramento, Sacramento County, and the nine counties in section 1.8.4. Residents of the Local Area shall be first referred for the Project, including journey-level workers and apprentices covered by this Agreement, in the following order of priority:
 - 1.8.1 Priority 1: Residents residing within the boundaries of the District.
 - 1.8.2 Priority 2: Residents of the City of Sacramento.
 - 1.8.3 Priority 3: Residents of Sacramento County.
 - 1.8.4 Priority 4: Residents of the Counties of Yolo, Placer, El Dorado, Amador, Sutter, Yuba, Nevada, Sierra, and San Joaquin.
- 1.9 "Master Agreement" means the multi-employer collective bargaining agreement of each of the Unions that covers the geographic area of the Project, copies of which shall be provided to the District upon request.
- 1.10 "Project" means all District construction projects where either the engineer's estimate of the total cost of the project, or the actual cumulative bid amounts submitted by the contractor(s)

awarded the Construction Contracts for the Project, exceeds five hundred thousand dollars (\$500,000). All Construction Contracts required to complete an integrated District construction project shall be considered in determining the threshold value. The District and the Council may mutually agree in writing to add additional projects to the scope of Projects to be covered by this Agreement. The term "Project" applies to each and all projects as defined in this section, whether used in the singular or plural herein. Routine maintenance of District properties is not covered by the scope of this Agreement.

- 1.11 "Project Manager" means a person, including a District employee, firm or other entity designated by the District to manage, coordinate or administer the construction work on a Project subject to this Agreement.
- 1.12 "Union" or "Unions" means the Sacramento-Sierra Building and Construction Trades Council and the local Unions that are signatory to this Agreement, acting on their own behalf and on behalf of their respective affiliates and member organizations whose names are subscribed hereto and who have through their officers executed this Agreement. The Council and the local Unions are collectively referred to herein as the "Unions."

ARTICLE 2

SCOPE OF AGREEMENT

- 2.1 Parties. This Agreement shall apply and is limited to all Contractor(s), the District and the Unions that are signatory to this Agreement.
- 2.2. Applicability. For purposes of this Agreement, Construction Contracts shall be considered completed as set forth in Section 1.4, including when the District directs a Contractor to engage in repairs, warranty work, modifications or punch list work as required under a Construction Contract or when a Contractor performs work under a change order for a Construction Contract. This Agreement shall govern all Construction Contracts awarded on the District Projects that are subject to this Agreement. Except for exclusions from the Covered Work described in section 2.5, for purposes of this Agreement, a Construction Contract shall be considered completed as described in Section 1.4, except when the District's authorized representative directs a Contractor to engage in repairs, warranty work, modifications, or punch list work as required under a Construction Contract or when a Contractor performs work under a change order for a Construction Contract.
- 2.3 Covered Work. This Agreement covers, without limitation all on-site preparation, surveying, construction, alteration, demolition, installation, improvement, remediation, retrofit, painting, or repair of buildings, structures and other works and related activities for the Project that is within the craft jurisdiction of one of the Unions and which is directly or indirectly part of the Project, including, without limitation to the following examples, geotechnical and exploratory drilling, temporary HVAC, landscaping and temporary fencing, pipelines (including those in linear corridors built to serve the Project), pumps, pump stations, start-up, and modular furniture installation, On-site work includes work done for the

Project in temporary yards, dedicated sites, or areas adjacent to the Project, and at any on-site or off-site batch plant constructed solely to supply materials to the Project. This scope of work includes all soils and materials testing and inspection where such testing and inspection is a classification covered by an applicable Master Agreement or in which a prevailing wage determination has been published.

- 2.3.1 This Agreement applies to any start-up, calibration, commissioning, performance testing, repair, maintenance, and operational revisions to systems and/or subsystems for the Project performed after Completion, unless performed by District employees.
- 2.3.2 This Agreement covers all on-site fabrication work over which the District, Contractor(s)/Employer(s) or subcontractor(s) possess the right of control (including work done for the Project in any temporary yard or area established for the Project). Additionally, this Agreement covers any off-site work, including fabrication necessary for the Project defined herein, that is covered by a current Schedule A Agreement or local addenda to a National Agreement of the applicable Union(s) that is in effect as of the execution date of this Agreement.
- 2.3.3 It is expressly agreed and understood by the Parties that the District shall have the right to purchase material and equipment from any source and the craftsperson covered under this Agreement will handle and install such material and equipment. There shall be no limitation or restriction upon the choice of material or upon the full use and installation of equipment, machinery, materials, tools or other labor-saving devices other than as set forth herein. The lawful fabrication provisions of the appropriate national or local agreements shall be applicable.
- 2.3.4 The furnishing of supplies, equipment or materials which are stockpiled for later use shall not be covered by this Agreement. However, construction trucking work, such as the hauling and delivery of ready-mix, asphalt, aggregate, sand, or other fill or similar material which is incorporated into the construction process as well as the off-hauling of debris and excess fill, material and/or mud, shall be covered by the terms and conditions of this Agreement to the fullest extent allowed by prevailing wage law and determinations of the California Department of Industrial Relations. Contractor(s)/Employer(s), including brokers, of persons providing construction trucking work shall provide certified payroll records to the District within ten (10) days of written request or as required by bid specifications.
- 2.3.5 The on-site installation or application of all items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that installation of specialty items which may be furnished by the District or a Contractor shall be performed by construction persons employed under this Agreement who may be directed by other personnel in a supervisory role; provided, however, in limited circumstances requiring special knowledge of the particular item(s), may be performed by construction persons of the manufacturer where necessary to protect a manufacturer's warranty, provided the Contractor/Employer using the manufacturer can demonstrate by an enumeration of specific tasks that the work cannot be performed by craft workers under this Agreement. All work of a specialty nature to

be performed by the employees of an equipment manufacturer necessary to protect the warranty on such equipment shall be identified and discussed at the Preconstruction Conference provided in Article V of this Agreement.

2.3.6 Work covered by this Agreement within the following craft jurisdictions shall be performed under the terms of their National Agreements as follows: the National Agreement of Elevator Constructors, the National Transient Lodge (NTL) Articles of Agreement, the National Stack/Chimney Agreement, the National Cooling Tower Agreement, and any instrument calibration work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, with the exception that Articles IV, XV and XVI of this Agreement shall apply to such work.

2.4 The following shall be excluded from Covered Work:

2.4.1 Work of non-manual employees, including, but not limited to, superintendents, supervisors above the level of general foreman (except those covered by any applicable Master Agreement), staff engineers, building inspectors, timekeepers, clerks, office workers, including messengers, guards, safety personnel, emergency medical and first aid technicians, and other professional, engineering, administrative, executive and management employees;

2.4.2 Equipment and machinery owned or controlled and operated by the District;

2.4.3 Any work performed on or near or leading to or on to the site of work covered by this Agreement and undertaken by state, county, city or other governmental bodies, or their contractor, or by public utilities or their contractors;

2.4.4 Off-site maintenance of leased equipment and on-site supervision of such work;

2.4.5 Work performed by employees of a manufacturer or vendor on the manufacturer's or vendor's equipment if necessary to satisfy the guarantee or warranty on such equipment and where performance of the work is expressly stated in the manufacturer's or vendor's written warranty or guarantee to be a condition for the warranty or guarantee for such products. For any work performed pursuant to this provision, the Contractor shall provide copies of the written warranty requirement to the District, Project Manager, the Council and the affected local Union prior to the commencement of work by the manufacturer or vendor. This exclusion does not apply to any on site construction work subcontracted by such manufacturer or vendor.

2.4.6 District procurement or use of modular buildings;

2.4.7 Off-site maintenance of leased equipment and on-site supervision of such work;

2.4.8 Laboratory or specialty testing or inspection not covered by an applicable Master Agreement;

2.4.9 Non-construction support services contracted by the District or any Contractor in connection with this Project;

2.4.10 All Maintenance work contracted by the District;

2.4.11 All work by employees of the District.

ARTICLE 3

SUBCONTRACTING

- 3.1 Each Contractor agrees that it will contract for the assignment, awarding or subcontracting of Covered Work, or authorize another party to assign, award or subcontract Covered Work, only to a person, firm, corporation, or other entity that, at the time the contract is executed, has become a party to this Agreement by executing Attachment A, the Agreement to be Bound.
- 3.2 Each Contractor agrees that it will contract or subcontract the performance of Covered Work only to a person, firm, corporation, or other entity that is or becomes a party to this Agreement. Any Contractor performing Covered Work on the Project shall, as a condition to working on the Project, perform all work under the terms of this Agreement and the applicable Master Agreement. Before being authorized to perform any Covered Work, Contractors shall become a party to this Agreement by signing Attachment A, the Agreement to be Bound. Every Contractor shall notify the Council in writing within five (5) business days after it has contracted to assign, award, or subcontract Covered Work, or to authorize another party to assign, award or subcontract Covered Work in accordance with Section 3.1 or this Section 3.2 and shall at the same time provide to the Council a copy of the executed Agreement to be Bound. The District shall also provide copies to the Council of all executed Agreements to be Bound that it receives within fifteen (15) days of receipt.
- 3.3 Contractors and all subcontractors of whatever tier who have been awarded contracts for work covered by this Agreement commit to comply with the skilled and trained workforce requirements provided in California Education Code sections 17250.25 and 17407.5 and California Public Contract Code sections 2600 et seq. on applicable Projects.
- 3.4 Nothing in this Agreement shall in any manner whatsoever limit the rights of the District or any Contractor to subcontract Covered Work or to select its contractors or subcontractors; provided, however, that all Contractors, at all tiers, assigning, awarding, contracting, or performing Covered Work, or authorizing another to assign, award, contract or perform Covered Work, shall be required to comply with the provisions of this Agreement. Each Contractor shall notify each of its contractors and subcontractors of the provisions of this Agreement and require as a condition precedent to the assigning, awarding, or subcontracting of any Covered Work, or allowing any subcontracted Covered Work to be performed, that all such contractors and subcontractors at all tiers become signatory to this Agreement. Any Contractor that fails to provide the Council with the Agreement to be

Bound executed by its contractor or subcontractor shall be liable for any failure of that contractor or subcontractor, or any contractor or subcontractor at a lower tier, to comply with the provisions of this Agreement, including any contributions to any trust funds that the contractor or subcontractor, or any subcontractor to that subcontractor, fails to make. Nothing in this Agreement shall be construed to interfere with or supersede the usual and customary legal remedies available to the Unions and/or employee benefit Trust Funds to collect delinquent Trust Fund contributions from Contractors on the Project.

- 3.5 Nothing in this Agreement shall limit the District's right to combine, consolidate, or cancel contracts for Project construction, or to comply with public agency contracting laws.

ARTICLE 4

WAGES AND BENEFITS

- 4.1 All employees covered by this Agreement (including foremen and general foremen if they are covered by the Master Agreement) shall be classified and paid wages and other compensation, including but not limited to travel, subsistence, and shift premium pay, and contributions made on their behalf to multi-employer trust funds, all in accordance with the then current multi-employer Master Agreement of the applicable Union and in compliance with the applicable prevailing wage rate determination established pursuant to the California Labor Code by the Department of Industrial Relations.
- 4.2 During the period of construction on this Project, the Contractors agree to recognize and put into effect such increases in wages and recognized fringe benefits as shall be negotiated between the various Unions and the historically recognized local bargaining parties on the effective date as set forth in the applicable Master Agreement. The Unions shall notify the Contractors in writing of the specific increases in wages and recognized fringe benefits and the date on which they become effective.

ARTICLE 5

NO STRIKES - NO LOCKOUTS

- 5.1 During the term of this Agreement, there shall be no strikes, sympathy strikes, picketing, work stoppages, picket-related hand billing, slowdowns, interference with the work or other disruptive activity for any reason by the Union or by any employee, and there shall be no lockout by any Contractor. Failure of any Union or employee to cross any picket line established at the Contractor's Project site is a violation of this Article.
- 5.2 The Union shall not sanction, aid or abet, encourage, or continue any work stoppage, strike, picketing or other disruptive activity at the Project site and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activities which violate this Article. Any employee who participates in or encourages any activities which interfere with the normal operation of the Project shall be subject to

disciplinary action, including discharge, and, if justifiably discharged for the above reasons, shall not be eligible for rehire on the same project for a period of not less than ninety (90) days.

- 5.3 The Union(s) agrees that if any union or any other persons, whether parties to this Agreement or otherwise, engage in any picketing or work stoppages, the signatory Unions shall consider such work stoppage or picketing to be illegal and refuse to honor such picket line or work stoppage.
- 5.4 In the event of any work stoppage, strike, sympathy strike, picketing interference with the work or other disruptive activity in violation of this Article, the Contractor may suspend all or any portion of the Project work affected by such activity at the Contractor's discretion and without penalty, and the District may replace any Contractor whose employees have not reported to work with any other contractor or subcontractor.
- 5.5 In addition to any other action at law or equity, any party may elect to have the matter decided by a neutral arbitrator in accordance with the following procedure when a breach of this Article is alleged, after the Union(s) or Contractor(s) has been notified of the fact.
- 5.5.1 A party invoking this procedure shall notify Robert Hirsch, as the permanent arbitrator, or Barry Winograd, as the alternate arbitrator under this procedure. In the event that the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then the American Arbitration Association shall select an alternative arbitrator within 24 hours of notice. Notice to the Arbitrator shall be by the most expeditious means available, with notice by fax or electronic means or any other effective written means to the party alleged to be in violation and the involved International Union President and/or local Union.
- 5.5.2 Upon receipt of said notice, the District Superintendent, or their designee, shall contact the designated Arbitrator identified above who will attempt to convene a hearing within twenty-four (24) hours if it is contended that the violation still exists.
- 5.5.3 The Arbitrator shall notify the parties by fax or electronic means or any other effective written means of the place and time he has chosen for this hearing. Said hearing shall be completed in one session. A failure of any party or parties to attend said hearing shall not delay the hearing of evidence or issuance of an Award by the Arbitrator.
- 5.5.4 The sole issue at the hearing shall be whether or not a violation of this Article has in fact occurred. The Award which shall be final, and binding shall be issued in writing within three (3) hours after the close of the hearing and may be issued without an opinion. If any party desires an opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The Arbitrator may order cessation of the violation of this Article by the Union or Contractor, and such Award shall be served on all parties by hand or registered mail upon issuance. Should a party found in violation of this Article

fail to comply with an Arbitrator's award to cease the violation, the party in violation shall pay to the affected party as liquidated damages the sum of ten thousand dollars (\$10,000) for the first shift for which it failed to comply, or portion thereof, and ten thousand dollars (\$10,000) for each subsequent shift for which it failed to comply, until such violation is ceased. The Arbitrator shall retain jurisdiction to resolve any disputes regarding the liquidated damages claimed under this Section.

- 5.5.5 Such Award may be enforced by any court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to hereinabove in the following manner. The fax or electronic notice of the filing of such enforcement proceedings shall be given to the other party. In the proceeding to obtain a temporary order enforcing the Arbitrator's Award as issued under Section 5.5.4 of this Article, all parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The Court's order or orders enforcing the Arbitrator's Award shall be served on all parties by hand or by delivery to their last known address or by certified mail.
- 5.5.6 Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance therewith are hereby waived by the parties to whom they accrue.
- 5.5.7 The fees and expenses of the Arbitrator shall be borne by the party or parties found in violation, or in the event no violation is found, such fees and expenses shall be borne by the moving party.
- 5.6 The procedures contained in Section 5.5 shall be applicable to alleged violations of this Article. Disputes alleging violation of any other provision of this Agreement, including any underlying disputes alleged to be in justification, explanation, or mitigation of any violation of this Article, shall be resolved under the grievance procedures of Article 9.
- 5.7 In the case of nonpayment of wages or trust fund contributions on the Project, the Union shall give the District and the Contractor(s) three (3) business days' notice when nonpayment of trust fund contributions has occurred and one (1) business days' notice when nonpayment of wages has occurred or when paychecks being tendered to a financial institution normally recognized to honor such paychecks will not honor such paycheck as a result of insufficient funds, of the intent to withhold labor from the Contractor(s)' or their subcontractor's workforce, during which time the Contractor shall have the opportunity to correct the default. In this instance, a Union's withholding of labor (but not picketing) from a Contractor who has failed to pay its fringe benefit contributions or failed to meet its weekly payroll shall not be considered a violation of this Article. In the event the Union or any of its members withhold their services from such contractor or subcontractor, District shall have the right to replace such contractor or subcontractor with any other contractor or subcontractor who executes the Agreement to be Bound.

- 5.8 It will not be a violation of this Agreement when the Contractor considers it necessary to shut down to avoid the possible loss of human life because of an emergency situation that could endanger the life and safety of an employee. In such cases, employees will be compensated only for the actual time worked. In the case of a situation described above whereby the Contractor requests employees to wait in a designated area available for work, the employees will be compensated for the waiting time.
- 5.9 If a Master Agreement expires before the Contractor completes the performance of work under the Construction Contract and the Union or Contractor gives notice of demands for a new or modified Master Agreement, the Union agrees that it will not strike on work covered under this Agreement and the Union and the Contractor agree that the expired Master Agreement shall continue in full force and effect for work covered under this Agreement until a new or modified Master Agreement is reached. If the new or modified Master Agreement provides that any terms of the Master Agreement shall be retroactive, the Contractor agrees to comply with any retroactive terms of the new or modified Master Agreement which are applicable to employees who were employed on the projects during the interim, with retroactive payment due within seven (7) days of the effective date of the modified Master Agreement subject to section 4.3.

ARTICLE 6

WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

- 6.1 The assignment of Covered Work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of the Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.
- 6.2 All jurisdictional disputes on this Project between or among the building and construction trades Unions and the Contractors parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding, and conclusive on the Contractors and Unions parties to this Agreement.
- 6.3 If a dispute arising under this Article involves the Northern California Carpenters Regional Council or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch, and Thomas Pagan, and the Arbitrator's hearing on the dispute shall be held at the offices of the California State Building and Construction Trades Council in Sacramento, California within fourteen (14) days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.
- 6.4 All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature and the Contractor's assignment shall be adhered to until the dispute is resolved. Individual employees violating this section shall be subject to immediate discharge.

ARTICLE 7

JOINT LABOR/MANAGEMENT MEETINGS

- 7.1 Joint Labor/Management Meetings. During the period of any work performed under this Agreement, the Project Manager, or District designee, may schedule monthly Joint Labor/Management Meetings that include the Project Manager, or the District's designee, the Contractors and the Unions. The purpose of these meetings is to promote harmonious labor/management relations, ensure adequate communications and advance the proficiency and efficiency of the employees and the Contractors on the Project. These meetings may include a discussion of safety, craft resource requirements, scheduling and productivity of work performed at the Project. The Union representative shall keep minutes of any such meetings and the minutes shall be subject to approval at any subsequent meeting. Any such meetings may be in person, virtually or by conference call. It shall be mandatory for a representative of the Unions to participate in such meetings.
- 7.2 A Pre-Job Conference shall be scheduled by the District prior to the commencement of work to establish the scope of work in each Contractor's contract. When a contract has been let to a Contractor covered by this Agreement, a job conference and/or markup meeting shall be scheduled by the District upon request of any Union, Contractor or the District.

ARTICLE 8

MANAGEMENT RIGHTS

- 8.1 The Contractor(s) retains full and exclusive authority for the management of their work forces for all work performed under this Agreement. This authority includes, but is not limited to the right to:
- A. Plan, direct and control the operation of all the work.
 - B. Decide the number and types of employees required to perform the work safely and efficiently. The lawful staffing provisions of the applicable Master Agreement shall be recognized.
 - C. Hire, promote and layoff employees as deemed appropriate to meet work requirements and/or skills required.
 - D. Require all employees to observe the District and Contractor Project Rules, Security and Safety Regulations, consistent with the provisions of this Agreement. These Project Rules and Regulations shall be reviewed and mutually agreed upon at the Pre-Job meeting and supplied to all employees and/or posted on the jobsite.
 - E. Discharge, suspension or discipline will be handled under the applicable craft agreement.

- F. Assign and schedule work at its sole discretion and determine when overtime will be worked. There shall be no refusal by a craft to perform work assigned, including overtime work. However, individual craftspeople shall not be required to work overtime unless specifically dispatched for overtime work. Any cases of a craft's refusal to work overtime shall be subject to the grievance procedure.
- G. Utilize any work methods, procedures or techniques and select and use any type or kind of materials, apparatus or equipment regardless of source, manufacturer or designator (in accordance with Article 2).
- H. The foregoing listing of management rights shall not be deemed to exclude other functions not specifically set forth herein. The Contractors, therefore, retain all legal rights not specifically enumerated in this Agreement.

8.2 All workers employed or otherwise used on a Project shall comply with the District's Drug and Alcohol-Free Workplace Policy (BP 4020) and Employee Drug Testing Policy (BP 41 12.41, 4212.41, 4312.41) and applicable regulations as amended from time to time. If not otherwise specified, the drug testing protocol shall be in compliance with 49 Code of Federal Regulations (CFR) section 382.105 (Testing procedures) which incorporates 49 CFR Part 40.

ARTICLE 9

GRIEVANCE PROCEDURE

- 9.1 It is mutually agreed that any question arising out of and during the term of this Agreement involving its interpretation and application (other than matters subject to Section 5.5 and Union jurisdictional disputes subject to Article 6) shall be considered a grievance. Questions between or among parties signatory to a Master Agreement arising out of or involving the interpretation of a Master Agreement shall be resolved under the grievance procedure provided in that Master Agreement.
- 9.2 The District and other Contractors, as well as the Unions, may bring forth grievances under this Article.
- 9.3 A grievance shall be considered null and void if not brought to the attention of the effect party by the grievant within five (5) working days after the incident that initiated the alleged grievance occurred or was discovered, whichever is later. The term "working days" as used in this Article shall exclude Saturdays, Sundays, or holidays regardless of whether any work is actually performed on such days.
- 9.4 Grievances shall be settled according to the following procedure, except those grievances that do not involve an individual grievant, which shall be discussed by the District, and the Council and then, if not resolved within five (5) working days of written notice unless extended by mutual consent, commence at Step 4:

Step 1

The Steward and the grievant shall attempt to resolve the grievance with the craft supervisor within five (5) working days after the Grievance has been brought to the attention of the Contractor.

Step 2

In the event the matter remains unresolved in Step 1 above after five (5) working days, within five (5) working days thereafter, the alleged grievance may be referred in writing to the Business Manager(s) of the Union(s) affected and the site construction manager or Labor Relations representative of the Contractor(s) for discussion and resolution. A copy of the written grievance shall also be mailed, faxed or emailed to the District.

Step 3

In the event the matter remains unresolved in Step 2 above within five (5) working days, within five (5) working days thereafter, the grievance may be referred in writing to the Business Manager(s) of the affected Union(s) involved and the Manager of Labor Relations of the Contractor(s) or the Manager's designated representative and the District for discussion and resolution.

Step 4

If the grievance is not settled in Step 3 within five (5) working days, within five (5) days thereafter, either party may request the dispute be submitted to neutral arbitration or the time may be extended by mutual consent of both parties. The request for arbitration and/or the request for an extension of time must be in writing with a copy to the District. Should the parties be unable to mutually agree on the selection of a neutral Arbitrator, selection for that given arbitration shall be made by seeking a list of seven (7) labor arbitrators with construction experience from the Federal Mediation and Conciliation Service and alternately striking names from the list of names on the list until the parties agree on an Arbitrator or until one name remains. The first party to strike a name from the list shall alternate between the party bringing forth the grievance and the party defending the grievance. District shall keep a record of the sequence and shall notify the parties to the grievance as to which party has the right to strike a name first.

- 9.5 The Arbitrator shall conduct a hearing at which the parties to the grievance shall be entitled to present testimonial and documentary evidence. Hearings will be transcribed by a certified court reporter. The parties shall be entitled to file written briefs after the close of the hearing and receipt of the transcript.
- 9.6 Upon expiration of the time for the parties to file briefs, the Arbitrator shall issue a written decision that will be served on all parties and on the District. The Arbitrator shall have the authority to utilize any equitable or legal remedy to prevent and/or cure any breach or threatened breach of this Agreement. The Arbitrator's decision shall be final and binding as to all parties signatory to this Agreement.
- 9.7 The cost of the Arbitrator and the court reporter, and any cost to pay for facilities for the hearing, shall be borne equally by the parties to the grievance. All other costs and expenses in connection with the grievance hearing shall be borne by the party who incurs them.

- 9.8 The Arbitrator's decision shall be confined to the issue(s) posed by the grievance, and the Arbitrator shall not have the authority to modify, amend, alter, add to or subtract from any provision of this Agreement.
- 9.9 Any party to a grievance may invite the District to participate in resolution of a grievance. The District may, at its own initiative, participate in Steps 1 through 3 of the grievance procedure.
- 9.10 In determining whether the time limits of Steps 2 through 4 of the grievance procedure have been met, a written referral or request shall be considered timely if it is personally delivered, sent by overnight mail or faxed within the five (5) working day period. Any of the time periods set forth in this Article may be extended in writing by mutual consent of the parties to the grievance, and any written referral or request shall be considered timely if it is personally delivered, sent by overnight mail or faxed during the extended time period.

ARTICLE 10

EMPLOYEE REPRESENTATION AND REFERRAL

- 10.1 The Employers recognize the Unions as the sole bargaining representatives of all craft employees performing Covered Work under this Agreement. Authorized representatives of the Unions shall have reasonable access to the Project whenever work covered by this Agreement is being, has been, or will be performed on the Project. All authorized representatives of the Unions must comply with the required check-in procedure prior to visiting the work area.
- 10.2 Employees are not required to become or remain union members as a condition of performing Covered Work under this Agreement. Employers shall make and transmit all deductions for union dues, fees, and assessments that have been authorized by employees in writing in accordance with the applicable Master Agreement. Nothing in this Section 10.2 is intended to supersede the requirements of applicable Master Agreements as to those Employers otherwise signatory to such Master Agreements and as to the employees of those Employers who are performing Covered Work.
- 10.3 In filling craft job requirements, Employers performing Covered Work shall utilize and be bound by the registration facilities and referral systems established or authorized by the Unions ("Job Referral System"). Such Job Referral System shall be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and non-discrimination. The Employers shall have the right to reject any applicant referred by the Unions in accordance with this Article 10.
- 10.4 The Employers shall have the unqualified right to select and hire directly all supervisors above general foreman it considers necessary and desirable, without such persons being referred by the Unions.
- 10.5 In the event that referral facilities maintained by the Union are unable to fill the requisition of an Employer for employees within a forty-eight (48) hour period (Saturdays, Sundays and Holidays excluded) after such requisition is made by the Employer, the Employer shall

be free to obtain such workers from any source. An Employer who hires any personnel to perform Covered Work on the Project pursuant to this Section shall immediately provide the appropriate Union with the name and address of such employee(s) and shall immediately refer such employee(s) to the appropriate Union to satisfy the requirements of this Article 10.10.6 Unions will exert their utmost efforts to recruit sufficient numbers of skilled and trained craft persons to fulfill the requirements of the Contractor/Employer(s). On Projects governed by Education Code sections 17250.25 and 17407.5, the Unions shall consider a Contractor's request to transfer skilled and trained employees to work on Projects in a manner consistent with the Union's referral procedures.

- 10.7 Subject to the limitation of applicable law and the hiring hall procedures of the Unions, the Parties to this Agreement mutually support the development of increased numbers of skilled construction workers from District graduates and the residents of the City of Sacramento specifically and from the residents of Sacramento County generally, to meet the needs of the Projects and the requirements of the industry generally. To facilitate this goal, the Unions agree to encourage the referral and utilization of qualified District graduates and the City of Sacramento and Sacramento County residents as journeypersons and apprentices on the Projects.

ARTICLE 11

REFERRAL-LOCAL COMMUNITY WORKFORCE PROVISIONS

- 11.1 Contractors performing Covered Work on the Project shall, in filling craft job vacancies, utilize and be bound by the registration facilities and referral systems established or authorized by the Unions signatory to this Agreement. The Union will exert and document their best efforts to recruit and identify residents of the Local Area, in a manner that is consistent with the District's Core Value and Guiding Principle, and those individuals shall be referred for Project work first, to the extent allowed by law, and consistent with the Union's hiring hall provisions, and as long as they possess the requisite skills and qualifications, including journeymen and apprentices covered by this Agreement.
- 11.2 The Job Referral System shall be operated in a non-discriminatory manner and in full compliance with all federal, state, and local laws and regulations, including those which require equal employment opportunities and non-discrimination. The Contractor(s) shall have the right to reject any applicant referred by the Union(s), in accordance with the applicable Master Agreement. The Unions shall be the primary source of all craft labor employed on the Project, however, a Contractor with a core workforce may request by name, and the local Union shall honor, referral of such Contractor's regular and experienced personnel ("Core Employees") who have applied to the applicable Union to perform Covered Work on the Project. For purposes of this Agreement, a Core Employee is a person who meets all the following:

- (1) Possesses any license required by state or federal law for the Project work to be performed;

- (2) Worked a total of at least one thousand (1,000) hours in the construction craft during the prior two (2) years;
- (3) Has been on the Contractor's active payroll for at least ninety (90) out of the one hundred and twenty (120) calendar days prior to the contract award; and
- (4) Has the ability to perform safely the basic functions of the applicable trade.

11.3 The Union will refer to such Contractor one journeyman employee from the hiring hall out-of-work list for the affected trade or craft and will then refer one of the Contractor's Core Employees as a journeyman, until such Contractor has hired six (6) Core Employees, whichever occurs first. Thereafter, all additional employees in the affected trade or craft shall be hired exclusively from the hiring hall out-of-work list(s). For the duration of the Contractor's work on the Project, the ratio shall be maintained. When such Contractor's workforce is reduced, employees shall be reduced in the same one for one ratio of Core Employees to hiring hall referrals as was applied in the initial hiring. Contractors that are signatory to a Master Agreement with Union(s) signatory hereto must comply with the hiring hall provisions contained in the applicable Master Agreement, and nothing in the referral provisions of this Agreement shall be construed to supersede the local hiring hall provisions of the Master Agreement(s) as they apply to such Contractors.

11.4 In the event the referral facilities maintained by the Unions do not refer the employees as requested by the Contractor within a forty-eight (48) hour period after such requisition is made by the Contractor (Saturdays, Sundays and holidays excepted), the Contractor may employ applicants from any source. Contractors shall immediately notify and provide the appropriate Union(s) with the name and address of such gate-hires, who shall be bound by the provisions of this Article.

It is in the interest of the parties to this Agreement to facilitate employment of District and Local Area residents, including parents, guardians or other care givers of students attending the District's schools, and to use resources in the Local Area in construction of a Project. The "Local Area" shall be defined as the area within the boundaries of the District, the City of Sacramento, Sacramento County, and the nine counties outlined in section 1.8.4, in priority order outlined in section 1.8. To the extent allowed by law, and consistent with the Union's hiring hall provisions, and as long as they possess the requisite skills and qualifications, residents of the Local Area shall be first referred for Project work, including journeymen and apprentices covered by this Agreement. It is the goal of the parties that not less than fifty (50) percent of all hours worked on the Project, on a craft-by-craft basis, be worked by residents of the Local Area (including fifty (50) percent of the total hours worked by any Core Employees). The Union shall provide a list of individuals referred for Project work and their applicable zip code of residence to the District, upon request. Contractors will be required to submit certified weekly payroll records to the District along with monthly workforce utilization reports documenting the Contractor's compliance with the requirements described in this Article. At a minimum, the monthly reports must include data on Local Area resident work hour utilization on the Project. An annual report shall be submitted to the Board on the number of workers employed, or contracted for,

within the Local Area. Provisions of this article shall be an item for discussion at each Pre-Job Conference outlined in Article.

ARTICLE 12

MUTUAL COMMITMENT TO SUPPORTING EDUCATIONAL AND CAREER DEVELOPMENT OPPORTUNITIES FOR DISTRICT STUDENTS

- 12.1 The Parties agree that this Agreement is also intended to formalize partnerships between the Unions and the District to support the educational and career development of the District's students, and to help develop the next generation of skilled construction workers. The Parties agree to support District Construction and Design Academies or Pathways within the District ("Academy" or "Pathway") in order to carry out the training and employment objectives of this Agreement, including providing District students with the opportunities and skills necessary to enter post-secondary study and to pursue lifelong training within the broader context of the building trades industry, and to develop and reinforce academic course standards in order to maximize career opportunities and technical competency. The Parties agree to the following actions in order to implement this mutual commitment.
- 12.2 Contractors shall employ apprentices in the respective drafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. The Parties agree that apprentices may comprise up to twenty (20) percent of each craft's workforce at any time, unless the state approved apprenticeship standards or regulations or the applicable Master Agreement establish a lower maximum percentage.
- 12.3 The Union shall provide speakers at District Academies, at no cost to the District, through the Multi-Craft Core Curriculum (MC3) program and at other mutually agreed upon school functions and events.
- 12.4 In order to facilitate the goals of the Academy, the District and Council agree to create an Advisory Board for the Luther Burbank High School Construction and Design Academy, American Legion High School's Residential and Commercial Construction Academy (collectively "High Schools"), Rosemont High School Engineering , Construction and Design, and participate in the District-level Pathway Advisory Board, which will conduct meetings as determined by the District during the school year to develop the goals of the Academy; plan for the presentation and content of training lectures to facilitate employable skills in the construction trades; develop a summer schedule for training; organize and develop summer internship positions; assist in planning curriculum scope and sequencing; design cocurricular activities; identify sources for educational and financial support; and otherwise initiate steps to carry out the goals of the Academy.
- 12.4.1 The High School Advisory Boards shall consist of the appropriate membership as outlined by current regulations and requirements placed upon the District. The Advisory Board, in coordination with the District's Career Services representative, shall develop and implement a plan for annual assessment of the goals and

objectives to maximize the employability of students and District graduates, including summer internship opportunities. A quorum for the Advisory Board meeting shall be at least one member representing the building trades JATCs; one member representing the Council; and one member representing the District.

- 12.4.2 The Academy Advisory Board will collaborate with post-graduate training programs, such as the Northern California Construction Training and American River College's Stripe Program, in order to assist graduates in obtaining an internship into a JATC.
- 12.4.3 The training and employment program of the interns shall be developed by the Academy Advisory Board such that graduating interns shall possess the skills, training, and educational background to help the graduate achieve priority on the lists of the building trades to the degree allowed under each JATC's application process including those programs that allow direct entry. It is recognized that the Apprenticeship Programs operate according to existing Standards approved by the California Department of Industrial Relations, Division of Apprenticeship Standards, and the standards set forth in the collective bargaining agreements for each building trades union and that any such priority shall be in accordance with such Standards and agreements.
- 12.5 The Parties agree to meet and identify additional mutually agreed upon specific actions to meet these goals, including, but not limited to, consideration of: (1) measures to facilitate teacher training in Multi-Craft Core Curriculum (MC3); (2) measures to provide student employment opportunities through externships, internships and/or post-graduation apprenticeship placement; (3) measures to provide hands-on training opportunities for students; (4) measures to facilitate identification of funding sources to provide recent women, minoritized and low-income District graduates scholarships or assistance in the purchase of tools and other equipment needed for apprenticeship programs; (5) support to identify and find funding for a Pre-Apprentice / Internship / Apprenticeship Coordinator to assist District Academies. These additional commitments shall be set forth in a Memorandum of Understanding (MOU) to this Agreement ("Union Educational and Career Development Support MOU"). Parties agree to meeting twice before August 1, 2022, and throughout the month of August to identify the mutually agreeable terms of the MOU and shall finalize the MOU no later than September 1, 2022.
- 12.6 The Union shall provide the District with an annual report by June 30 of each year on the implementation of the provisions set forth in this Article and in the Union Educational and Career Development Support MOU. The report shall provide any information requested by the District to assist the District in reporting work-based learning indicator on the State of California's College and Career Dashboard.

ARTICLE 13

NON-DISCRIMINATION

- 13.1 The Unions and Contractors shall not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, political affiliation, national origin, age, religion, Vietnam veteran or Vietnam Era status, disability as identified in the Americans with Disabilities Act, membership in a labor organization in hiring and dispatching workers for the Project, or any other basis recognized by law. The parties to this Agreement understand and agree that nothing in this Agreement shall supersede or take precedence over any District Board of Education policy or requirement including, but not limited to, the construction contract and general conditions for the Project.
- 13.2 All qualified (as determined by the District and applicable law) contractors and subcontractors may bid and be awarded work on a Project without regard to whether they are otherwise parties to collective bargaining agreements provided they comply with the provisions of this Agreement.

ARTICLE 14

HOURS OF WORK SHIFTS AND HOLIDAYS

- 14.1 The standard workday shall be in accordance with the applicable Master Agreements. Common start times may be established by the Contractor during the standard workday established by the applicable Master Agreements. The standard work week shall be five (5) consecutive days of work commencing on Monday. Nothing herein shall be construed as guaranteeing any employee eight (8) hours of work per day or forty (40) hours of work per week.
- 14.2 Common shifts may be established when considered necessary by the Contractor. The Contractor shall provide at least one week notice to the Council prior to any change in shift time. Any shifts established shall continue for the established work week.
- 14.3 Recognized holidays shall be in accordance with the applicable Master Agreements. Under no circumstances shall any work be performed on Labor Day except in cases of emergency involving life or property. In the event a holiday falls on Saturday, the previous day, Friday, shall be observed as such holiday. In the event a holiday falls on Sunday, the following day, Monday, shall be observed as such holiday. There shall be no paid holidays. If employees are required to work on a holiday, they shall receive the appropriate rate, but in no case shall such overtime rate be more than double the straight time rate.

ARTICLE 15

GENERAL PROVISIONS

- 15.1 If any article or provision of this Agreement shall become invalid, inoperative and/or unenforceable by operation of law or by declaration of any competent authority of the executive, legislative, judicial or administrative branches of the federal or state government, the District, the Contractors and the Council shall suspend the operation of such article or provision during the period of its invalidity, and the District and the Council shall negotiate in its place and stead an article or provision that will satisfy the objections to its validity and that, to the greatest extent possible, will be in accord with the intent and purpose of the article or provision in question. The new article or provision negotiated by the District and the Council shall be binding on all parties signatory to this Agreement.
- 15.2 If any article or provision of this Agreement shall be held invalid, inoperative or unenforceable by operation of law, or by any of the above-mentioned tribunals of competent jurisdiction, the remainder of the Agreement or application of such article or provision to persons or circumstances other than to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.
- 15.3 Except as enumerated in this Agreement, all other terms and conditions of employment described in the Master Agreement of the Union having traditional and customary jurisdiction over the Covered Work shall apply.
- 15.4 The provisions of this Agreement shall take precedence over conflicting provisions of any Master Agreement or any other national, area or local collective bargaining agreement, except for all work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement and the National Cooling Tower Agreement. In addition, all instrument calibration work and loop checking Covered Work shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and work within the craft jurisdiction of the Elevator Constructors will be performed under the terms of the National Agreements of the International Union of Elevator Constructors. Notwithstanding the provisions of this section, Articles 5, 6 and 9 of this Agreement shall apply to all Covered Work.
- 15.5 Each person executing this Agreement represents and warrants that he or she is authorized to execute this Agreement on behalf of the party or parties indicated.
- 15.6 This Agreement may be executed in any number of counterparts, and each counterpart shall be deemed to be an original document. All executed counterparts together shall constitute one and the same document, and any signature pages may be assembled to form a single original document.
- 15.7 To the fullest extent consistent with the applicable Master Agreement and trust agreement, it is agreed that any liability under this Agreement by District, the Council, a Union, or any other Contractor shall be several and not joint. Any alleged breach of this Agreement by a party shall not affect the rights, liabilities, obligations, and duties among the other parties or between that party and any other party.

ARTICLE 16

HELMETS TO HARDHATS

- 16.1 The Contractors and Unions recognize a desire to facilitate the entry into the building and construction trades of veterans and members of the National Guard and Reserves who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center"), a joint Labor-Management Cooperation Trust Fund, established under the authority of Section 6(b) of the Labor-Management Cooperation Act of 1978, 29 U.S.C. Section 175(a), and Section 302(c)(9) of the Labor-Management Relations Act, 29 U.S.C. Section and a charitable tax exempt organization under Section 501 (c)(3) of the Internal Revenue Code, and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.
- 16.2 The Unions and Contractors agree to coordinate with the Center to create and maintain an integrated database of veterans and members of the National Guard and Reserves interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Contractors and Unions will give credit to such veterans and members of the National Guard and Reserves for bona fide, provable past experience.

ARTICLE 17

DURATION OF AGREEMENT; MID-TERM ASSESSMENT

- 17.1 This Agreement shall remain in full force and effect for a period of five (5) years from the date approved by the Board of Education on June 9, 2022. Notwithstanding the term of the Agreement as set forth above, the Agreement will continue to apply until the completion of all Covered Work pursuant to Section 2.1 where the initial bid for any Construction Contract for a Project is awarded or approved by the Board on or before the date the Agreement terminates.
- 17.2 At the two-year mark, a mid-term assessment, including mutually agreed upon metrics, shall be reported to the Board.

SIGNATURES

Sacramento City Unified School District



Date: 8/5/22

Name: Christine Pritchet

Title: SCUSD Board President

Sacramento-Sierra Building and

Construction Trades Council

DocuSigned by:



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Date: _____

Name: Kevin Ferreira

Title: Executive Director

Sacramento-Sierra Building and

Construction Trades Council



Date: 7-29-22

Name: Karl Pineo

Title: President

Sacramento-Sierra Building and
Construction Trades Council



Name: Todd Schiavo

Title: Vice-President

Date: 8/2/2022

DocuSigned by:

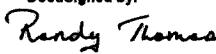
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Asbestos Workers Local #16

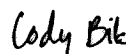
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Bricklayers Local #3

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Boilermakers Local #549


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Cement Masons Local #400

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Asbestos, Lead and Mold Laborers Local #67

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District Council #16 International Union of Painters & Allied Trades

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Elevator Constructors Local #8

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International Brotherhood of Electricians Local #340

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Sprinkler Fitters Local #669

UNIONS

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Iron Workers Local #118

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Laborers Local #185

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Operating Engineers Local #3

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Plasterers & Cement Masons Local #300


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UA of Journeymen & Apprentices of the Plumbing & Pipe Fitting Ind. Local #355

DocuSigned by:

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Plumbers & Pipefitters Local #447

DocuSigned by:

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Roofers Local #81

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Sheet Metal Workers Local #104

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Teamsters Local #150

Northern California Carpenters Regional Council on behalf of itself and its affiliated Local Unions

UNIONS

Asbestos Workers Local #6

Laborers Local #185

Bricklayers Local #3

Millwrights Local #102

Boilermakers Local #549

Northern California District Council of
Laborers



Carpenters 46 Northern California
Counties Conference Board

Operating Engineers Local #3

Cement Masons Local #400

Plasterers & Cement Masons Local #300

District Council #16 International
Union of Painters & Allied Trades

Pile Drivers Local #34

District Council of Plasterers & Cement
Masons of Northern California

Plumbers & Pipefitters Local #447

Drywall/Latherers Local #9109

Roofers Local #81

International Brotherhood of Electricians
Local #340

Sheet Metal Workers Local #104

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ATTACHMENT A

PROJECT LABOR AGREEMENT

Project:

Bid Number:

AGREEMENT TO BE BOUND

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

The undersigned hereby certifies and agrees that:

- 1.) It is a Contractor as that term is defined in Section I .7 of the Sacramento City Unified School District Agreement ("Agreement") because it has been, or will be, awarded a contract or subcontract to assign, award or subcontract Covered Work (as defined in Section 2.3) on the Project (as defined in Section 1.9), or to authorize another party to assign, award or subcontract Covered Work, or to perform Covered Work.
- 2.) In consideration of the award of such contract or subcontract, and in further consideration of the promises made in the Agreement and all attachments thereto (a copy of which was received and is hereby acknowledged), it accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all amendments and supplements now existing, or which are later made thereto.
- 3.) If it performs Covered Work, it will be bound by the legally established trust agreements designated in local master collective bargaining agreements, and hereby authorizes the parties to such local trust agreements to appoint trustees and successor trustee to administer the trust funds, and hereby ratifies and accepts the trustees so appointed as if made by the undersigned.
- 4.) It has no commitments or agreements that would preclude its full and complete compliance with the terms and conditions of the Agreement.
- 5.) It will secure a duly executed Agreement to be Bound, in form identical to this document, from any Contractor(s) at any tier or tiers with which it contracts to assign, award, or subcontract Covered Work, or to authorize another party to assign, award or subcontract Covered Work, or to perform Covered Work, and it will provide a copy of such executed Agreement to be Bound to the Sacramento-Sierra Building & Construction Trades Council within fifteen (15) days of such contracting or subcontracting in accordance with Section 3.2 of the Agreement.

DATED: _____

Name of Contractor _____

(Authorized Officer & Title)

(Address)

1
2
3
4
5
6
7

Section 01 31 00 - PROJECT MANAGEMENT INTERNET COMMUNICATION REQUIREMENTS

NOT USED

Section 01 31 19 - PROJECT MEETINGS & PROCEDURES

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. The District Representative will schedule and administer a preconstruction meeting, regular progress meetings, and specially called meetings throughout progress of the Work, and will:
1. Prepare agenda for meetings.
 2. Make physical arrangements for meetings.
 3. Preside at meetings.
 4. Record the minutes; include significant proceedings and decisions.
 5. Reproduce and distribute copies of minutes after each meeting to participants in the meeting and to parties affected by decisions made at meeting.
- B. Representatives of Contractor, Subcontractors and suppliers attending meetings shall be experienced supervisory staff with written authorization to act on behalf of the entity each represents.

1.02 PRECONSTRUCTION MEETING

- A. Timing: Prior to start of construction.
- B. Attendance: Architect and consultants as appropriate, District Representative, Contractor, Project Inspector and Subcontractors when required by District to attend.
- C. Purpose: Discuss and familiarize Contractors with construction administrative procedures to be used on the Project.

1.03 PROGRESS MEETINGS

- A. Timing: Frequency, day and time to be determined by the District Representative, Architect and District.
- B. Attendance: District Representative and each contractor on site; Architect, consultants, Project Inspector, and Subcontractors when required.
- C. Purpose: The purpose of these meetings is to provide a formal and regular forum for the District, District Representative, Architect/Engineer and the Contractors to present questions, problems or issues that need to be addressed. It will also provide an opportunity to review the progress on previous issues and action items along with submittal and schedule review.
- D. Each Contractor scheduled to commence Work within the following week will attend the current week's meeting to coordinate Work with other contractors already on site.

1.04 SPECIALLY CALLED MEETINGS

- A. The District Representative may call a special meeting at any time during the course of the Project. Special Project meetings shall include representatives of the Project as requested in order to discuss problems and/or solutions that are common to the Project.

END OF SECTION

Section 01 35 16 - ALTERATION PROJECT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Products and installation for patching and extending Work.
- B. Transition and adjustments.
- C. Repair of damaged surfaces, finishes, and cleaning.
- D. Salvage materials.

1.02 RELATED SECTIONS

- A. Section 01 73 29 - Cutting and Patching.
- B. Section 02 41 00 - Minor Demolition for Remodeling.

1.03 ALTERATIONS, CUTTING AND PROTECTION

- A. Assign the work of moving, removal, cutting and patching, to trades qualified to perform the work in manner to cause least damage to each type of work, and provide means of returning surfaces to appearance of new work.
- B. Perform cutting and removal work to remove minimum necessary, and in a manner to avoid damage to adjacent work.
 - 1. Cut finish surfaces such as concrete, masonry, drywall, plaster or metals, by methods to terminate surfaces in a straight line at a natural point of division, or where indicated.
- C. Protect existing finishes, equipment, and adjacent work, which are scheduled to remain, from damage.
 - 1. Protect existing and new work from extremes of temperature.
 - a. Maintain existing Interior work above 60 degrees F
 - b. Provide heat and humidity control as needed to prevent damage to remaining existing work and to new work.
- D. Provide temporary enclosures to separate work areas from existing building and from areas occupied by the District.

PART 2 PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK

- A. New Materials. As specified in product Sections; match new materials to existing work.
 - 1. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work.
 - 2. Presence of a product, finish, or type of construction, requires that patching, extending or matching shall be performed consistent to, or better than, existing standards of quality.

- 1 B. Type and Quality of Existing Products: Determine by inspection and testing existing products where
2 necessary, referring to existing Work as a standard.
3
4

5 PART 3 EXECUTION
6

7 3.01 EXAMINATION
8

- 9 A. Verify that demolition is complete, and areas are ready for installation of new Work.
10
11 B. Beginning of restoration Work means acceptance of existing conditions.
12

13 3.02 PREPARATION
14

- 15 A. Cut, move, or remove items as necessary for access to alterations and/or renovation Work. Replace and
16 restore at completion. The full extent of cutting and patching is not shown or specified. The Contractor
17 shall perform all cutting and patching as required.
18
19 B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and
20 deteriorated masonry and concrete. Replace materials as specified for finished Work.
21
22 C. Remove debris and abandoned items from area and from concealed spaces.
23
24 D. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.
25

26 3.03 INSTALLATION
27

- 28 A. Coordinate work of alterations and renovations to expedite completion and to accommodate District
29 occupancy. Patch and extend existing work using skilled mechanics that are capable of matching existing
30 quality of workmanship. Quality of patched or extended work shall be not less than that Specified for new
31 work.
32
33 B. Room Finishes. Complete in all respects consistent with the Contract Documents.
34
35 C. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring
36 Products and finishes to specified condition.
37
38 D. Install Products as specified In Individual Sections.
39

40 3.04 TRANSITIONS
41

- 42 A. Where new Work abuts or aligns with existing, perform a smooth and even transition.
43
44 B. Patch Work to match existing adjacent Work in texture and appearance, without breaks, steps or
45 bulkheads.
46
47 C. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing
48 surface along a straight line at a natural line of division and make recommendation to Architect.
49

50 3.05 ADJUSTMENTS
51

- 52 A. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth
53 transition.
54
55 B. Where extreme change of plane of two inches or more occurs, request Instructions from Architect as to
56 method of making transition.

1
2 C. Trim existing doors as necessary to clear new threshold Installation. Refinish trim as required.

3
4 D. Fit work at penetrations of surfaces as shown on drawings.

5
6 3.06 SALVAGED MATERIALS
7

8 A. Salvaged Materials from existing facilities, which are specified in the Special Provisions, identified in bid doc's
9 or tagged in the field are to be salvaged and shall remain the property of the District. The Contractor shall
10 include the removal, disassembly, preparation, marking, bundling, packaging, tagging, hauling, and
11 stockpiling of salvaged materials or facilities to the location specified in the Special Provisions, or as directed
12 by the District Representative. Materials include, but are not limited to parts, articles, and equipment of
13 assembled facilities. Salvaging does not include the preparation of existing material that is to be reused in
14 the work.

15
16 B. When only specific materials from the facility are designated to be salvaged, the remaining materials from
17 that facility shall be removed and disposed of as provided for elsewhere in the Contract Documents.
18 Materials to be salvaged shall not be removed until their use in the existing facility is no longer required,
19 as determined by the District Representative.

20
21 C. When practicable, salvaged materials shall be hauled directly to the location specified in the Special
22 Provisions and stockpiled; however, salvaged materials may be temporarily stored at a location selected
23 by the Contractor and approved by the District Representative and later hauled to and stockpiled at their
24 final location. Materials which are lost before stockpiling at their final location shall either be replaced by
25 the Contractor, at the Contractor's expense, or, at the discretion of the District Representative, the
26 estimated cost of replacement may be deducted from any moneys due or to become due to the Contractor.

27
28 D. Materials designated to be salvaged that are damaged, as determined by the District Representative, shall
29 be segregated from undamaged material. After review of the damaged materials by the District
30 Representative, all damaged materials that are rejected by the Districts Representative shall become the
31 property of the Contractor and shall be disposed of as provided elsewhere in the Contract Documents.

32
33 E. Materials to be salvaged that are damaged as a result of the Contractor's operations shall be repaired by
34 the Contractor, at the Contractor's expense, to the satisfaction of the District Representative. Materials
35 that are damaged beyond repair as a result of the Contractor's operations shall be disposed of as provided
36 elsewhere in the Contract Documents and replaced at the Contractor's expense; or, at the discretion of
37 the District Representative, the estimated cost of replacement may be deducted from any moneys due or
38 to become due to the Contractor.

39
40 F. Replacements for lost or damaged materials shall be of the same kind and of the same or better quality
41 and condition as the lost or damaged materials were prior to their removal. Replacement materials should
42 also be of the same size, color, weight etc. of the original materials. Matching or exceeding quality and
43 condition alone may not permit the reuse of material.

44
45 3.07 REPAIR OF DAMAGED SURFACES
46

47 A. Patch or replace portions of existing surfaces, which are damaged, lifted, discolored, or showing other
48 imperfections.

49
50 B. Repair substrate prior to patching finish.
51

1 3.08 FINISHES
2

- 3 A. Finish surfaces as specified in Individual Product Sections.
- 4 B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched,
5 refinish entire surface to nearest Intersections.
6
- 7 C. Unless otherwise specified or shown, subsurfaces shall be prepared as recommended by finish material
8 manufacturers for project conditions for the proper application of new finishes.
9

10 3.09 CLEANING
11

- 12 A. Clean adjacent Owner-occupied areas of work soiled by work of this contract (See General Conditions
13 Section 00 72 00, Article 19).
14
15

16 END OF SECTION

1
2
3
4

Section 01 41 00 - ADDITIONAL REQUIREMENTS FOR DSA-REVIEWED PROJECTS

NOT USED

Section 01 45 00 - QUALITY CONTROL

PART 1- GENERAL

1.01 SECTION INCLUDES

- A. Quality assurance and control of installation.
- B. References.
- C. Field samples.
- D. Mock-up.
- E. Inspection and testing laboratory services.
- F. Manufacturers' field services and reports.

1.02 RELATED SECTIONS

- A. Section 00 72 00-General Conditions, Article 11- Submittals
- B. Technical Specifications

1.03 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step-in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- G. Contractor's Line of Authority: Contractor shall provide one person who shall be both knowledgeable and responsible for all work to be performed on this project at all times during normal work hours. In Contractor's absence, Contractor's appointed representative shall be responsible for all directions given him/her and said directions shall be binding as if given to the Contractor. Contractor's representative shall be responsible to coordinate all work to be performed.
- H. Shop and fieldwork shall be performed by mechanics skilled and experienced in the fabrication and installation of the work involved. All work on this project shall be done in accordance with the best practices of the various trades involved and in accordance with the drawings, approved shop drawings and these specifications.

- 1 I. All work shall be erected and installed plumb, level, square and true and in proper alignment and
2 relationship to the work of other trades. All finished work shall be free from defects. The Architect,
3 Engineer, District and its representatives reserves the right to reject any materials and workmanship which
4 are not considered to be up to the highest standards of the various trades involved. Such inferior material
5 or workmanship shall be replaced by the Contractor at no additional cost to the District and without an
6 extension of the Contract Time.
7
- 8 J. All work shall be installed by a knowledgeable contractor and defined "certified to install" by the specified
9 materials manufacturers. The specifications and recommendations of the manufacturer whose materials
10 are used shall be strictly adhered to during the application or installation of materials.
11
- 12 K. Any additional work beyond that specified or illustrated, or any modification thereto, that is necessary for
13 the furnishing of guarantee shall be provided by the Contractor without additional cost to the District.
14

15 1.04 REFERENCES

- 16
- 17 A. Conform to reference standards by date of issue current on date of the Contract Documents.
18
- 19 B. Should specified reference standards conflict with Contract Documents, request clarification from Architect
20 before proceeding.
21
- 22 C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents
23 by mention or inference otherwise in any reference document.
24
- 25 D. The Contractor shall be responsible for being current and knowledgeable of all building codes involved for
26 all trades under his direction.
27
- 28 E. Provide all work and materials in full accordance with the California Building Standards Administrative
29 Code, the California Building Code (CBC), California Electrical Code (CEC), California Mechanical Code
30 (CMC), California Plumbing Code (CPC), California Energy Code, California Fire Code (CFC), California
31 Referenced Standards, State Fire Marshal Regulations, Cal/OSHA, and any other applicable laws or
32 regulations. Nothing in these plans or specifications is to be construed to permit work not conforming to
33 these Codes
34
- 35 F. Furnish without extra charge any additional material and labor required to comply with these Rules and
36 Regulations.
37

38 1.05 FIELD SAMPLES

- 39
- 40 A. Install field samples at the site as required by individual specifications Sections for review.
41
- 42 B. Acceptable samples represent a quality level for the Work.
43
- 44 C. Where field sample is specified in Individual Sections to be removed, clear area after field sample has
45 been accepted by Architect.
46

47 1.06 MOCK-UP

- 48
- 49 A. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals,
50 and finishes.
51
- 52 B. Where mock-up is specified in Individual Sections to be removed, clear area after mock-up has been
53 accepted by Architect.
54
55
56

1 1.07 INSPECTION AND TESTING LABORATORY SERVICES

- 2
- 3 A. The District will appoint, employ, and pay for services of an independent firm approved by the Structural
4 Engineer, Architect and Division of the State Architect (DSA) to perform special inspection and testing.
5
- 6 B. The Independent firm will perform special inspections, tests, and other services specified in Individual
7 specification Sections and as required by the Architect.
8
- 9 C. Reports will be submitted by the independent firm to the Architect, Owner and DSA, indicating observations
10 and results of tests and indicating compliance or noncompliance with Contract Documents.
11
- 12 D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and
13 assistance as requested.
14 1. Notify Architect and independent firm 24 hours prior to expected time for operations requiring services.
15 2. Make arrangements with independent firm and pay for additional samples and tests required for
16 Contractors use.
17
- 18 E. The special inspector shall perform inspection of all work to determine conformance with these Standards.
19 1. Request for inspection must be made to the office of the special inspector a minimum of 24 hours in
20 advance of the time the inspection is desired.
21 2. Underground work shall not be backfilled or covered until an inspection by the special inspector or his
22 representative has been completed and the work approved. Any work that is covered without inspection
23 shall be uncovered at the Contractors expense so an inspection can be made.
24 3. The Engineer shall have access to the work at all times and shall be furnished every reasonable facility
25 for ascertaining that the work done, materials used and workmanship performed are in accordance with
26 the requirements of these Standards.
27 4. Inspection of the work shall not relieve the Contractor of any of its obligations to satisfactorily perform
28 the work.
29
- 30 F. Re-testing required because of non-conformance to specified requirements shall be performed by the same
31 independent firm on instructions by the Architect. Payment for re-testing will be charged to the Contractor
32 by deducting inspection or testing charges from the Contract Price.
33
- 34 G. An Inspector of record shall be employed by The District and approved by Architect, Structural Engineer,
35 and DSA.
36

37 1.08 MANUFACTURERS' FIELD SERVICES AND REPORTS

- 38
- 39 A. Submit qualifications of observer to Architect 30 days in advance of required observations.
40
- 41 B. When specified in individual specification Sections, require material or Product suppliers or manufacturers
42 to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality
43 of workmanship, start-up of equipment, test, adjust, and balance of equipment as applicable, and to initiate
44 instructions when necessary.
45
- 46 C. Individuals to report observations and site decisions or instructions given to applicators or installers that are
47 supplemental or contrary to manufacturers' written instructions.
48
- 49 D. Submit report in duplicate within 30 days of observation to Architect for review.
50

51 PART 2 - PRODUCTS - Not Used
52 PART 3 - EXECUTION - Not Used

53
54
END OF SECTION

Section 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

ARTICLE 1. GENERAL

SECTION 1.01 WORK INCLUDED

Temporary Facilities and controls required for this Work include, but are not necessarily limited to:

1. Temporary water, power, light, and heat.
2. Field office and associated telephone and utilities.
3. Temporary weather protection.
4. Parking and storage areas.
5. Site fencing and security.
6. Sanitary facilities.
7. Dewatering.
8. Storm Water Run-Off Plan Compliance
9. Final and course of construction cleanup and removal of debris.
10. Erosion Control.
11. Emergency power and water shut-off.

SECTION 1.02 TEMPORARY UTILITIES

General: Charges for the use of utility services other than those associated with individual field offices or planned electrical service interruptions will be paid for by the District. Each Contractor shall provide temporary heating, or ventilating, or cooling when permanent services are interrupted due to performance of their Work. Each Contractor shall provide temporary means of operation for existing storm, water, sewer, gas, mechanical, electrical, and low voltage systems during construction. Any planned interruption of permanent services, facilities, or operations must be coordinated and approved in advance with the District Representative.

Temporary Power:

Each Contractor shall construct all temporary power facilities required to complete Bid Package scope of Work and maintain in accordance with Division of Industrial Safety "Electrical Safety Orders" (ESO), Public Utilities Commission "Rules of Overhead Line Construction" (G.O. 95), and CAL-OSHA. Materials, devices and equipment used for these facilities shall be in good and safe condition but need not be new. Contractor is responsible for the removal of the temporary power. Existing school electric outlets may be utilized, if permitted by the District and authorized by the District Representative. Any additional power required shall be provided and paid for by the contractor.

Temporary Lighting:

Each Contractor shall provide, maintain, and remove temporary lighting necessary to complete the Bid Package Scope of Work.

Temporary Heat:

Each Contractor shall provide, maintain, and remove temporary heat necessary to complete Bid Package Scope of Work.

Temporary Water:

Each Contractor shall provide sufficient hose to carry water to every required part of construction and allow use of water facilities to Subcontractors engaged in Work. Contractor is also responsible for the removal of the temporary water. Existing school water outlets may be utilized. Any additional water required shall be provided by the Contractor.

Temporary Telephone:

Each Contractor shall provide their own telephone system. Use of District telephones will not be allowed.

1 Temporary Fire Protection:

2 Each Contractor shall provide and maintain fire extinguishers and first aid kits in accordance with OSHA
3 requirements to be used in the event of an emergency.

4
5 Temporary Weather Protection:

6 Each Contractor shall provide and maintain protection measures and Best Management Practices to ensure
7 that damage(s) will not occur to District property during course of construction and protect the District from
8 State Water Resources Control Board actions.

9
10 Temporary Dewatering:

11 Each Contractor shall provide and maintain a dewatering system as required to perform its/their Work. This
12 temporary dewatering system may, and should, be reviewed by the Architect and/or the District
13 Representative.

14
15 SECTION 1.03 FIELD OFFICE/STORAGE CONTAINERS

16
17 If desired, the Contractor may provide a temporary field office(s) or storage container(s). Locate field
18 office(s)/storage container(s) as directed by the District Representative. Upon completion of Work, Contractor shall
19 remove any and all temporary field office(s) and storage container(s).

20
21 SECTION 1.04 PARKING OF VEHICLES

22
23 Each Contractor shall assume **all** responsibility for job site vehicle parking of his and his Subcontractor's vehicles.
24 Locations of parking shall be as directed by the District Representative. School sites may not accommodate on-
25 site parking of construction personnel vehicles. Contractor shall assure compliance with all applicable requirements
26 for on-street vehicle parking.

27
28 SECTION 1.05 STORAGE AND LAYDOWN AREAS

29
30 The District Representative will coordinate use of available laydown areas among various contractors. Only areas
31 designated by the District Representative can be used by Contractors. Each contractor is responsible for providing
32 his own fenced storage facilities (trailers or cargo containers.)

33
34 SECTION 1.06 TEMPORARY SITE FENCING AND SECURITY

35
36 Each Contractor shall provide and maintain temporary fencing surrounding the buildings and/or rooms under
37 construction, and staging areas. Set-up/relocation of temporary fencing shall be included for each phase of work
38 as shown on the Preliminary Construction Schedule. Contractor is responsible for the security of all equipment,
39 material, and completed construction items. Contractor is also responsible for securing any breeches to existing
40 security system/building caused by his Work. Temporary measures may include watchman, temporary doors,
41 temporary alarm, etc.

42
43 SECTION 1.07 SANITARY FACILITIES

44
45 Each Contractor shall provide sanitary toilet facilities for use of all Workers employed on Project, in accordance with
46 State and Local health departments. Use of District toilet facilities will not be allowed.

47
48 SECTION 1.08 CLEAN UP AND REMOVAL OF DEBRIS

49
50 Each Contractor shall assume all responsibility for cleanup and removal of debris created by his Scope of Work on
51 a daily basis. No community dumpsters will be provided. In the event unidentifiable job site clutter or debris
52 becomes a problem, at the District Representative's request, each contractor shall provide sufficient labor to be
53 directed by the District Representative's personnel in a group cleanup effort. If a Contractor's clean-up is found to
54 be deficient, the District may backcharge the Contractor for clean-up and/or withhold progress payments as
55 determined appropriate by the District in accordance with Section 12.06, Para E, General Conditions Section 00 72
56 00.

1 SECTION 1.09 TEMPORARY CONSTRUCTION, EQUIPMENT AND PROTECTION

2
3 Contractor shall provide, maintain and remove upon completion of Work, all temporary rigging, scaffolding, hoisting
4 equipment, rubbish chutes, ladders, barricades, lights and all other protective structures or devices necessary for
5 safety of Workers and public property as required to complete the Bid Package Scope of Work.

6
7 Safety: The contractor is responsible for the complete safety of district personnel, students, and the general public
8 at all times.

9
10 Walkways and barricades: If Contractor's portion of Work interferes with pedestrian traffic, provide pedestrian
11 walkway protection conforming to City standards and CAL OSHA requirements.

12
13 Access: The contractor is responsible to maintain access to the buildings at all times. Temporary covered walkways
14 and/or barricades may be required.

15
16 Protection: Each Contractor must protect all Workers and equipment from power lines by maintaining safe
17 distances and by providing protective devices where and as required by Industrial Safety Commission and CAL-
18 OSHA.

19
20 Temporary construction and equipment: All temporary construction and equipment shall conform to all regulations,
21 ordinances, laws and other requirements of State and any other authorities having jurisdiction (including insurance
22 companies), with regards to safety precautions, operations and fire hazards.

23
24 SECTION 1.10 EROSION CONTROL

25
26 If any soil will be disturbed as part of the scope or course of work, the Contractor must protect disturbed area from
27 erosion and protect the storm drain system from contamination.

- 28
- 29 • For projects requiring a SWPPP based on State Water Resource Control Board (SWRCB) requirements a
30 SWPPP will be provided by the District unless otherwise stated in the project documents. Projects
31 available for an Erosivity Waiver will have such filed by the District unless otherwise stated in the project
32 documents. All projects, whether under the control of a SWPPP or not shall maintain Best Management
33 Practices to ensure the limiting of erosion and sedimentation. Under no circumstances shall sediment be
34 allowed to leave the project site.
- 35 • The contractor shall retain a Qualified SWPPP Practitioner (QSP) to inspect the construction site to
36 ensure compliance with the SWPPP and SWRCB requirements. The Contractor shall implement all
37 measures required by the QSP.
- 38 • During the course of the Contract the Contractor shall file all necessary documentation with the
39 SWRCB. At the completion of the contract the Contractor shall file a Notice of Termination
40 with the SWRCB and provide documentation of such to the District.

41
42 SECTION 1.11 EMERGENCY POWER AND WATER SHUT-OFF

43
44 The Contractor is responsible to know where all water and power shut-off devices are located and to have the
45 proper tools to operate shut-off valves. The Contractor shall post a site map in a location readily available to
46 workers.

47
48 SECTION 1.12 STORM WATER RUN-OFF PLAN:

49 Not Applicable.

50
51 PART 2 - PRODUCTS

52 Not Used

53 PART 3 - EXECUTION

54 Not Used

55
END OF SECTION

Section 01 71 23 - FIELD ENGINEERING & SURVEY CONTROLS

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Contractor to provide and pay for field engineering services required for the execution of Work, including, but not limited to:
 - 1. Survey Work required in execution of the Bid Package Work scope.
 - 2. Civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.
- B. Provide field staking of site improvements included in Bid Package; identify existing survey reference points and property line corner stakes indicated on Drawings.
- C. Locate and be aware of all existing on-site utility lines and improvements.

1.02 QUALIFICATIONS OF SURVEYOR OR ENGINEER

- A. Qualified California registered professional engineer or registered land surveyor, acceptable to Contractor and the District Representative.
- B. Registered professional engineer of discipline required for specific service on Project, licensed in State of California.

1.03 SUBMITTALS:

- A. Submit name, address, and license of surveyor and professional engineer to the District Representative.

1.04 PROJECT SURVEY REQUIREMENTS

- A. Establish and maintain lines and levels as necessary to locate and layout entire scope of Work in Bid Package.
- B. Preserve and protect all on-site underground utilities lines and existing on-site improvements in the area of construction.

END OF SECTION

Section 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Execute cutting, fitting or patching of Work, required to:
 - 1. Make parts fit properly.
 - 2. Uncover Work to provide for installation of ill-timed Work.
 - 3. Remove and replace Work not conforming to requirements of Contract Documents.
 - 4. Remove and replace defective Work.
 - 5. Remove samples of installed Work as specified for testing.
 - 6. Remove existing materials (demolition) required prior to installation of specified Work.
 - 7. Uncover Work to provide for Architect's observation of covered Work.
- B. Do not endanger structural integrity of any Work by cutting or altering any part of it.
- C. The Contractors with structural responsibility within their scope of Work shall solely execute structural cutting and patching required for this Project, according to DSA Approved Drawings.
- D. Minor cutting and patching of finishes and/or trim will be performed by the Contractor where required for the execution of his Work. Locations of all cutting and patching (core boring, etc.) shall be reviewed and approved by the Architect prior to the start of Work.
- E. The Contractor shall make the field measurements necessary for its Work and be responsible for its accuracy. Also, should any structural difficulties prevent a Contractor from installing its material properly, the District Representative and Architect shall be notified in writing within 24 hours. Cutting into the walls, ceilings and floors, if necessary, shall be carefully and neatly performed and then be repaired as specified in the Contract Documents. The Architect shall be consulted prior to the start of Work in all cases where cutting into a structural portion of the building is either desirable or necessary so that satisfactory reinforcement may be provided.
- F. Patching of all exposed architectural finishes shall be performed under the supervision of the Inspector. Cutting and patching of existing architectural finishes shall be minimized to the extent possible through careful routing and placement of new Work. The Architect or Inspector shall have the authority to reject substandard or unacceptable patching.
- G. Patching of openings that are cut in any fire rated walls or membranes shall be sealed tightly using approved materials only. Verify that fire rating envelopes are maintained and inspections provided prior to concealing Work. Cutting and patching, if required by Agencies to verify adequacy of protection after concealment, shall be performed at no cost to the District.

1.02 RELATED SECTIONS

- A. Section 00 72 00 - General Conditions.
- B. Section 00 73 00 - Special Provisions.
- C. Section 01 35 16 - Alteration Project Procedures.
- D. Section 01 45 00 - Quality Control.
- E. Section 01 50 00 - Construction Facilities and Temporary Controls.

1.03 SUBMITTALS

- A. Prior to cutting which affects structural safety of Project, submit written notice to Architect requesting consent to proceed with cutting. See items "C" and "E", Section 1.01.

- 1 B. Should conditions of Work or schedule require change of materials or methods, submit written recommendation to
2 Architect, within 48 hours, including:
 - 3 1. Conditions requiring change.
 - 4 2. Recommendations for alternative materials or methods.
 - 5 3. Submittals as required for substitutions.
 - 6 4. Quotations of charges or credits.
- 7
- 8 C. Submit 48-hour advance written notice to Architect (with a copy to the District Representative) designating the time
9 Work will be uncovered.
- 10
- 11 D. Submit all materials to be used in cutting and patching in accordance with Specification Section 00 72 00.
- 12

13

14 PART 2 - PRODUCTS

15

16 2.01 MATERIALS

- 17
- 18 A. Primary Products: Materials for replacement of Work removed are to comply with Technical Specifications and are
19 required to match original installation.
- 20
- 21 B. Product Substitution: For any proposed change in materials, submit request for substitution in accordance with
22 Specification Section 00 72 00.
- 23

24

25 PART 3 - EXECUTION

26

27 3.01 EXAMINATION

- 28
- 29 A. Examine existing conditions prior to commencing Work, including elements subject to movement or damage during
30 cutting and patching.
- 31
- 32 B. After uncovering existing Work, examine conditions affecting installation of new products and performance of Work.
- 33
- 34 C. Beginning of cutting or patching operations means acceptance of existing conditions.
- 35

36 3.02 PREPARATION

- 37
- 38 A. Provide means of shoring, bracing and temporary supports as required to maintain structural integrity of the Work.
- 39
- 40 B. Provide devices, enclosures and methods to protect adjacent surfaces and areas of the property from damage, dust
41 or disruption.
- 42
- 43 C. Provide protection from the elements for areas, which may be exposed during cutting or patching.
- 44
- 45 D. Maintain excavations free of water.
- 46

47

48 3.03 CUTTING

- 49
- 50 A. Execute cutting, fitting and adjustment of products to permit finished installation to comply with specified tolerances
51 and finishes.
- 52
- 53 B. Perform cutting and demolition by methods, which will prevent damage to other Work, and will provide proper
54 surfaces to receive installation of repairs and new Work.
- 55
- 56 C. Uncover Work to install improperly sequenced Work.
- 57
- 58 D. Remove and replace defective, rejected or non-conforming Work.

- 1 E. Remove samples of installed Work for testing when requested.
- 2
- 3 F. Provide openings in the Work for penetration of Mechanical and Electrical Work.
- 4
- 5 G. Employ only experienced installers to perform cutting for weather exposed, moisture resistant and sight-exposed
- 6 surfaces.
- 7
- 8 H. Cut concrete, tile plaster and other rigid materials using masonry/concrete saws and core drills. Pneumatic tools
- 9 are not allowed without prior approval.
- 10

11 3.04 PATCHING

- 12
- 13 A. Execute patching to match adjacent Work.
- 14
- 15 B. Fit products together to integrate seamlessly with adjacent Work.
- 16
- 17 C. Execute patching by methods to avoid damage to adjacent Work, and which will provide appropriate surfaces to
- 18 receive finishing Work.
- 19
- 20 D. Employ only experienced installers to perform patching for weather exposed, moisture resistant and sight-exposed
- 21 surfaces.
- 22
- 23 E. Restore Work with new products in accordance with requirements of the Contract Documents.
- 24
- 25 F. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with approved fire
- 26 rated material in accordance with the manufacturers installation instructions and applicable Codes.
- 27
- 28 G. Fit Work to pipes, sleeves, ducts, conduits and other penetrations through affected surfaces neatly and leave in
- 29 finished condition.
- 30
- 31 H. All patched surfaces are to match adjacent finishes in all respects: Type, texture, thickness and color. For
- 32 continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit or area.
- 33

34 END OF SECTION

35



Project Manual

For

District Office Serna New Emergency Generator

5735 47th Avenue, Sacramento, CA 95824

Specifications

for the

Sacramento City Unified School District
5735 47th Avenue, Sacramento, CA 95824

Date: November, 2024

PBK Project No.: 230118

Package



Project Manual

for:

District Office

Serna New Emergency Generator

for the

Sacramento City School District

Date: November, 2024

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Package

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SECTION 01 73 29 CUTTING AND PATCHING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes procedural requirements for cutting and patching.

1.3 DEFINITIONS

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

1.4 SUBMITTALS

- A. Cutting and Patching Plan:
 - 1. Submit plan describing procedures at least ten (10) days prior to the time cutting and patching will be performed. Include the following information:
 - a. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 - b. Changes to in-place construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 - c. Products: List products used for patching and firms or entities that will perform patching work.
 - d. Dates: Indicate when cutting and patching will be performed.
 - e. Utilities and mechanical and electrical systems:
 - 1) List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted:
 - a) Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.5 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
- B. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect 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.
- C. Operational Elements:
 - 1. Do not cut and patch operating elements and related components that results in

reducing the capacity to perform as intended or that results in increased maintenance or decreased operational life or safety:

- a. Primary operational systems and equipment.
- b. Fire separation assemblies.
- c. Air or smoke barriers.
- d. Fire suppression systems.
- e. Mechanical systems' piping and ducts.
- f. Control systems.
- g. Communication systems.
- h. Fire detection and alarm systems.
- i. Conveying systems.
- j. Electrical wiring systems.
- k. Operating systems of special construction.

D. Miscellaneous Elements:

1. Do not cut and patch the following elements or related components that change the load bearing capacity, resulting in a reduction of capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Exterior curtain wall construction.
 - d. Equipment supports.
 - e. Piping, ductwork, vessels, and equipment.
 - f. Noise and vibration control elements and systems.
 - g. Sprayed fire resistive material.

E. Visual Requirements:

1. Do not cut and patch construction resulting in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner:
 - a. If possible, retain original installer or fabricator to cut and patch exposed Work. If possible, engage original installer or fabricator. If original installer is not available, engage recognized, experienced, and specialized firm for the Work:
 - 1) Processed concrete finishes.
 - 2) Ornamental metal.
 - 3) Matched veneer woodwork.
 - 4) Preformed metal panels.
 - 5) Roofing.
 - 6) Firestopping.
 - 7) Window system.
 - 8) Fluid applied flooring.
 - 9) Wall covering.
 - 10) HVAC enclosures, cabinets, or covers.

- F. Cutting and Patching Conference: Before proceeding, meet at site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.6 WARRANTY

- A. 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.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Comply with specified requirements.
- B. Existing Materials:
 - 1. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible:
 - a. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed:
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing 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.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where removal, relocation, or abandonment is necessary, bypass existing services before cutting to avoid interruption of services to occupied areas.

3.3 CUTTING AND PATCHING

- A. Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at earliest feasible time, and complete without delay:
 - 1. Cut existing construction to provide for installation of components or performance of construction, and subsequently patch as necessary to restore surfaces to an original condition.
 - 2. 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. Temporary Support: Provide temporary support of Work to be cut.
- C. 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.
- D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of

free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 01 10 00: Summary and what is shown on Drawings.

E. Cutting:

1. Cut existing 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:
 - a. Use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - b. Finished surfaces: Cut or drill from exposed or finished side into concealed surfaces.
 - c. Concrete and masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - d. Excavating and backfilling: Comply with requirements in applicable earthwork specifications by cutting and patching operations.
 - e. Mechanical and electrical services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - f. Proceed with patching after construction operations requiring cutting are complete.

F. Patching:

1. 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 possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications:
 - a. Inspection:
 - 1) Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - b. Exposed finishes:
 - 1) Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction to eliminate evidence of patching and refinishing:
 - a) Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b) Restore damaged pipe covering to its original condition.
2. Floors and walls: Where walls or partitions are removed, extend one finished area into another, patch and repair surfaces in new space. Provide even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
3. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior building enclosure: Patch components and restore enclosure to a weathertight condition.

END OF SECTION 01 73 29

SECTION 02 41 00 SITE DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

A. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 01 50 00 - Construction Facilities and Temporary Controls.
3. Section 01 50 13 - Construction Waste Management and Disposal.
4. Section 31 00 00 - Earthwork.
5. Section 31 13 16 - Tree Protection.

1.02 REGULATORY REQUIREMENTS

- A. Conform to applicable jurisdictional authority regulations and codes for disposal of debris.
- B. Coordinate clearing Work with utility companies
- C. Maintain emergency access ways at all times.
- D. Contractor shall comply with all applicable laws and ordinances regarding hazardous materials, including contaminated soils, hazardous material transformers, and similar materials or components.

1.03 SUBMITTALS:

- A. Schedule: Submit a detailed sequence of demolition and removal work, including dates for shutoff, capping, and continuance of utility services.
- B. Procedures: Submit written procedures documenting the proposed methods to be used to control dust and noise.

1.04 EXISTING CONDITIONS

- A. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.
- B. Conduct demolition to minimize interference with adjacent structures or items to remain. Maintain protected egress and access at all times.

1.05 PROTECTION

- A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.
- B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and

property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

- C. Safety Precautions Prevent damage to existing elements identified to remain or to be salvaged, and prevent injury to the public and workmen engaged on site. Demolish roofs, walls and other building elements in such manner that demolished materials fall within foundation lines of building. Do not allow demolition debris to accumulate on site. Pull down hazardous work at end of each day; do not leave standing or hanging overnight, or over weekends.
 - 1. Protect existing items which are not indicated to be altered. Protect utilities designated to remain from damage.
 - 2. Protect trees, plant growth, and features designated to remain as final landscaping as shown on drawings.
 - 3. Protect benchmarks from damage or displacement.
- D. Trees: Carefully protect existing trees that are to remain. Provide temporary irrigation as necessary to maintain health of trees.
- E. Fire Safety: The contractor shall conform to chapter 33 of the California Fire Code (CFC), "Fire Safety During Construction and Demolition", at all times during the construction process. A copy of this chapter can be provided.
- F. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.
- G. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.
- H. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.
- I. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine conditions of work in place before beginning work, report defects.
- B. Report existence of hazardous materials or unsafe structural conditions.

3.02 PREPARATION

- A. Scheduling:

1. General: Coordinate and schedule demolition work as required by the Owner and as necessary to facilitate construction progress.

B. Hazardous Materials:

1. General: Identify chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations, and notify such jurisdictional agencies as may be required. Collect and legally dispose of such materials at official disposal locations away from the site.
2. Asbestos: If asbestos or materials containing asbestos are encountered, stop work immediately and contact the Owner. Do not proceed with demolition until directed by Owner.

C. Utility and Service Termination

1. Locate and identify existing utility, service and irrigation system components affected by work of this contract. Review existing record drawings, conduct site investigations, contact Underground Service Alert and other qualified cable/pipe/line locator services, and implement all other means necessary to define the location of underground systems.
2. Prior to beginning any demolition, properly disconnect all water, gas and electrical power supply at appropriate disconnect locations. Obtain all necessary releases and approvals from serving utility companies.
3. Prior to demolition or disconnect, obtain Owner's approval that such system does not impact facilities or systems beyond the extent of this contract.
4. Mark location of disconnected systems. Identify and indicate stub-out locations on Project Record Documents.

D. Verify that existing plant life and features designated to remain are tagged or identified.

1. The Architect will mark the features, trees, and shrubs to remain within the construction area. Contractor shall not commence clearing and grubbing operations until authorized by the Owner and all protective measures are in place.

E. Coordinate the time and duration of all system disconnects with Owner.

3.03 DEMOLITION

A. General Requirements

1. Clear areas required for access to site and execution of Work, including pavements, structures, foundations, vegetation, trash and debris.
2. Coordinate with Owner the time of day and route to remove demolished materials from premises.
3. Remove demolished materials from site as work progresses. Upon completion of work, leave areas of work in clean condition.
4. Remove all buried debris, rubble, trash, or other material not deemed suitable by the Geotechnical Engineer.
5. Fill all voids or excavations resulting from clearing, demolition, or removal of vegetation with specified fill material.

B. Fixture and Equipment Removal:

1. Remove existing fixtures and equipment as identified and shown on drawings and required by Architect.
2. Verify all service connections to fixtures and equipment designated for removal have been properly disconnected.
3. Remove all conductors from conduit at all abandoned circuits.

3.04 UTILITY AND BUILDING SERVICES REMOVAL AND RE-INSTALLATION

- A. Where crossing paths and potential points of interference with existing utility services are shown or can be reasonably inferred from surface conditions or evidence of subsurface systems, such as meter boxes, vaults, relief vents, cleanouts and similar components.
 - 1. Review all contract documents showing crossing paths and potential points of interference.
 - 2. Pothole or determine by other means the accurate depth and location of such utilities.
 - 3. Incorporate all costs required to complete work under this contract, including additional trenching, re-routing of existing and new utilities, and all means necessary to construct work under this contract.
 - 4. No additional cost to the Owner will be allowed for work necessary to accommodate utility conflicts where such crossing paths are shown on contract drawings or can be reasonably inferred from surface conditions or components.
- B. Remove all conductors from conduit at all abandoned electrical circuits.
- C. Seal off ends of all piping, drains and other components as directed by Architect and serving utility.
- D. Where necessary to maintain service to existing utility and building systems, relocate or redirect all conduit and conductors, piping, drains, and associated system components.
 - 1. Re-circuit all electrical as required.
 - 2. Re-circuit all landscape irrigation valving and control systems as required.
 - 3. Temporarily terminate landscape system components in approved boxes or with approved caps, suitable for re-connection or extension.
 - 4. Extend or otherwise modify all site drainage systems, including catch basins, drain inlets and piping. Fine grade to maintain proper drainage flow pattern to drains.
- E. Demolish structure in an orderly and careful manner.
 - 1. Use of explosives prohibited.

3.05 SITE PAVEMENT REMOVAL

- A. Remove sidewalk and curb where required for new construction as specified and as indicated on the Drawings.
 - 1. Remove all paving by saw-cutting.
 - 2. Remove concrete paving and curbing at locations shown on drawings. Locate closest adjacent expansion or weakened plane joint to define start of removal or saw-cutting.
- B. Remove asphalt concrete paving areas where required for new construction as specified and as indicated on the Drawings.
 - 1. Remove all paving by saw-cutting.
 - 2. Remove paving assembly as required to expose subgrade.

3.06 LANDSCAPE AND IRRIGATION SYSTEMS DEMOLITION AND RENOVATION

- A. Clearing, grubbing, and planting demolition.
 - 1. Remove grass and grass roots to a minimum depth of two inches below existing grade.
 - 2. Remove all shrubs, plants and other vegetation within the area of the work unless designated to remain. Grub and remove all roots of all vegetation to a depth of 24 inches below existing grade.

3. Remove only those trees which are specifically designated for removal, or as shown on the drawings, within the construction area. Remove all stumps. Remove root ball and root systems larger than 1 inch in diameter to a depth of two feet below existing or finished grades, whichever is lower and a minimum of five feet beyond the edge of paving, structure, wall or walkway.
4. Hand cut existing tree roots over 1 inch in diameter as necessary for trenching or other new construction, apply multiple coats of emulsified asphalt sealant especially made for horticultural use on cut or damaged plant tissues to cut faces and adjacent surfaces. Cover exposed roots with wet burlap to prevent roots from dying out until backfilling is complete.
5. Disking and mixing of vegetation, trash, debris, and other deleterious materials with surface soils prior to grading is not permitted.
6. Remove all buried debris, organic material, rubble, trash, or other material not deemed suitable by the Geotechnical Engineer.
7. Fill all voids or excavations resulting from clearing, demolition, or removal of vegetation with fill material in compliance with Section 31 00 00.
8. Selected equipment of such sizes and capacities that the existing environment is disturbed as little as possible, and to afford ease of mobility within limited and relatively confined work areas. Make every effort to preserve the topography in its natural state.
9. Keep drains, catch basins, surface drainage courses and related drainage system components clear of debris and construction materials.
10. Remove irrigation piping and appurtenances as necessary within area of work, unless noted otherwise to remain. Replace irrigation piping and appurtenances to irrigate new and/or existing landscaping. Contractor shall be responsible for temporary landscape irrigation until such time that irrigation system is restored and operational.

3.07 DISPOSAL

Demolished materials become property of the Contractor and shall be removed from premises, except those items specifically listed to be retained by Owner.

- A. Dispose of all demolished material, trash, debris, and other materials not used in the work in accordance with the regulations of jurisdictional authority.
- B. It is recommended [EDIT OPTION required] that all materials that are of a recyclable nature, be transported to a suitable legal recycling facility instead of a dump or refuse facility (unless they are one-in-the same).
- C. Burning and Burying of Materials: NOT ALLOWED.
- D. Haul Routes:
 1. Obtain permits as required by jurisdictional agencies. Establish haul routes in advance, post flagmen for the safety of the public and workmen.
 2. Keep streets free of mud, rubbish, etc.; assume responsibility for damage resulting from hauling operations; hold Owner free of liability in connection therewith.
- E. Remove demolished materials and debris from site on a daily basis.

3.08 CLEANING

- A. Upon completion of work of this Section promptly remove from the working area all scraps, debris.
- B. Clean excess material from surface of all remaining paved surfaces and utility structures.
- C. Power wash all concrete surfaces to remove stains, dried mud, tire marks, and rust spots.

END OF SECTION 02 41 00

SECTION 02 41 16 STRUCTURE DEMOLITION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of existing buildings including existing site features or elements associated as indicated on Drawings.
 - 2. Removing below-grade under existing buildings all electrical, plumbing, and landscape irrigation elements outwards to a minimum of five feet (5') in any direction.
 - 3. Disconnect, cap or seal, and abandoning in-place all site utilities to an area designated on Drawings.
 - 4. Remove all utilities, power, and water and provide new utilities to new location.
 - 5. Salvaging items for reuse by Owner.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse or store. Include fasteners or brackets needed for reattachment elsewhere.

1.4 SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Proposed Protection Measures:
 - 1. Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers:
 - a. Adjacent buildings: Detail special measures proposed to protect adjacent buildings to remain including means of egress from those buildings.
- C. Schedule of Building Demolition Activities:
 - 1. Indicate the following:
 - a. Detailed sequence of demolition work, with starting and ending dates for each activity.
 - b. Temporary interruption of utility services.
 - c. Shutoff and capping or re-routing of utility services.
- D. Pre-Demolition Photographs or Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces, which might be misconstrued as damage caused by demolition operations. Comply with Division 01: General Requirements. Submit before the Work begins.
- E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible

for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

- F. Inventory: Submit a list of items that have been removed and salvaged. Refer to Division 01: General Requirements.

1.5 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Pre-demolition conference to be conducted at Project site:
 - 1. Inspect and discuss condition of construction to be demolished.
 - 2. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 3. Review and finalize protection requirements.
 - 4. Review procedures for noise control and dust control.
 - 5. Review procedures for protection of adjacent buildings.
 - 6. Review items to be salvaged and returned to Owner.
- C. Arrange demolition schedule so as not to interfere with Owner's onsite operations or operations of adjacent occupied buildings.
- D. Arrange demolition schedule so as not to interfere with work performed by other contractors onsite. Coordinate work for equipment used to not deter or stop work by others.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Unless otherwise indicated, demolition waste becomes property of 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 Owner that may be uncovered during demolition remain the property of Owner:
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.
- C. Onsite storage or sale of removed items or materials is not permitted.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

- A. Satisfactory Soils: Comply with requirements in Division 31.

PART 3 EXECUTION

3.1 FIELD CONDITIONS

- A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.
- B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted:
 - 1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings:
 - a. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings:
 - 1) Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.
- C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical:
 - 1. Before building demolition, Owner will remove the following items:
 - a. <Insert items to be removed by Owner>.
- D. Hazardous Materials:
 - 1. It is not expected that hazardous materials will be encountered in the Work:
 - a. Hazardous materials will be removed by Owner before start of the Work.
 - b. If elements suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

3.2 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting demolition operations.
- B. Review Project record documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project record documents.
- C. Engage a professional Engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.
- D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- E. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations. Comply with Division 01: General Requirements.

3.3 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.
- B. Salvaged Items:
 - 1. Clean salvaged items of dirt and demolition debris.

2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to storage area.
5. Protect items from damage during transport and storage.

3.4 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Utilities to be Disconnected:
1. Locate, identify, disconnect, and seal or cap off utilities serving buildings and structures to be demolished:
 - a. Owner will arrange to shut off utilities when requested by Contractor.
 - b. Arrange to shut off utilities with utility companies.
 - c. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
 - d. Cut off pipe or conduit a minimum of 24 inches (610 mm) below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.
 - e. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

3.5 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.
- B. Temporary Shoring:
1. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished:
 - a. Strengthen or add new supports when required during progress of demolition.
- C. Existing Utilities to Remain:
1. Maintain utility services to remain and protect from damage during demolition operations:
 - a. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
 - b. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction:
 - 1) Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.
- D. Temporary Protection:
1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated. Comply with requirements in Division 01: General Requirements:
 - a. Protect adjacent buildings and facilities from damage due to demolition activities.
 - b. Protect existing site improvements, appurtenances, and landscaping to remain.
 - c. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
 - d. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - e. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
 - f. Protect walls, windows, roofs, and other adjacent exterior construction that are to

- remain and that are exposed to building demolition operations.
- g. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.

- E. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

3.6 DEMOLITION, GENERAL

- A. Demolish indicated buildings and site elements completely. Use methods required to complete the Work within limitations of governing regulations and as follows:
 1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
 2. Maintain fire watch during and for at least two (2) hours after flame-cutting operations.
 3. Maintain adequate ventilation when using cutting torches.
 4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- B. Site Access and Temporary Controls:
 1. Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities:
 - a. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
 - b. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

3.7 DEMOLITION BY EXPLOSIVES

- A. **No explosives** are to be used on this Project.

3.8 DEMOLITION BY MECHANICAL MEANS

- A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above floor or tier before disturbing supporting members on the next lower level.
- B. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent:
 1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.
- C. Salvage:
 1. Items to be removed and salvaged are indicated below:
 - a. Doors and door hardware.
 - b. Windows.
 - c. Cabinets.
 - d. Mirrors.
 - e. Chalkboards.
 - f. Tackboards.

- g. Marker boards.
- h. Plumbing fixtures.

- D. Below-Grade Construction: Abandon foundation walls and other below-grade construction. Cut below-grade construction flush with grade.

- E. Existing Utilities:
 - 1. Demolish existing utilities and below-grade utility structures that are within five feet (5') outside footprint indicated for new construction. Abandon utilities outside this area.
 - a. Fill abandoned utility structures with satisfactory soil materials according to backfill requirements in Division 31.

- F. Existing Utilities: Demolish and remove existing utilities and below-grade utility structures.

- G. Hydraulic Elevator Systems: No system on Project.

3.9 SITE RESTORATION

- A. Below-Grade Areas: Rough grade below-grade areas ready for further excavation or new construction.

- B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.10 REPAIRS

- A. Promptly repair damage to adjacent buildings caused by demolition operations.

- B. Promptly repair damaged sidewalks, roadways, fencing, or retaining walls to nearest expansion joint. Replace in-kind or as designated by Architect.

3.11 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction and recycle or dispose of them according to Division 01: General Requirements.
 - 1. Do not allow demolished materials to accumulate onsite.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

- B. Do not burn demolished materials.

3.12 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began. Clean roadways of debris caused by debris transport.

END OF SECTION 02 41 16

SECTION 03 10 00 CONCRETE FORMING AND ACCESSORIES

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Formwork for cast-in-place concrete, with shoring, bracing, and anchorage.
2. Openings for other affected work.
3. Form accessories.
4. Stripping forms.

B. Related Sections:

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 03 20 00 – Concrete Reinforcing.
3. Section 03 30 00 – Cast-In-Place Concrete.

1.02 REFERENCES

- A. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Chapter 19A.
- B. ACI 301 - Specifications for Concrete Construction.
- C. PS-1-95 - Construction and Industrial Plywood.

1.03 SYSTEM DESCRIPTION

- A. Design, engineer, and construct formwork, shoring, and bracing to meet design and code requirements, so that resultant concrete conforms to required shapes, lines, and dimensions.

1.04 QUALITY ASSURANCE

- A. Construct and erect concrete formwork in accordance with ACI 301.
- B. Regulatory Requirements:
1. Conform to CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2.

1.05 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Plywood: PS-1-95, BB Plyform grade, Class I, Exterior classification. Supply in large sheets of adequate thickness to support the imposed loads, but in no case less than 5/8" thick.

- B. Lumber: Douglas Fir species; construction grade; with grade stamp clearly visible. Forms may be used for concrete surfaces that are unexposed and require no further surface applied materials. Lumber, if used, shall be clean and sound 2x (height as required) No. 2 grade or better.
- C. Form Coating: Form shall be coated with nongrain-raising and non-staining types of form coating that will not leave a residual matter on the face of the concrete or adversely affect proper bonding of any subsequent paint or other surface applications. Form coating containing mineral oils or other non-drying materials will not be permitted for any concrete work.
- D. Form Ties: Snap off metal of fixed length: leaving no metal within 1-1/2 inches of surface and no fractures, spalls or other surface defects larger than one-inch diameter; manufactured by Burke, Dayton Superior, or accepted equal.
- E. Spreaders: Metal (no wood permitted).

2.02 ACCESSORIES

- A. Form Ties: Snap-off metal of adjustable length; cone type; 1 inch break back dimension; free of defects that will leave holes no larger than 1 inch diameter in concrete surface.
- B. Form Release Agent: Colorless material which will not stain concrete, absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete.
- C. Fillets for Chamfered Corners: Wood strips type; 3/4 x 3/4-inch size; maximum possible lengths.
- D. Flashing Reglets: 26-gauge thick galvanized steel; longest possible lengths; release tape sealed slots; with alignment splines for joints; securable to concrete formwork; Type CO reglet manufactured by Fry Reglet www.fryreglet.com.
- E. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required; of strength and character to maintain formwork in place while placing concrete.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and measurements before proceeding with formwork.

3.02 PREPARATION

- A. Obtain Architect's approval for use of earth forms for footings.
- B. Minimize form joints. Symmetrically align joints and make watertight to prevent leakage of mortar.
- C. Arrange and assemble formwork to permit stripping, so that concrete is not damaged during its removal.
- D. Arrange forms to allow stripping without removal of principal shores, where required to remain in place.

3.03 APPLICATION

- A. Form Release Agent

1. Apply form release agent on formwork in accordance with manufacturer's instructions. Apply prior to placing reinforcing steel, anchoring devices, and embedded items.
2. Do not apply form release agent where concrete surfaces are scheduled to receive applied coverings which may be affected by agent. Soak contact surfaces of untreated forms with clean water. Keep surfaces wet prior to placing concrete.

3.04 CONSTRUCTION

- A. Build and erect forms to conform to the required shapes, patterns, lines, grades and dimensions indicated. Forms shall be substantial and tight to prevent any leakage of mortar, properly braced and tied together to maintain their position and shape. Forms shall not deflect under the dead load weight of the plastic concrete or construction loads. Joints in forming material shall be butted tightly and shall bear on solid construction. Provide tool edges where indicated. Completed form work to be checked for grade and alignment to tolerances not exceeding 1/4" in 10'-0" for top of forms and not more than 1/4" in 10'-0" for vertical face.
- B. Cast-in Items: Set in formwork all new sleeves, inserts, anchors, and similar items furnished and required under the work of other sections. Brace, anchor and support cast-in-items to prevent displacements and distortions.
- C. Clean forms after each use and coat with release agent as required.
- D. Space clamps, ties, hangers, and other form accessories so that working capacities are not exceeded by loads imposed from concrete or concreting operations.
- E. Build openings into vertical forms at regular intervals if necessary to facilitate concrete placement, and at bottoms of forms to permit cleaning and inspection.
- F. Build in securely braced temporary bulkheads, keyed as required, at approved locations of construction joints.
- G. Slope tie-wires downward to outside of wall.
- H. During and immediately after concrete placing, tighten forms, posts, and shores. Readjust to maintain grades, levels, and camber.
- A. Inserts, Embedded Parts, And Openings
 1. Provide formed openings where required for work embedded in or passing through concrete.
 2. Coordinate work of other Sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
 3. Install accessories in accordance with manufacturer's instructions, level and plumb. Ensure items are not disturbed during concrete placement.
- B. Earth Forms
 1. Construct wood edge strips at top sides of excavations as indicated on drawings.
 2. Provide forms for footings and foundation walls wherever concrete cannot be placed against solid earth.
 3. Remove loose dirt and debris from form area prior to concrete placement.
 4. Concrete for foundations may be placed directly into neat excavations provided the foundation trench walls are stable as determined by the Architect (Structural Engineer) subject to the approval of The Division of the State Architect.

5. When earth formed foundations are used, the minimum formwork shown on the drawings is mandatory to insure clean excavations prior to and during concrete placement.
6. Provide 3-1/2-inch-high starter wall for all concrete and masonry walls below grade.

C. Form Removal

1. Do not remove forms and bracing until concrete has sufficient strength to support its own weight and imposed loads.
2. Do not damage concrete surfaces during form removal.
3. Store reusable forms for exposed architectural concrete to prevent damage to contact surfaces.
4. Remove formwork in same sequence as concrete placement to achieve similar concrete surface coloration.
5. Forms shall remain in place for not less than the following periods of time. These periods represent minimum cumulative number of days during which temperature of air in contact with concrete is 60 degrees F and above.
 - a. Vertical forms of foundations and walls: 5 days.
 - b. Slab edge screens or forms: 7 days.

3.05 CLEANING

- A. Clean forms to remove foreign matter as erection proceeds.
- B. Ensure that water and debris drain to exterior through clean-out ports.

END OF SECTION 03 10 00

SECTION 03 20 00 CONCRETE REINFORCING

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Reinforcing steel bars, welded steel wire fabric fabricated steel bar or rod mats for cast-in-place concrete.
2. Support chairs, bolsters, bar supports, and spacers, for supporting reinforcement.
3. Fibrous secondary reinforcement for light weight concrete topping.

B. Related Sections:

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
3. Section 03 30 00 – Cast-In-Place Concrete.

1.02 REFERENCES

- A. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Chapter 19A (ACI 318).
- B. ACI 301 - Specifications for Concrete Construction.
- C. ACI 315 (SP-66) – Guide to Presenting Reinforcing Steel Design Details.
- D. ACI 318 - Building Code Requirements for Structural Concrete and Commentary.
- E. ASTM A82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
- F. ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- G. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
- H. ASTM A706 - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement.
- I. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete.
- J. AWS D1.4 - Structural Welding Code - Reinforcing Steel.
- K. CRSI - Manual of Practice.
- L. CASI - Placing Reinforcing Bars.

1.03 QUALITY ASSURANCE

- A. Perform concrete reinforcement work in accordance with CASI Manual of Standard Practice.
- B. Conform to ACI 301 and ACI 315 (SP-66).
- C. Conform to CBC California Building Code, (CCR) California Code of Regulations, Title 24, Part 2.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Submit mill test certificates of supplied concrete reinforcing, indicating physical and chemical analysis, to testing laboratory.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Items as identified on the drawings and as otherwise specified herein.
- A. Reinforcing Bars: ASTM A615 / A615M-09b with Supplement S1, marked "S", Grade 60 for #4 bar and larger, Grade 40 for bars smaller than #4.
- B. Welded Reinforcement: ASTM A706, Grade 60, deformed bars, unfinished.
- C. Welded Steel Wire Fabric: ASTM A185 plain type; coiled rolls; uncoated finish. Furnish 6x6 W2.1xW2.1 welded wire fabric in flat sheets; rolls will not be allowed.
- D. Steel Wire: ASTM A82, plain, cold drawn steel.

2.02 ACCESSORIES

- A. Tie Wire: Minimum 16-gauge annealed type.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete including load bearing pad on bottom to prevent vapor barrier puncture. Comply with CRSI "Recommended Practice for Placing Bar Supports, Specifications and Nomenclature, Latest Edition".
- C. Chairs, Bolsters, Bar Supports, Spacers Adjacent to Architectural Concrete Surfaces: Plastic coated sized and shaped as required. Wood is not permitted as supports for reinforcing. Concrete dobies allowed at foundations and footings only.

2.03 FABRICATION

- A. Steel reinforcement shall not be bent or straightened in a manner that will injure the material. Bars with kinks or bends not shown on the Drawings shall not be used. Heating of the bars for bending will not be permitted.
 - 1. Spacers and chairs shall be as specified or detailed and spaced such that steel reinforcement will be carried without deflection. Chairs shall center reinforcing vertically at center of slab thickness.
 - 2. Concrete blocks may be used to support bottom layer of steel in floor slabs on grade
 - 3. Bars shall be in long lengths with laps and splices as shown. Offset laps 8'-0" in adjacent bars. Place steel with clearances and cover as shown. Bar laps shall be as indicated on the drawings. Tie all laps and all intersections with specified wire. Maintain clear space between parallel bars not less than 1-1/2 times nominal diameter for round bars, or twice side dimension for square bars, but in no case shall clear space be less than 1-1/2", nor less than 1-1/2 times maximum size concrete aggregate.
 - 4. Install welded wire fabric in lengths as long as possible. Lap adjoining pieces at least one

full mesh and lace splices with wire ties. Offset laps of adjoining widths to prevent continuous laps in either direction.

5. Cut bars true to length with ends square and free of burrs.
 - B. Drawing Notes: Refer to notes on Drawings for additional reinforcement requirements.
 - C. Welding of reinforcing bar shall be performed only where indicated on plans and in compliance with AWS D1.4. All welding of reinforcement is to be inspected in accordance with CBC Table 1705A.2.1, Item 5(b).
 - D. Fabricate in accordance with ACI 315 (SP-66), providing concrete cover specified in Section 03 31 00.
 - B. Locate reinforcing splices not indicated on Drawings at points of minimum stress. Indicate location of splices on shop drawings.
 - C. Weld reinforcing bars in accordance with AWS D1.4.
- 2.04 SOURCE QUALITY CONTROL AND TESTING
- A. Source Quality Control and Testing will be performed under provisions of Section 01 45 00 and as required by the Division of the State Architect and District Inspector.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Before placing concrete, clean reinforcement of foreign particles or coatings.
- B. Place, support, and secure reinforcement against displacement. Do not deviate from alignment or measurement.
- C. Mix fibrous reinforcement into concrete material according to Section 03 30 00.
- D. Do not displace or damage vapor barrier required by Section 03 30 00.

3.02 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01 45 00 and as required by the Division of the State Architect and District Inspector.

END OF SECTION 03 20 00

SECTION 03 30 00 CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 SUMMARY

A. SECTION INCLUDES:

1. Concrete Formwork.
2. Reinforcement of Concrete.
3. Concrete Placing and Finishing.

B. RELATED SECTIONS

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Section 03 10 00: Concrete Forming and Accessories.
3. Section 03 20 00: Concrete Reinforcing.

1.02 REFERENCES

- A. CBC - California Building Code, (CCR) California Code of Regulations Title 24, Part 2, Chapter 19A.
- B. CBC - California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, California State Accessibility Standards.
- C. ACI 117-10 - Specification for Tolerances for Concrete Construction and Materials.
- D. ACI 211.1-91 - Standard Practice for Selecting Proportions for Normal Weight, Heavy Weight and Mass Concrete.
- E. ACI 301-16 - Specifications for Structural Concrete for Buildings.
- F. ACI 302.1R-15 - Guide to Concrete Floor and Slab Construction.
- G. ACI 304R-00 - Guide for Measuring, Mixing, Transporting and Placing Concrete.
- H. ACI 305R-10 - Hot Weather Concreting.
- I. ACI 306R-16 - Cold Weather Concreting.
- J. ACI 308-16 - Standard Practice for Curing Concrete.
- K. ACI 309R-05 - Guide for Consolidation of Concrete.
- L. ACI 318-14 - Building Code Requirements for Structural Concrete.
- M. ASTM A615 / A615M-09b - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- N. ASTM C33 / C33M-08 - Concrete Aggregates.
- O. ASTM C94 / C94M-09a - Ready-Mixed Concrete.

- P. ASTM C114-09b - Methods of Chemical Analysis of Hydraulic Cement.
- Q. ASTM C150 / C150M-09 - Portland Cement.
- R. ASTM C260-06 - Air Entraining Admixtures.
- S. ASTM C289 - Standard Test Method for Potential Alkali-Silica Reactivity.
- T. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
- U. ASTM C330 - Standard Specification for Lightweight Aggregates for Structural Concrete.
- V. ASTM C494 / C49M-08a - Chemical Admixtures for Concrete.
- W. ASTM C567 - Standard Test Method for Determining Density of Structural Lightweight Concrete.
- X. ASTM C595/C595M-20 - Standard Specification for Blended Hydraulic Cements.
- Y. ASTM C618-19 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
- Z. ASTM C932 - Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.
- AA. ASTM C989/C989M-18a - Standard Specification for Slag Cement for Use in Concrete and Mortars
- BB. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
- CC. ASTM C1602/C1602M-22 - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
- DD. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- EE. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
- FF. ASTM E96 - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials.
- GG. ASTM E1155 - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers.
- HH. ASTM E1155 - Standard Test Method for Determining FF Floor Flatness and FL Floor Levelness Numbers.
- II. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
- JJ. ASTM E1745 - Standard Specifications for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.
- KK. ASTM F710 - Standard Practice for Preparing Concrete Floor to Receive Resilient Flooring.

LL. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

MM. National Ready Mix Concrete Association - Plant Certification Program.

1.03 QUALITY ASSURANCE

- A. All Concrete for the project shall be controlled concrete of specified strengths, of uniform color, and free from defects liable to adversely affect strength, durability or appearance of the structure or its components.
- B. Requirements of Regulatory Agencies: The quality and design of structural concrete shall comply with the requirements of the California Building Code, except where more stringent requirements are specified.
- C. Workmanship: Materials and methods used for the production and placement of concrete shall be such as to assure the specified quality and shall conform to applicable requirements of the Building Code for Reinforced Concrete (ACI 318) of the American Concrete Institute, except as otherwise specified in this Section.
 - 1. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Project Inspector. Work not so inspected is subject to uncovering and replacement at no expense to the Owner.
 - 2. Proper installation of partitions and equipment requires the floor finish to be level and smooth throughout. Extreme care shall be exercised during all floating and troweling operations to check levels often.
 - 3. Any concrete work which does not comply with tolerances and elevations shown on drawings will be cause for rejection of all work affected, and, if so rejected, such work shall be removed and replaced at no increase in cost to the Owner.
- D. Removal and replacement of Defective Concrete Surfaces shall be done in the following manner when, in the opinion of the Architect, such defects may be removed and replaced at no additional cost to the Owner.
 - 1. Rock pockets, voids, spalls, cracks (superficial and structural) and exposed reinforcing shall be removed and replaced.
 - 2. Floor surfaces which exceed the allowable variation in plane or level as specified herein shall be ground, filled, or replaced to obtain the level and plane required. Fill materials, where required, shall be of type approved by the Architect.
 - 3. Surfaces which are not plumb and square, or which do not conform to the lines and levels indicated shall be removed and replaced.
- E. Uniformity of Concrete: All aggregates shall be measured by weight and the proportion of water to cement shall be accurately controlled by either automatic measuring devices or calibrated containers. All concrete placed shall be uniform strength and color appearance as well as surface texture.
- F. Screeds shall be provided at all construction joints as required to ensure installation of concrete to lines and elevations noted.
- G. Ready-Mixed Concrete: ASTM C94 / C94M-09a except as otherwise specified herein. Mix and deliver in accordance with the requirements set forth in ASTM C94 and ACI 301. Continuous Batch Plant inspection is required per CBC Section 1705A.3.3. Contractor may request waiver of batch plant inspection in accordance with CBC Section 1705A.3.3.1 provided the following is met:
 - 1. Approved Testing Laboratory shall check the first batching for each class of concrete and furnish mix proportions to the Licensed Weighmaster.

2. Licensed Weighmaster to positively identify materials as to quantity and to certify to each load by ticket.
 3. Ticket shall be transmitted to Project Inspector by truck driver with load identified thereon. Project Inspector will not accept load without load ticket identifying mix and will keep daily record of pours, identifying each truck, its load and time of receipt and will transmit two copies of record to the Division of the State Architect (DSA).
 4. Do not add water at the site to concrete mixes with a maximum specified WCR unless the water content at batch time provides for a WCR less than specified and this provision, including the quantity of water which may be added at the site, is specifically noted on the Mix Design and Certification by the mix preparer.
 5. At end of project, Weighmaster shall furnish affidavit to DSA on form satisfactory to DSA, certifying that all concrete furnished conforms in every particular and to proportions established by mix designs.
- H. Concrete Preplacement Inspection: Concrete shall not be poured until the forms, reinforcement, and preparations are complete and have been reviewed by the Project Inspector.
- I. Tests: For structural concrete, the Testing Lab shall take four (4) test cylinders of concrete each day for every 50 cubic yards of concrete or fraction thereof being placed. Cylinders shall be made and stored as per instructions given by the testing laboratory and shall be in accordance with ASTM Specifications C-31 / C31M-09 and C-39 / C39M-09a. Cylinders shall be tested for ultimate compressive strength of concrete with one cylinder tested at the age of 7 days and two (from the same batch) to be tested at the age of 28 days, with one cylinder held as a spare for future testing if needed. Tests shall be made by a recognized test laboratory selected by the Owner and approved by the Architect.
1. Cylinders not meeting the required design stresses shall indicate defective concrete and such concrete shall be removed and replaced at no increase in cost to the Owner. Core tests requested by the Contractor to establish design stresses, when cylinder tests indicate defective concrete, shall be paid for by the Contractor.
 2. Batch plant inspection as required by the DSA Structural Tests and Inspections Form SSS 103-1.
- J. Floor Flatness: Provide certification of floor slab flatness per the requirements of Part 3 below.
- K. Preinstallation Meetings.
1. Preinstallation Conference: Conduct conference at Project site.
 - a. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - 1) Contractor's superintendent.
 - 2) Independent testing agency responsible for concrete design mixtures.
 - 3) Ready-mix concrete manufacturer.
 - 4) Concrete Subcontractor.
 - 5) Special concrete finish Subcontractor.
 - 6) Inspector.
 - 7) Owner's Representative.
 - 8) Architect.
 - b. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, forms and form removal limitations, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, methods for achieving specified floor and slab flatness and levelness, floor and slab flatness and levelness measurement, and concrete protection.

- c. Sign-in sheet shall be provided at time of meeting to document attendees.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Manufacturer's Data: Submit manufacturer's product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, joint systems, chemical floor hardeners, and others as may be requested by the Architect.
- C. Shop Drawings: Shop drawings sheet size shall be 24" x 30" minimum.
 - 1. Reinforcing Steel: The correctness of the bending diagrams is the responsibility of the Contractor. Identify such shop drawings with a reference thereon to sheet and detail numbers from the contract drawings. No reinforcing steel shall be fabricated without approved shop drawings.
 - 2. Construction joint layout per Part 3 below. Contractor to submit plan based upon design team's layout as shown on drawings. Provide verification that the joint layout will limit the risk of slab cracking. Plans shall include control, and expansion joints.
- D. Concrete Mix Design: Submit proposed mix design prepared by concrete supplier. Mix design must be submitted to Owner for review and acceptance by a recognized independent testing lab, for all structural concrete.
- E. Historical test data on all proposed mix designs including 28-day strength reports, and verification of aggregate and concrete shrinkage.
- F. Test reports for Floor Flatness and Floor Levelness shall be submitted for review after first slab has been poured and prior to subsequent slabs being poured.

1.05 JOB CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required by construction activities.

PART 2 – PRODUCTS

2.01 CONCRETE MATERIALS

- A. Portland Cement: ASTM C150 / C150M-09, Type II, low alkali. All cement used shall be of one manufacturer.
 - 1. Use Type IIA cement if pumping of concrete is selected and permitted for placing of concrete.
 - 2. All cement shall contain not more than 0.6 percent total alkali when calculated as sodium oxide as determined by "Methods of Chemical Analysis of Hydraulic Cement", ASTM C114-09b.
- B. Blended Cement: ASTM C595/C595M-20, Type IL (MS or (HS)).
 - 1. All cement shall not contain more than 0.6 percent total alkali when calculated as sodium oxide as determined by "Methods of Chemical Analysis of Hydraulic Cement", ASTM C114-09b.
- C. Supplementary Cementitious Materials:

1. ASTM C618-19 Class N or Class F materials (Class C is not permitted).
 2. ASTM C989/C989M-18a Ground Granulated Blast Furnace Slag.
- D. Water: ASTM C1602/C1602M-22 Clean and free from deleterious amounts of acids, alkalis, salts and organic matter.
- E. Concrete Aggregates: ASTM C33 / C33M-08 except as otherwise specified hereinafter. All aggregates shall be nonreactive and nondegenerative, and shall consist of sound crushed rock, washed gravel, or a combination of both.
1. Aggregate size for structural slabs shall be 1-1/2 inch. Aggregate size for other structural concrete shall be between 3/4 inch and 1-1/2-inch maximum.
 2. Aggregate shall be saturated surface dry by batch plant.
 3. Modify fine aggregates when air entrained concrete is used in accordance with Paragraph 4.2.4 of ASTM C33 / C33M-08.
 4. Aggregate shall result in shrinkage of concrete not exceeding .048 percent at 28 days. Testing lab shall verify aggregate and concrete shrinkage.
 5. Do not use fine or coarse aggregates that contain substances that are known to cause spalling or adverse reactions in the concrete.
- F. Cementitious Materials:
1. Fly Ash: 40 percent replacement maximum.
 2. Slag Cement: 50 percent maximum.
 3. Combined Fly Ash and Slag Cement: 50 percent replacement maximum.
- E. Air Entraining Agents shall be used in concrete at the contractor's option. The maximum entrained air content shall be no more than 4 percent + 1 percent by volume. Sika AER, Master Builders Micro Air, Darex AEA, Protex AEA or approved equal meeting ASTM C260/C260M.
- F. Admixtures: Except for air entraining agents, and water-reducing admixtures, no other admixtures shall be used without written approval from the Architect. Where such agents are permitted, they shall be a type approved and used only as directed by the Architect and at no increase in cost to the Owner.
1. Calcium chloride will not be permitted for use in concrete under any circumstances.
 2. Air Entraining Agents: ASTM C260. Use where specified. The maximum entrained air content shall be no more than 4 percent + 1 percent by volume unless noted otherwise. Approved air entraining agents are Sika AER, Master Builders Micro Air, Darex AEA, Protex AEA or approved equal.
 3. Water Reducing Admixtures: ASTM C494 Type A, D, E, F, or G and ACI 318, Section 3.6. Use where specified.
 4. *Or as otherwise required by project conditions.*
- 2.02 CRUSHED ROCK BASE:
- A. Under all new concrete ramps and paving, or as otherwise indicated on the Drawings, provide a minimum of 4 inches of crushed rock fill. Crushed rock fill shall be clean gravel of 1" max. size and have no material passing through a No. 4 sieve.
- 2.03 JOINT MATERIAL:
- A. Provide 3/8" wide fiber expansion joint material, Model No. 320-F, as manufactured by W.R. Meadows or approved equal.

- B. Provide Snap-Cap as manufactured by W.R. Meadows or approved equal. Snap-Cap shall have a top plastic edge that can be used for leveling concrete. Once concrete has set up, top edge of Snap-Cap can be pulled free and discarded. Joint shall then be sealed.
- C. Joint sealing material shall be a two-component, self-leveling, polyurethane elastomeric sealant. Product shall be Sikaflex 2cSL as manufactured Sika Corporation, or equal. Color shall be chosen by Architect from the full range of manufacturer's standard colors.

2.04 RELATED MATERIALS

- A. Concrete Adhesive and Bonding Agent: "Concresive #1001-LPL" (1-1/2-hour maximum pot life), an epoxy polysulfide type concrete adhesive as manufactured by Master Builders or approved equal.
- B. Liquid Curing Compound: W.R. Meadows, Product: "Vocomp-20" or approved equal.
- C. Bonding Adhesive: White Cap Glue, Burke Bondcrete-S or approved equal; use as a modifier for patching and overlays up to 1/2" thick or approved equal.
- D. Doweling Epoxy: Hilti "HIT-RE 500" (ICC-ES ESR-3814), Simpson Strong-Tie "SET-3G" Epoxy (ICC-ES ESR-4057) or approved equal.
 - 1. Anchor rods shall be furnished with a 45-degree chisel point on one end to allow for easy insertion into adhesive filled hole and manufactured to meet the requirements of ASTM A36. Nuts and washers shall be furnished to meet the requirements of the anchor rod specifications noted above.
 - 2. Install per manufacturer's recommendation; use stainless steel for all exterior work.
 - 3. Testing required as noted in the Structural Drawings.
- E. Vapor Barrier: Stego Wrap, 15 mil. vapor barrier system, with a Class A rating, and perm rating not to exceed 0.01 perms; by Stego Industries of San Juan Capistrano, CA (877) 464-7834, VaporGuard by Reef Industries (713) 507-4250., Sundance 15 mil Vapor Barrier by Sundance Inc. (855) 300-7156, or 15 mil Husky, Yellow Guard, Vapor Barrier by Poly-America (800) 527-3322. No other substitutions will be accepted. System to include Stego Mastic, Stego "Crete Claw Tape" and pipe boots, or approved equal by the specified manufacturers. Conform to ASTM 1745.
- F. Patching Mortar: Meadow-Crete GPS, one-component, trowel applied, polymer enhanced, shrinkage-compensated, fiber reinforced, cementitious repair mortar for horizontal, vertical and overhead applications as manufactured by W.R. Meadows or approved equal.
- G. Non-shrink Grout: Masterflow 713 Plus by Master Builders or approved equal. Premixed, non-metallic, no chlorides, non-staining, and non-shrinking per CRD-C621, Corps of Engineers Specification and ASTM C 1107, Grades B and C.

2.05 CONCRETE DESIGN

- A. The concrete mix shall be proportioned to produce a minimum ultimate compressive strength at 28 days of 3,000 psi for structural concrete and 3,000 psi for all other concrete (Section 32 13 00) unless otherwise noted.

Note to designer... While 3,000 psi is the District standard for all structural concrete, designer may modify if required to suite project specific structural design conditions.

- 1. Laboratory Mix Design: Concrete designs, using Methods B or C, Section 1905.1.1 of the CBC, Title 24, shall be reviewed by the Testing Laboratory. The concrete mix designs reviewed by the Testing Laboratory and approved by the Project Architect or Structural Engineer shall be used by the Contractor. Contractor shall provide samples of aggregates as required by the laboratory to review the mix designs. Laboratory shall also include shrinkage tests.
- 2. Water Reducing Admixture: All concrete shall contain a water reducing admixture.

3. Air Entraining Agent: Include in all concrete in all exterior concrete to result in concrete at point of placement having an air entrainment of 4% (+/- 1%).
 4. Maximum water - cement ratio at point of placement: 0.45.
- B. Ready-Mixed Concrete: ASTM C94 / C94M-09a except as otherwise specified herein.
1. Transit-mixed concrete shall be mixed for a period of not less than 10 minutes at a peripheral drum speed of approximately 200 feet per minute, and mixing shall be continued until discharge is complete. At least 3 minutes of the mixing period shall be at the job. Transit mixers shall be equipped with water measuring devices consisting of either accurately calibrated water tanks or water meters.
 2. When outside air temperature is between 85 degrees and 90 degrees, reduce mixing and delivery time from 90 minutes to 75 minutes. When outside air temperature is above 90 degrees, reduce mixing and delivery time to 60 minutes.
- C. Job Mixing: The capacity of the mixer shall be such that it will handle one or more full sack batches. No split sack batches will be permitted except when all materials are weighed. The rated capacity of the mixer shall not be exceeded. The mixing drum shall be equipped with an automatic timing and locking device and with an accurate water gauge for measuring the amount of water used. Mixing time of each batch shall be at least 1-1/2 minutes after all ingredients are in the mixer.
- D. Slump of Concrete: The slump of concrete as determined by the Standard Test Method for Slump of Hydraulic Cement Concrete ASTM Designation C-143 / C143M-09 shall be as follows:
1. All Concrete: 4 inches maximum, plus/minus 1 inch (5 inch maximum).

PART 3 – EXECUTION

3.01 CONCRETE PLACEMENT

- A. Surrounding Conditions: Before any concrete is placed, the following items of work shall have been completed in the area of placing.
1. Forms shall have been erected, braced, cleaned, sealed, lubricated if required, and bulkheaded where placing is to stop.
 - a. Any wood forms other than plywood shall be thoroughly water soaked before placing any concrete. The wetting of forms shall be started at least 12 hours before concreting.
 2. Reinforcing steel shall have been placed, tied, supported, and, at time concrete is placed around it, shall be cleaned of rust, scale, mill scale or other coatings that will destroy or reduce bond.
 3. Embedded work of all trades shall be in place in the forms, tied and braced.
 4. The entire place of deposit shall have been cleaned of dirt, chips, sawdust, rubbish, debris, hardened concrete, and other foreign matter before concrete is deposited therein. No wooden ties nor blocking shall be left in concrete except where indicated for attachment of other work.
 5. Concrete surfaces to which fresh concrete is to be bonded shall be roughened as indicated. Surfaces shall be brush cleaned to remove all dust and foreign matter and to expose the aggregate, and then coated with the bonding adhesive herein specified.
- B. Conveying Concrete from mixer to forms shall be as rapid as possible.
1. Ready-mixed concrete shall be mixed and delivered in accordance with ASTM C94 / C94M-09a. A delivery ticket shall be furnished for each load of ready-mix or transit-mix concrete. A copy of each delivery ticket shall be handed to the job superintendent at the time of delivery and unloading. A record copy of the delivery tickets shall be forwarded to the Architect for their files.

2. Conveying equipment shall be of a sufficient capacity to ensure a continuous flow of concrete to the placing point without separation or loss of materials. Carts and buggies shall be equipped with pneumatic tires. Runway supports shall not bear on reinforcing or fresh concrete. All conveying equipment shall be thoroughly cleaned before beginning and at frequent intervals during the placing of the concrete.
 - a. Chutes, if employed, shall slope not less than 4" or more than 6" per foot of horizontal run.
 3. Exercise care not to spill concrete on forms & reinforcing steel during the conveying operations. Where such spillage or splattering occurs, the surfaces shall be thoroughly cleaned before concrete hardens.
- C. Placing Concrete: Notify the Architect 48 hours in advance of beginning of pouring operations. Under no circumstances shall concrete that has partially hardened be deposited on the work. No concrete shall be placed during rainy weather without the Architect's approval.
1. The Project Inspector shall keep a record on the site of the time and date of placing the concrete in each portion of the structure in accordance with CBC Section 1705A.3.6. The record shall be kept until the completion of the structure and a copy provided to the Architect and DSA.
 2. Before starting new pour on or against concrete that has hardened, forms shall be retightened, and the hardened concrete roughened and thoroughly cleaned of foreign matter and any laitance by sandblasting. Just ahead of the new pour, slush joints with a 2" layer of grout of the designated concrete mix minus 50 percent of the large aggregate.
 3. Reinforcing steel exposed to the sun shall be cooled by a water spray prior to the placing of concrete.
 4. No adjustment of steel reinforcement will be permitted during the placement of concrete.
 5. Concrete shall be scheduled so that the placing is a continuous operation for the completion of each section between predetermined construction joints. If a planned concreting operation cannot be carried on continuously, the concreting shall stop at temporary bulkheads. Locate where resulting construction joints shall be as shown on the Drawings or as approved by the Architect. Prior to placing of concrete for any concrete slabs, the moisture content of the subgrade below the slabs shall be adjusted to at least optimum moisture.
 6. Deposit the concrete in forms as nearly as practicable in its final position to avoid flowing and maintain until completion of the unit an approximate horizontal plastic surface. Thoroughly compact all concrete during placing operations, thoroughly around reinforcement, embedded fixtures, or accessories, and into the corners of forms to eliminate air pockets and honeycombing. Compacting shall be done with mechanical vibrators. Vibrators shall not be used to cause concrete to flow horizontally. Thoroughly compact concrete to the forms to release the air and secure full contact of the concrete with the forms.
 7. Hot Weather Concreting: Concrete placing and finishing operations during hot weather shall be done as quickly as possible. Ample personnel shall be available to manage and place the concrete immediately after its mixing or delivery to the site of the work. Concrete shall be placed in layers thin enough and over areas small enough to ensure complete bond and union of adjacent layers, and thus prevent "cold joints".
 - a. At air temperature of 80 degrees Fahrenheit or above, the following precautions should be taken:
 - 1) In no case shall the temperature of the concrete exceed 90 degrees Fahrenheit when placed in the work.
 - 2) If necessary, to produce and maintain concrete at an acceptable temperature, chopped or crushed ice shall be added directly into the mixer up to 50 percent by weight of the mixing water used, the weight of the ice being included in batch weight of the mixing

water. The ice shall be added at such a rate and in such a manner that it will be completely melted by the time concrete is mixed.

- 3) Stockpiled aggregates shall be saturated and kept surface moist by continuous fog spray or by intermittent sprinkling.
 - 4) Forms, reinforcements, and subgrade surfaces shall be wet down immediately before concrete is placed in contact therewith. Remove all excess water before placing concrete. Wetting down of areas around the work to cool the surrounding air and increase the humidity is recommended.
8. Cold Weather Requirements: Do not place concrete when ambient temperature is below 40 degrees Fahrenheit and falling.

3.02 CONCRETE FINISHING

- A. All Concrete Work, except as otherwise specified, shall be of a quality that will present a finished appearance upon the stripping of the forms. Only a minimum of patching and finishing should be necessary as required to fill holes left by form ties and to remove any fins or minor irregularities left by the joints in the forms. Except as otherwise specified, all concrete surfaces shall be finished as follows:
- B. Float finish: Begin float finish when bleed water sheen has disappeared, and the concrete surface has stiffened sufficiently to permit operations. Float surface with power driven floats, or by hand-floating if area is small or inaccessible to power units. Finish surfaces to true planes within a tolerance as specified in 3.04-C. Cut down high spots and fill low spots. Refloat surface immediately to a uniform granular surface.
1. Final Finish: Provide a medium textured broom finish for all exterior surfaces by drawing a soft bristle broom across concrete surface perpendicular to line of traffic to provide a uniform fine line texture finish.
 2. No magnesium bull floats allowed on non-air entrained concrete.
- C. Floor Flatness and Floor Level Tolerances:
1. An independent testing agency will inspect finished slabs for compliance with specified tolerances.
 2. Minimum F(F) Floor Flatness and F(L) Floor Levelness Values at slabs on grade and shored slabs:
 - a. Exposed to View and Foot Traffic: F(F) of 35; F(L) of 25.
 - b. Under Thick-Bed Tile: F(F) of 20; F(L) of 15.
 - c. Under Carpeting: F(F) of 25; F(L) of 20.
 - d. Under Thin Resilient Flooring and Thinset Tile: F(F) of 35; F(L) of 25.
 3. Measure F(F) Floor Flatness and F(L) Floor Levelness in accordance with ASTM E1155 (ASTM E1155M), within 72 hours after slab installation; report both composite overall values and local values for each measured section.
 4. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 13/F(L) 10.
 5. Correct defects by grinding, floating with leveling compound, or by removal and replacement of the defective work. Areas requiring corrective work to be identified by Contractor and a repair/replacement plan shall be submitted for review by Architect. Re-measure corrected areas by the same process.
- D. Curb Finishing: Steel trowel as described for slab finishing above.
- E. Final Tooling: Tool edges of paving, gutters, curbs, and joints formed in fresh concrete with a jointing tool to a radius of 1/4". Repeat tooling of edges and joints after applying surface finishes. Eliminate tools marks on all concrete surfaces.

- F. Forms shall remain in place for not less than the following periods of time. These periods represent minimum cumulative number of days during which temperature of air in contact with concrete is 60 degrees F and above.
1. Vertical forms of foundations and walls: 5 days.
 2. Slab edge screens or forms: 2 days.
 3. Concrete columns and beam soffits: 28 days.

3.03 CONSTRUCTION JOINTS

- A. NO SOFTCUT (SAWCUT) CONTROL JOINTS ALLOWED.
- B. Construct contraction, construction, and isolation joints true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to the centerline unless otherwise indicated.
- C. Joints at Existing Concrete: All joints between existing concrete and new concrete or at sawcut locations through existing slabs are to include dowels at a minimum of #4 bars @ 4'-0" on center, 18" maximum from the ends, epoxy set into existing concrete a minimum of 6" in length at the centerline of existing concrete slab.
- D. Contraction Joints (Control Joints): Provide weakened-plane contraction joints, sectioning concrete into areas indicated. Construct contraction joints for a depth equal to at least 1/4 of the concrete thickness unless otherwise noted on drawings. Form in fresh concrete by grooving and finishing each edge of joint with a radiused jointer tool. **Joints to be spaced at 10' on center maximum or as shown on the drawings.**
- E. Construction Joints: Set construction joints at side and end terminations of concrete placement and at locations where placement operations are stopped for more than 1/2 hour unless placement ends at isolation joints.
1. Provide preformed galvanized steel or plastic keyway-section forms or bulkhead forms with keys. Use Burke "Keyed Kold Joint Header Form" or approved equal. Embed keys at least 1 1/2" into concrete.
 2. Provide slip dowels across construction joints.
- F. Isolation Joints (Expansion Joints): Form isolation joints of performed joint filler strips abutting concrete curbs, catch basin, utility access holes, inlets, structures, walks, other fixed objects, and where indicated.
1. Extend joint fillers full width and depth of joint, not less than 1/2" or more than 1" below finished surface where a joint sealant is indicated. Place top of removable joint filler flush with finished concrete surface.
 2. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary, removable performed cap.
 3. After concrete has cured, remove cap exposing top edge of fiber joint filler, and apply joint sealant.

3.04 PUMPING OF CONCRETE (may be permitted for concrete, providing):

- A. The Contractor engages a testing laboratory to design concrete mixes for pumping. Trial batches shall be made and tested as required hereinbefore for typical concrete.
- B. The quality and proportioning of aggregates for pumping conditions shall be determined in accordance with ACI, Recommended Practice 613. Aggregate proportioning must be tailored to the pump intended for use.

- C. When starting a pump operation, actual pumping of concrete shall be preceded by a mortar mix (concrete without coarse aggregate) for the purpose of lubrication.
- D. All mortar and concrete leakage resulting from pumping operations shall be removed from formwork, reinforcing steel and any finished surface.

3.05 CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperature. Comply with the recommendations of ACI 306R for cold weather protection and ACI 305R for hot weather protection during curing.
- B. Evaporation control is to be implemented in hot, dry and windy weather by protecting concrete from rapid moisture loss before and during finishing operations with an evaporation control material. Apply in accordance with manufacturer's instructions after screeding and bull floating, but not before floating.
- C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- D. Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination.
 - 1. For moisture-curing, keep surfaces continuously moist for not less than 7 days with water, a continuous water-fog spray, or absorptive cover kept wet continuously wet.
 - 2. For moisture-retaining-cover, cover concrete with moisture retaining cover with side and end laps sealed.
 - 3. For curing compound, apply in accordance with manufacturer's instructions. Recoat areas subjected to rainfall within 3-hours after initial application.

3.06 CLEANING AND PROTECTION

- A. Clean all surfaces and leave in satisfactory condition to receive final finish surface treatment.
- B. Protect concrete surfaces from damage by tools, equipment, material, and workers. No traffic, shoring or other loading will be permitted until concrete has hardened sufficiently to prevent injury to finish and strength, but at least 14 days.
 - 1. Remove surface stains and spillage of materials as they occur.
 - 2. Sweep concrete and wash free of stains, discolorations, dirt, and other foreign material prior to final inspection.

3.07 INSPECTION

- A. Approval of reinforcing steel, after installation, must be received from Project Inspector. Architect, Structural Engineer, and DSA must be notified 48 hours in advance of beginning concrete placement operations. Inspection of welding will be done by laboratory.
- B. There will be initial or preliminary inspection of the finished concrete slabs by the Project Inspector and/or Architect for overall finish.
- C. Slabs shall be measured for FF and FL as required by 3.02-C and findings submitted to Architect.
- D. New pours will be reviewed for cracks. If during this inspection, cracked sections are found and determined unacceptable by the District, that section should be removed and replaced.

- E. Final concrete inspection: Prior to occupancy, concrete will be reviewed by Owner and Architect. If any cracks, spalls, exposed finish layer separation, etc. are identified, that section(s) shall be removed and replaced.

END OF SECTION 03 30 00

SECTION 04 05 00 MORTAR AND GROUT

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

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

1.2 SUMMARY

- A. This Section is related to mortar and grout installation and includes:
 - 1. Provisions of all materials, labor, and accessories as required and specified for complete mortar and grout installation in masonry walls.
- B. Related Sections:
 - 1. Section 03 30 00: Cast-In-Place Concrete.
 - 2. Section 04 22 00: Concrete Unit Masonry.
- C. Reference Standards:
 - 1. ASTM C144 Aggregate for Masonry Mortar.
 - 2. ASTM C150 Portland Cement.
 - 3. ASTM C207 Hydrated Lime for Masonry Purposes.
 - 4. ASTM C270 Standard Specification for Mortar For Unit Masonry.
 - 5. ASTM C404 Aggregates for Grout.
 - 6. ASTM C476 Standard Specification for Grout for Masonry.
 - 7. ASTM C1019 Method of Sampling and Testing Grout.
 - 8. 2022 California Building (CBC), with State of California Amendments:
 - a. 2022 California Building (CBC), Section 2103A.
 - 9. Masonry Standards Joint Committee (MSJC).

1.3 SUBMITTALS

- A. Mix design for mortar and grout shall be submitted for review.
- B. Supplier's certificates indicating materials comply with the specifications below. They shall include, but are not necessarily limited to:
 - 1. Aggregates.
 - 2. Cement.
 - 3. Admixtures.

1.4 QUALITY ASSURANCE

- A. Tests and Inspections:
 - 1. A testing program is required prior to start of construction. Testing program to be done in compliance with the 2022 CBC requirements and in collaboration with the testing laboratory, design team, Contractor, and Owner, and submitted for review by the agency in charge of building enforcement. Requirements below are minimum requirements; additional requirements may be required in final testing program.
 - 2. All tests and inspections herein are to be performed by an independent testing laboratory approved by the building official.
 - 3. Mortar and grout tests:
 - a. At the beginning of masonry work, at least one (1) test sample each of mortar and grout shall be taken on three (3) successive working days, then once per week with

at least one sample taken for each 5,000 square feet of wall area, or fraction thereof:

- 1) Test specimens shall be made in accordance with ASTM C1019 for grout and ASTM C780 for mortar.
 - 2) Test specimens shall be continuously stored in moist air until tested.
 - 3) Mortar shall show a compressive strength of not less than 1,800 psi at 28 days. Grout shall show a compressive strength of not less than 2,000 psi at 28 days.
4. A special inspector shall be employed per CBC Section 1705A.4 during the placement of all units, placement of all reinforcing steel, during all grouting operations, and during taking of all test specimens.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Cement: ASTM C150, Type I or II, low alkali; natural gray.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Quicklime: ASTM C5.
- D. Lime Putty:
 1. Made from hydrated lime or quicklime:
 - a. If made from quicklime, other than processed pulverized quicklime, slake lime and then screen through a No. 16 mesh sieve. Before using, store and protect slaked and screened lime putty for not less than ten (10) days.
 - b. Processed pulverized quicklime shall be slaked for not less than 48 hours, and shall be cool when used.
 - c. Lime putty prepared from hydrated lime may be used immediately after mixing.
 - d. Lime putty prepared from quicklime or pulverized quicklime shall have a plasticity figure, after slaking and screening, of not less than 200, and shall weigh not less than 83 pounds per cubic foot. Lime putty prepared from hydrated lime shall conform to ASTM C207, Type S.
- E. Aggregate:
 1. For mortar: ASTM C144.
 2. For grout: ASTM C404.
- F. Admixture: **Sika Grout Aid by Sika Corporation U.S.**
 1. Substitutions with Architect's approval, pursuant to conditions of Divisions 00 and 01.
- G. Water: Suitable for domestic consumption.

2.2 MORTAR

- A. Mortar shall be Type S having a 28-day compressive strength of not less than 1,800 psi and shall conform to CBC Section 2103A.9.
- B. Mortar shall be made with admixtures that are proportioned, added and mixed in strict accordance with manufacturer's directions.
- C. Mortar mix shall be proportioned by volume; one-part portland cement, not less than 1/4-part nor more than 1/2-part lime putty, and sand totaling not less than 2-1/4 nor more than three (3) times sum of volumes of cement and lime used:

1. Total clay content shall not exceed two percent (2%) of sand content or six percent (6%) of cement content.

2.3 GROUT

- A. Grout shall have a 28-day compressive strength of not less than 2,000 psi. Proportion by volume, and with sufficient water to produce consistency for pouring without segregation so that grout will flow into masonry joints. Grout shall conform to CBC Section 2103A.13.
- B. Fine Grout:
 1. One-part portland cement, to which may be added not more than 1/10-part lime putty, and three-parts sand.
 2. Fine grout shall be used for all grout spaces less than three inches (3") wide.
- C. Coarse Grout:
 1. One-part portland cement, to which may be added not more than 1/10-part lime putty, three-parts sand, and not less than one-part nor more than two-parts pea gravel (3/8-inch maximum aggregate size).
 2. Coarse grout shall be used in grout spaces three inches (3") wide or more.
- D. Add Sika Grout Aid admixture to grout at the rate of one (1) pound per 100 pounds cementitious material.

PART 3 EXECUTION

3.1 MIXING MORTAR AND GROUT

- A. Accurately measure materials in suitably calibrated devices; shovel measurements are not acceptable. Each 94-pound sack of portland cement will be considered as one (1) cubic foot.
- B. Place sand, cement, and water in mixer, in that order, and mix for at least two (2) minutes. Add lime putty and continue mixing as long as necessary to secure a uniform mass, but in no case less than ten (10) minutes.
- C. Use mixers of at least one (1) sack capacity; batches requiring fractional sacks will not be permitted unless cement is weighed for each batch.

3.2 GROUTING PROCEDURES

- A. Specified under 04 22 00: Concrete Unit Masonry.

3.3 RETEMPERING

- A. When necessary to retemper mortar, add water and remix; retempering by dashing water over mortar will not be permitted.
- B. Any mortar that is unused within 30 minutes after initial mixing and any mortar that has begun to set shall not be used.

3.4 DEFECTIVE MORTAR OR GROUT

- A. Should the strength of mortar or grout fall below that specified, remainder of Work shall be adjusted to reach required strength. Work in place representing inferior grout and mortar and indicating a strength less than the minimum specified shall be tested by taking and

testing core samples. Number and location of cores shall be determined by the structural Engineer.

- B. Should compression tests of cores fail to meet required strength, masonry shall be deemed to be defective and shall be removed and replaced at no cost to Owner.
- C. Costs relative to taking and testing of core samples shall be paid by Owner and will be deducted from Contract amount. Cost of patching core holes shall be borne by Contractor.

END OF SECTION 04 05 00

SECTION 04 22 00 CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Furnish and install all concrete unit masonry, reinforcement, and all required accessories and materials as shown on the Drawings and specified here.
 - a. Coordinate with other trades for embedded items, furnished under those sections and installed here.
 - b. Supervise setting of dowels for masonry furnished and installed under Section 03 21 00, Reinforcing Steel.

B. Related Work:

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. Cast-in-Place Concrete: Section 03 30 00.

1.02 QUALITY ASSURANCE

A. Allowable Tolerances: Place masonry in accordance with section 3.3B.

B. Standards and References: (Latest Edition unless otherwise noted):

1. California Building Code (CBC) with State of California Amendments.
2. TMS 402-16 – Building Code Requirements for Masonry Construction
3. TMS 602-16 – Specification for Masonry Structures
4. ASTM C90 – Specification for Loadbearing Concrete Masonry Units
5. ASTM C140 – Standard Test Methods for Sampling and Testing of Concrete Masonry Units and Related Units
6. ASTM C426 – Standard Test Method for Linear Drying Shrinkage of Concrete Masonry Units

C. Submittals: Refer to the requirements of Divisions 0 & 1 for submitting the following items:

1. Supplier's certificate indicating units comply with material standards indicated below:
2. See Section 03 21 00 for reinforcing steel submittals.

D. Tests and Inspections:

1. A testing program is required prior to start of construction. Testing program to be done in Compliance with the CBC requirements and in collaboration with Testing Laboratory, Design team, contractor, owner and submitted for review by the agency in charge of building enforcement. Requirements below are minimum requirements; additional requirements may be required in final testing program.
2. All tests and inspections herein are to be performed by an independent testing laboratory approved by the enforcement agency.
3. Sample panel construction: For masonry governed by Level 2 or 3 Quality Assurance, construct sample panels of masonry walls per TMS 602 Article 1.6 D. The specifier has the option of permitting a segment of the masonry construction to serve as a sample panel or requiring a separate stand-alone panel.

4. Test three sample units prior to construction. Test also three sample units during construction for every 5,000 square feet of wall area.
 - a. Units will be tested for compressive strength on both the net and gross area per ASTM C140.
 - b. Units will be tested for linear drying shrinkage per ASTM C426.
5. A special inspector shall be employed per CBC Section 1705A.4 to inspect the placement of all units, placement of all reinforcing steel, during all grouting operations and during taking of all test specimens.
6. Core Testing: Not less than two cores per 5,000 square feet of floor area or wall area, whichever is greater and at least two cores from each building or structure. Core in locations approved by the Architect and test per CBC Section 2105A.4. Repair holes as directed by the Architect.
7. See Section 03 21 00 for reinforcing steel tests and inspections.

1.03 PRODUCT HANDLING

- A. Scaffolding, runways and ladders required for work under this Section shall be provided by masonry contractor and shall be heavy trades type substantially built and in compliance with State labor laws, safety codes and other regulatory agencies as applicable to this project.
- B. Store masonry units off the ground in a dry location, covered and protected from absorbing moisture.
- C. Store masonry accessories, including metal items, in such a way as to prevent corrosion or accumulation of dirt and oil.

PART 2 - PRODUCTS

2.01 MASONRY UNITS

- A. Masonry units shall be hollow load bearing masonry units conforming to ASTM C90 and CBC Section 2103A.1.
 1. Basis of Design: Basalite Concrete Products LLC, Dixon, California.
 2. Weight: Medium weight.
 3. Maximum lineal shrinkage from saturated to oven dry condition of not more than 0.065 percent.
 4. Twenty-eight-day compressive strength of 2000 psi.
 5. Moisture controlled units.
- B. Unit Types – All block colors are from the Basalite Dixon, California plant:
 1. Type 1 – Body Color: 8" wide by 8" high x 16" long unless specified otherwise. Equal to Basalite No. D113, split face finish.
 2. Type 2 – Light Accent Color: 8" wide by 8" high x 16" long unless specified otherwise. Equal to Basalite No. D325 split face finish.
 3. Type 3 – Dark Accent Color: 8" wide by 8" high x 16" long unless specified otherwise. Equal to Basalite No. 498 ground face.
 4. Where block will be painted or otherwise completely unexposed on both sides, manufacturer's basic grey block may be used.

- C. Provide corners, ends and other specialty units at exposed locations to match block types specified herein and as required to match coursing patterns indicated on the Drawings.
- D. Provide bond beam units, open end units, lintel units and other special units as indicated. Use open end units at cells containing vertical reinforcement per CBC 2104A.1.3.1.2.1.
- E. Where smooth-faced block may be required to accommodate signage, light fixtures, fire alarm devices, or other components, the specified block pattern and unit locations may be modified, or the specified split-face blocks may also be ground at these locations. Confirm all proposed revisions to the indicate block pattern with Architect prior to installation.

2.02 MORTAR AND GROUT

- A. Specified under Section 04 05 00.

2.03 ACCESSORY MATERIALS

- A. Reinforcing Bars: ASTM A615, Grade 40 or 60, as indicated in Section 03 21 00, deformed bars. Where bars are to be welded, ASTM A706 Grade 60 bars shall be used.
 - 1. Tie Wire: Black annealed steel wire not lighter than 16 gauge.
- B. Ladder-type Joint Reinforcing: ASTM A951. Ladder-type joint reinforcing shall be comprised of 9-gauge side rods and 9-gauge cross-rods at 16" on center and shall conform to ASTM A951. Cross-rods are to be butt welded to side rods. Ladder-type joint reinforcement shall be hot dip galvanized or stainless steel.
 - 1. Width: Fabricate joint reinforcement in units with widths a minimum of 2" less than nominal width of walls. Provide mortar coverage over joint reinforcement of not less than 5/8" on joint faces exposed to exterior and 1/2" elsewhere.
- C. Provide spacers to firmly hold reinforcement in place.
- D. Anchor Bolts: All anchor bolts cast in masonry shall be headed studs or headed bolts with cut threads conforming to ASTM F1554 Grade 36 or ASTM A307 or ASTM A36 as indicated on drawings.
- E. Expansion Anchors: All expansion bolts installed in masonry shall be Hilti Kwik Bolt 3 per ICC ESR-1385, Simpson Wedge-All per ICC ESR-1396 or Dewalt/Powers Power-Stud+ SD1 per ICC ESR-2966. See Structural Drawings for installation requirements, testing and special head requirements as applicable. Substitution of other brands or anchors shall proceed only after written approval from the Structural Engineer and the Building Official has been obtained.
- F. Adhesive Anchors: All drill and epoxy threaded rods shall be ASTM F1554 Grade 36 or Grade 50, as indicated on drawings, and installed in masonry with Hilti HIT-HY 270 per ICC ESR-4143, Simpson SET-XP per UES ER-265 or Dewalt / Powers AC100+ Gold per ICC ESR-3200. See Structural Drawings for installation requirements, testing and special head requirements as applicable. Substitution of other brands or anchors shall proceed only after written approval from the Structural Engineer and the Building Official has been obtained.
- G. Screw Anchors: All screw anchors installed in masonry shall be Hilti Kwik HUS-EZ per ICC ESR-3056, Simpson Titen HD per ICC ESR-1056 or Dewalt/Powers Screwbolt+ per ICC ESR-4042. See Structural Drawings for installation requirements, testing and special head

requirements as applicable. Substitution of other brands or anchors shall proceed only after written approval from the Structural Engineer and the Building Official has been obtained.

H. Anchor Finish:

1. Interior Exposure: All anchors, nuts and washers for use in interior environments free of potential moisture shall be manufactured from carbon steel and zinc coated.
2. Exterior or Exposed Use: All anchors, nuts, and washers for use in exposed or potentially wet environments, or for attached of exterior cladding materials shall be galvanized or stainless steel. Galvanized anchors, nuts and washers shall conform to ASTM A 153. Stainless steel anchors shall be manufactured from 300 series stainless steel. and nuts and washers from 300 series or Type 18-8 stainless steel.

I. Non-Metallic Expansion Joint Strips: Pre-molded, flexible cellular neoprene rubber filler strips complying with ASTM D1056, Grade RE 41E1, capable of compression up to 35% of width and thickness indicated.

J. Pre-molded Control Joint Strips: Material as indicated below, designed to fit standard sash block and maintain lateral stability in masonry wall; size and configuration as indicated.

1. Pre-molded PVC Control Joint Strips. Strips shall be I chloride complying with ASTM D 2287, Type PVC 654-4 with a durometer hardness or 90.

2.04 JOINTS

A. All joints shall be 3/8" thick joints for concrete block. Tool exposed interior and exterior joints and concealed exterior joints to produce a dense slightly concave surface that is well bonded to unit at edges. Tool joints behind room base, switches, and outlet plates to produce a smooth dense joint flush with the face of adjacent masonry units, where occurring on the job. Cut joints flush on concealed interior surfaces and surfaces to be plastered.

2.05 SEALER

A. Refer to Section 07 19 00, Water Repellants and Anti-Graffiti Coatings for sealing requirements for all exterior exposed block surfaces.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine areas to receive masonry and verify following:

1. That foundation surface is level to permit bed joint with range of 1/4 minimum to 3/4 inch maximum for partially grouted or 1-1/4" maximum for fully grouted.
2. That edge is true to line to permit projection of masonry to less than 1/4 inch.
3. That projecting dowels are free from loose scale, dirt, concrete, or other bond inhibiting substances and properly spaced and located.

B. Do not begin work before unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean concrete surfaces to receive masonry. Remove laitance or other foreign material lodged in surfaces by sandblasting or other means as required. Joints between concrete and masonry shall be considered construction joints. See Concrete specifications.
- B. Ensure masonry units are clean and free from dust, dirt, or other foreign materials before laying. Do not use damaged masonry units, damaged components of structure, or damaged packaged materials.
- C. Establish lines, levels, and coursing. Protect from disturbances.
- D. Provide temporary bracing during erection of masonry work. Maintain in place until masonry has set to provide permanent bracing.

3.03 COURSING

- A. Erect masonry in accordance with CBC Section 2104A.1.
- B. Place masonry to lines and levels indicated to the following tolerances:
 - 1. Variation from Unit to Adjacent Unit: 1/32 inch max.
 - 2. Variation from Plane of Wall: 1/4 inch in 10 feet.
 - 3. Variation from Plumb: 1/4 inch.
 - 4. Variation from Level Coursing: 1/8 inch in 3 feet; 1/4 inch in 10 feet; 1/2 inch maximum.
 - 5. Variation of Joint Thickness: 1/8 inch in 3 feet.
- C. Bond: Block shall be laid in a stacked bond pattern with vertical and horizontal joints aligned.
- D. Maintain masonry courses to uniform width. Make vertical and horizontal joints equal and of uniform thickness.
- E. Preserve the vertical continuity of cells in concrete unit masonry per Article 3.3E of TMS 602.

3.04 PLACING AND BONDING

- A. Do not install cracked, broken or chipped masonry units.
- B. Lay only dry concrete masonry units. Do not wet concrete masonry prior to laying up units unless written permission is obtained from the Engineer.
- C. Lay masonry in full bed of mortar, properly jointed with other work. Deep or excessive furrowing of mortar joints is not permitted.
 - 1. Block Cap: Lay with full mortar coverage on horizontal and vertical joints.
 - 2. Install grout cap where and as indicated.
- D. Fully bond intersections and external and internal corners.
- E. Do not shift or tap masonry units after mortar has taken initial set. Where adjustment must be made, remove mortar and replace.
- F. Remove excess mortar.
- G. Perform job-site cutting with proper tools to provide straight unchipped edges. Take care to prevent breaking masonry unit corners or edges. Install cut units with cut surfaces and, where possible, cut edges concealed.

- H. Step back unfinished work for joining with new work. Do not use toothing.
- I. Provide cleanouts as indicated in "grouting" below.
- J. Matching Existing Masonry Work: Match coursing, bonding, color and texture of new masonry work with existing work wherever possible.

3.05 JOINTS

- A. Horizontal and vertical joints at masonry units shall be 3/8 inch wide and as follows:
 - 1. Point joint tight in unpurged masonry below ground.
 - 2. All end joints shall be fully filled with mortar and joints squeezed in bed joints shall be held back approximately 1/2 inch from cell to provide positive bond with grout.
 - 3. Joints shall be struck flush at all areas to receive plaster, stucco and any other finish material other than paint.

3.06 MASONRY REINFORCEMENT

- A. Place reinforcement in accordance with Article 3.4 B of TMS 602.
- B. Reinforcing steel shall not be bent or straightened in a manner that will damage the material. Bars with kinks or bends not shown on the plans shall not be used. Heating of bars for bending is not permitted.
 - 1. Bars shall conform accurately to the sizes, shapes, lines and dimensions shown on drawings and with hooks and beds made as detailed. Bars shall be placed as indicated on the drawings and centered on grout space.
 - 2. At the time grout is place around it, reinforcing steel shall be clean of mill scale or other coatings that will destroy or reduce bond.
 - 3. All vertical reinforcing steel shall be installed in one piece whenever practical, full height of wall, and braced throughout its height in a manner that will retain the steel in proper position and provide the proper clearance.
- C. Foundation dowels that interfere with unit webs are permitted to be bent to a maximum of 1 inch horizontally for every 6 in of vertical height.
- D. Reinforcing steel shall be secured to all foundation dowels and held in place at spacing not to exceed 192 bar diameters.

3.07 GROUTING

- A. General Requirements:
 - 1. All cells shall be grouted solid.
 - 2. Use low lift or high lift grouting at Contractor's option.
 - 3. Use grout pump, hopper or bucket to place grout.
 - 4. Place grout in final position within 1 1/2 hours after introduction of mixing water.
 - 5. Stop grout approximately 1 1/2 inches below top of last course, except at top course bring grout to top of wall. Do not form grout keys within beams.
- B. Low Lift Grouting:

1. Do not lay units higher than 48 inches before grouting.
2. If mortar has been allowed to set prior to grouting, remove all fins protruding more than ½ inch into grout space.
3. Conform to requirements of CBC Section 2104A.1.3.1.2.2.
4. Consolidate each lift with mechanical vibration twice per Article 3.5 E of TMS 602. Once while placing grout and once more after initial absorption of water but before set.

C. High Lift Grouting:

1. Conform to requirements of CBC Section 2104A.1.3.1.2.3 and DSA IR 21-2.13.
2. Lay up walls, subject to maximum height limitations of Table 6 under Article 3.5 of TMS 602.
3. Provide clean out holes at the bottom of every pour in cells containing vertical reinforcement per CBC 2104A.1.3.1.1.1.2.3. Construct clean out courses with open bottom bond beam units inverted to permit cleaning of all cells by flushing. Cleanouts shall be not less than 3x4inch openings cut from one face shell. Do not plug clean out holes until masonry work, reinforcement, and final cleaning of the grout spaces have been completed and inspected.
4. Clean mortar droppings from the bottom of the grout space and from reinforcing steel. Remove mortar fins protruding more than ½ inch into the grout space by dislodging the projections with a rod as the work progresses or by washing the grout space at least twice a day during erection using a high-pressure stream of water.
5. Do not place grout in hollow unit masonry until mortar joints have set for at least 24 hours and clean out plugs have cured 24 hours.
6. Place grout in lifts not to exceed 4 feet in height, with a waiting period between lifts, dependent on weather and absorption rate of the masonry, in order to place the succeeding lift after the preceding lift becomes plastic but prior to initial set. The first lift shall be consolidated using mechanical vibrators. After the required waiting period, place the second lift and consolidate with the vibrator, reconsolidating the lift below to a depth of 12 to 18 inches. Repeat the waiting, placing and consolidating process until the top of the grout pour is reached. Reconsolidate the top lift after the required waiting period. The high lift grouting of any section of wall between lateral flow barriers shall be completed to the top of a pour in one working day unless a new series of clean out holes is established and the resulting horizontal construction joint cleaned.

3.08 WEATHER PROVISIONS FOR CONSTRUCTION

- A. Cold Weather Construction to be in accordance with Article 1.8 C of TMS 602.
- B. Hot Weather Construction to be in accordance with Article 1.8 D of TMS 602.

3.09 EXPANSION AND CONTROL JOINTS

- A. See drawings for type and location of expansion and/or control joints.
- B. Where control joints are not indicated on the drawings the Contractor shall submit a proposed control joint layout for Architect and Engineer approval. General guidelines for control joint locations are as follows:
 1. At major changes in wall height.
 2. At changes in wall thicknesses.
 3. At corresponding control joints in foundations, floors, or roof construction.
 4. Near wall intersections.
 5. At column centerlines.

- C. Maximum Spacing: Maximum control joint spacing in concrete masonry construction shall be such that the ratio of wall length to height shall not exceed 1.5 with a maximum spacing of 25 feet.

3.10 BOND BEAMS

- A. Bond beams shall be located where shown and detailed on the drawings, and shall be reinforced as indicated and as herein after specified.

3.11 BUILT IN WORK

- A. Miscellaneous Embedded Items: All items indicated to be embedded in masonry shall be carefully located and anchored to prevent movement during grouting operations. Solidly grout spaces around built-in items. Consult other trades in advance and make provisions for installation of their work to avoid cutting and patching. Install chases minimum of one full masonry unit length for jambs.

3.12 CUTTING AND FITTING

- A. Obtain approval prior to cutting or fitting any area not indicated or where appearance or strength of masonry work may be impaired.

3.13 REPAIR, POINTING AND CLEANING

- A. Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damage, or if units do not match adjoining units.
- B. Pointing: During the tooling of joints, enlarge any voids or holes and completely fill with mortar.
- C. Dry brush masonry surface after mortar has set at each day's work and after final pointing.
- D. Leave work and surrounding surface clean and free of mortar spots and droppings.
- E. Cleaning: Upon completion of masonry installation, repair all holes. Defective joints shall be cut out and rejointed. Exposed masonry surfaces shall be cleaned free of mortar, green stain and efflorescence.

3.14 SEALER

- A. Refer to Section 07 19 00, Water Repellants and Anti-Graffiti Coatings for sealing requirements for all exterior exposed block surfaces.

3.15 DEFECTIVE MASONRY

- A. Materials or workmanship not conforming to appearance or strength specified, will be deemed defective and shall be removed and replaced at no cost to Owner.
- B. Defective mortar and grout, as defined under Section 04 05 00; "Mortar and Grout" shall constitute defective masonry.

END OF SECTION 04 22 00

SECTION 05 50 00 METAL FABRICATION

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes

1. Shop fabricated ferrous metal items, galvanized and prime painted.
2. Schedule of metal fabrications.

B. Related Sections:

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. 09 91 00 - Painting.

1.02 REFERENCES

- A. ASTM A36 - Standard Specification for Carbon Structural Steel.
- B. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- C. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- E. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
- F. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- G. ASTM A780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
- H. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.
- I. AWS D1.1 - Structural Welding Code - Steel.
- J. SSPC - The Society for Protective Coatings.

1.03 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable. Provide specific submittal for all ramp and sloped walk guide rails, handrails, and guardrails prior to fabrication clearly showing spacing of rails and embed details.
- C. Indicate welded connections using standard AWS A2.1 welding symbols. Indicate net weld lengths.

1.03 QUALITY ASSURANCE

- A. Welders' Certificates: Submit under provisions of Section 01 33 13, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.
- B. Field Measurements
 - 1. Verify that field measurements are as indicated on Drawings.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Steel Sections: ASTM A36.
- B. Steel Tubing: ASTM A500, Grade B.
- C. Plates: ASTM A36.
- D. Pipe: ASTM A53, Grade B, Schedule 40.
- E. Bolts, Nuts, and Washers: ASTM A307 galvanized to ASTM A 153 for galvanized components.
- F. Welding Materials: AWS D1.1; type required for materials being welded.
- G. Shop and Touch Up Primer: SSPC 15, Type 1, red oxide.
- H. Touch-Up for Galvanized Surfaces: Zinc rich galvanizing paint. Must contain either between 65% to 69% metallic zinc by weight or greater than 92% metallic zinc by weight in dry film. "Brite" sheen required at exposed galvanized finish. Spray application not acceptable; brush applied only.

2.02 EQUIPMENT SUPPORT SYSTEM

- A. Provide galvanized Unistrut, or other approved.
 - 1. Main Runner: P5500 channel at 8-foot centers.
 - 2. 5/8-inch hanger rods at 48 inches on centers and hanger clamps.
 - 3. Cross Runner: P3000 channel at 4-foot centers.
 - 4. P3047 "U" shaped fittings.
 - 5. Provide and size pipe clamps as required.
 - 6. Provide hardware and accessories as required.

2.03 FABRICATION

- A. Fit and shop assemble in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds unless indicated otherwise.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

- F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.04 FINISHES

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding is required.
- C. Prime paint items with one coat.
- D. At surfaces scheduled to be galvanized: Galvanize assembled items to minimum 1.25 oz/sq ft zinc coating in accordance with ASTM A 123. Apply brush applied zinc-rich galvanizing paint over field welds and adjacent areas where hot dipped galvanizing has been damaged. "Brite" sheen required at exposed galvanized finishes.
- E. Repair damaged galvanized surfaces in accordance with ASTM A780 Method A2.
- F. Finish: Site paint exposed to view prime painted and galvanized items under provisions of Section 09 91 00.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Beginning of installation means erector accepts existing conditions.

3.02 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate sections.

3.03 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Field weld components indicated on Drawings.
- D. Perform field welding in accordance with AWS D1.1.
- E. Obtain Architect approval prior to site cutting or making adjustments not scheduled.
- F. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

G. WELDING

1. Except for modifications indicated on drawings and specified herein, AISC Code of Standard Practices for Steel Buildings, and AWS Code for Fusion Welding and Gas Cutting in Building Construction, both as amended to date, govern materials, fabrication and erection of work under this Section.
2. Make welds in accordance with best standard practice. Perform welding on unexposed sides to prevent pitting, discoloring, weld-halo and other surface imperfections. Thoroughly clean surfaces to be welded. Welds must show a uniform section and reasonable smoothness without distortion. No exposed spot welding permitted. Dress and finish exposed surfaces of welded joints to produce invisible connections. Furnish welding alloys in the same color and character as the surfaces of the metals joined.

3.04 CONSTRUCTION

- A. Insofar as possible, fit and shop assemble work ready for erection. Accurately make jointing and intersections in true planes, and with adequate fastenings. Make exposed joints even and smooth. Grind exposed weld joints smooth and flush.
- B. Provide holes of proper size and in correct location for attachment of work of other trades. Cut, tape, and drill as required. Finished items must be free from kinks, twists, burrs and open joints. Damaged or distorted materials are not acceptable.
- C. Provide work to be built in concrete or masonry of proper form required for anchorage, or provide with concealed anchors.
- D. Form work true to detail, with clean, straight and sharply defined profiles. Close fit exposed joints and make where least conspicuous.
- E. Install supporting members, fastenings, frames, hangers, bracing, brackets, bolts, angles, and the like as required to set and connect items of miscellaneous metal to concrete, steel or wood framing.
- F. Countersink holes for exposed screwheads. Provide necessary lugs, brackets, and clips so work can be assembled and installed in a neat and suitable manner.
- G. Conceal fastenings where possible. Unless otherwise indicated, provide flathead or countersunk oval bolts and screwheads as best suited for the purpose.
- H. Weld in place plates for mounting item(s) of finish hardware.
- I. Provide bolts, anchors, inserts, and other miscellaneous steel and iron fastenings in forms before concrete is poured; or as to be built into masonry, as indicated on drawings, details or schedules, or as necessary to complete the work. Examine and check the Architectural, Structural, Mechanical and Electrical Drawings for number, type and locations of each item.

J. MISCELLANEOUS ITEMS

1. Furnish, fabrication, and install miscellaneous angles, channels, bent plate, clips, anchors, and other miscellaneous metal work required and as indicated on drawings. Form as detailed or if not detailed, as required for location and purposes served, and in accordance with the applicable provisions specified herein. Furnish and install miscellaneous metal items not specifically mentioned herein, or in other sections, but which are customarily considered as part of the work, the same as if fully specified herein and detailed on drawings.
2. Furnish and install light steel structural items not noted on Structural Drawings or called for under "Structural Steel" section but which are shown on the other drawings.

3. Furnish and install sleeves through masonry or concrete walls and footings. Fabrication of standard weight steel section of size sufficient to allow $\frac{1}{4}$ inch clearance between the sleeve and item to be inserted.
4. Furnish and install anchors, brackets, and plates or suitable steel where required in connection with steel, masonry, wood and concrete construction.
5. Fabricate steel channel and angle frames for doors, duct openings, scuttles, mechanical equipment, louvers, and other frames as shown and detailed to exact size required and in accordance with approved shop drawing. Neatly join corners, weld and grind smooth. For securing to concrete or masonry, weld concealed anchors on the back. Secure bar stops to frames with countersunk flathead screws or plug weld from the back. Prepare steel frames to receive necessary hardware. Where mechanical equipment such as fans, blowers, etc., and sheet metal are shown or specified to be attached in steel frames, the drilling, tapping and attachment must be done by trade involved.
6. Furnish corner guards, bumpers, etc., of sizes and shapes indicated and with anchors welded to the backs and of sizes and spacing shown.
7. Provide hot-dipped galvanized steel and iron for exterior use.

K. FINISH

1. Except where indicated, or specified to be galvanized, clean miscellaneous steel and iron of any grease, rust, mill scale, or other foreign matter, and give one shop coat of the specified primer: Do not prime material to be embedded in concrete.
2. After welding is completed, repair damage to the galvanizing by applying a minimum of two coats of liquid galvanizing compound in accordance with manufacturer's instructions to provide a coating equal to original finish.

3.05 SCHEDULE

- A. The Schedule is a list of principal items only. Refer to Drawing details for items not specifically scheduled.
- B. Miscellaneous Framing and Supports: Steel not a part of structural steel framework as required to complete work; galvanized prime paint finish.
- C. Joist Hangers: Joist strap anchors, galvanized prime paint finish.
- D. Ledge and Shelf Angles, Channels and Plates Not Attached to Structural Framing: For support of metal decking, joists, masonry, galvanized, and prime paint finish.
- E. Lintels: As detailed; galvanized prime paint finish.
- F. Metal Gates and Fences: Welded tubular steel as detailed, complete with all necessary hardware; hot-dipped galvanized, primed with paint finish.
- G. Steel pipe railing: hot-dipped galvanized at exterior, primed and painted at interior.
- H. Pipe rail wall support brackets: hot-dipped galvanized at exterior, primed and painted at interior.
- I. Steel pipe downspouts and downspout support brackets: hot-dipped galvanized and painted.

END OF SECTION 05 50 00

SECTION 05 58 00 FORMED METAL FABRICATION - ENCLOSURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements including but not limited to:
 - 1. Metal enclosed covers for:
 - a. Equipment: (Ground)
 - 1) Miscellaneous security covers.
 - 2) Miscellaneous equipment covers.
 - 3) Water back-flow piping covers.
 - b. Roof Top Mechanical Equipment Enclosures.
 - c. Miscellaneous screens.
 - 2. Accessories necessary for a coordinated and complete installation.

1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance of formed metal enclosures: Provide enclosures capable of withstanding the effects of loads and stresses within limits and under conditions specified for small security enclosures for heating/cooling units and/or water backflow prevention piping.
- B. Thermal Movements:
 - 1. Provide exterior metal fabrications that allow for thermal movements resulting from change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects:
 - a. Temperature change (range): 120 degrees F (67 degrees C), ambient; 180 degrees F (100 degrees C), material surfaces.

1.4 SUBMITTALS

- A. Product Data: Submit data for miscellaneous metal fabrications and paint, coatings, and grout accessories.
- B. Shop Drawings:
 - 1. Submit shop drawings detailing the fabrication and erection of each metal fabrication indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items:
 - a. For installed products indicated to comply with design loads, include structural analysis data, for information only, signed and sealed by the qualified professional engineer responsible for their preparation.
 - b. Illustrate locking covers and hasp to secure covers.
 - c. Submit catalogue cuts of production/shop made enclosures.
- C. Paint Compatibility Certificates: Submit manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats specified here-in or in Section 09 90 00 for exterior/interior metal products.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Building Code - comply with applicable provisions of the CBC 2022 California Building Code (CCR Title 24, Part 2, as adopted and amended by DSA):
 - a. CBC Section 11B-504 where applicable where public use be required.
 - 2. Welding - qualify procedures and personnel according to the following:
 - a. AWS D1.1/D1.1M Structural Welding Code – Steel.
 - b. AWS D1.3/D1.3M Structural Welding Code - Sheet Steel.
 - c. AWS D1.6/D1.6M Structural Welding Code - Stainless Steel.
 - d. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
- B. Fabricator/Installer Qualifications: A firm experienced in producing metal fabrications similar to those indicated for this Project/Specifications for a minimum of five (5) years, with a record of successful in-service performance, with sufficient production capacity to produce required units without causing delay in the work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store metal fabrications in a dry, well ventilated, weathertight place. Deliver and handle to prevent any type of damage to the fabricated work.
- B. When cover is ready to install on finished component work, require two-week notices and on site handling and preparation for installation.

PART 2 PRODUCTS

2.1 SITE EQUIPMENT ENCLOSURE:

- A. Manufacturer/Fabricator to follow standards of the American National Standards (ANSI) and be accredited ISO/IEC Registration.
 - 1. Where fabricator is not accredited, they must supply equivalent documentation to the satisfaction of the Architect.
 - 2. Manufacturers listed are used for example of proposed product and fabrication standards as basis of design.
- B. Materials - General
 - 1. Metal Surfaces: Sizing as indicated on drawings, provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
 - e. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
 - f. Stainless Steel Sheet, Strip, and Plate: ASTM A240/A240M or ASTM A666, Type 304.
 - g. Stainless Steel Bars and Shapes: ASTM A276, Type 304.
 - h. Rolled Stainless Steel Floor Plate: ASTM A793.
 - i. Abrasive Surface Floor Plate:
 - 1) Steel plate with abrasive granules rolled into surface or with abrasive material metallurgically bonded to steel.
 - j. Steel Tubing: ASTM A500/A500M, cold formed steel tubing.
 - k. Steel Pipe: ASTM A53/A53M, Standard Weight (Schedule 40) unless otherwise indicated.
 - l. Including lift hinges, lock box with pad lock loops and locks.
 - m. Including minimum four anchor plate with holes, anchor bolts or stakes.

2. Fasteners:
 - a. Unless otherwise indicated, provide Type 304 stainless steel fasteners for exterior use and zinc plated fasteners with coating complying with ASTM B633 or ASTM F1941, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required:
 - 1) Provide stainless steel fasteners for fastening stainless steel.
 - 2) Stainless steel bolts and nuts: Regular hexagon head annealed stainless steel bolts, ASTM F593 with hex nuts, ASTM F594 and, where indicated, flat washers; alloy.
 - 3) Anchor bolts - ASTM F1554, Grade 36, of dimensions indicated; with nuts, ASTM A563 and, where indicated, flat washers:
 - a) Hot dip galvanized or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
 - 4) Anchors: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to Miscellaneous Materials:
 - b. Shop primer for ferrous metal: Universal primer, organic zinc rich primer, complying with SSPC-Paint 20 and compatible with topcoat. Provide 10-99 (red) or 10-09 (gray) by Tnemec Company.
 - c. Universal shop primer: Fast curing, lead and chromate free, universal modified alkyd primer and compatible with topcoat. Use primer containing pigments that make it easily distinguishable from zinc rich primer.
 - d. Water based primer: Emulsion type, anticorrosive primer for mildly corrosive environments that is resistant to flash rusting when applied to cleaned steel and compatible with topcoat.
 - e. Non-shrink, nonmetallic grout: Factory packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

C. Fabrication

1. Shop Assembly:
 - a. Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation:
 - 1) Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32-inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
 - 2) Form bent metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
 - 3) Form exposed work with accurate angles and surfaces and straight edges.
 - 4) Weld corners and seams continuously to comply with the following:
 - a) Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - b) Obtain fusion without undercut or overlap.
 - c) Remove welding flux immediately.
 - d) At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
 - 5) Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
 - b. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

- c. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
 - d. Galvanize miscellaneous framing and supports at exterior locations; prime paint miscellaneous framing and supports at interior locations.
 2. Fabrication Tolerances:
 - a. Squareness: 1/8-inch maximum difference in diagonal measurements.
 - b. Maximum Offset Between Faces: 1/16-inch.
 - c. Maximum Misalignment of Adjacent Members: 1/16-inch.
 - d. Maximum Bow: 1/8-inch in 48-inches.
 - e. Maximum Deviation From Plane: 1/16-inch in 48 inches.
 3. Expanded Metal Grating:
 - a. Provide expanded metal gratings in material, finish, style, size, thickness, weight, and type indicated on Drawings or as noted here-in:
 - 1) Manufacturer - **Indiana Grating Inc.** 212 W. Douglas St, Martinsville IN 46151:
 - a) Material: Steel
 - b) Stainless Steel finish: Painted.
 - c) Style designation: Light Duty Welded Steel Grating.
 - 2) Prefabricated Manufactured Units:
 - 3) Backflow Cover: Minimum 30-inches long X 13-inches wide X 30-inches high.
 - 4) Heating/Cooling Unit Cover: Minimum: 40-inches long X 18-inches wide X 30-inches high.
 - 5) Manufactures:
 - a) Backflow Armor.
 - b) Gorilla Cage.
 - c) Overlake Supply.
 - d) Pre-Approved Manufacturer.
- D. Finishes
1. Finish metal fabrications after assembly.
 - b. Including exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.
 2. Powder coat: Green-Belt SW6927. Unless otherwise indicated on Drawings.

2.2 METAL SIDING PANELS - MATERIALS

- A. Manufacturer:
1. Manufacturer: McElroy Metal, Inc.
 - a. Contact: 1500 Hamilton Rd., Bossier City, LA 71111; Telephone: (800) 562-3576, (318) 747-8097; Fax: (318) 747-8099; E-mail: info@mcelroymetal.com; website: www.mcelroymetal.com.
 - b. Proprietary Products: McElroy Metal Preformed Wall and Metal Panels Wave Panel.
 2. Profile: .75" (20 mm) deep pan concealed fastener wall panel.
 3. Size: 16" (406 mm) cover width, lengths indicated on drawings.
- B. Clips and Fasteners: Supply items required for installation of panels in accordance with manufacturer's installation instructions and other indicated items; supply galvanized clips and long-life fasteners.
- C. Materials:
1. Material: Galvalume steel sheet conforming to ASTM A792, AZ55 coating for bare; AZ50 coating for painted 24-gauge sheet thickness.
 2. General:

- a. Provide complete metal panel assembly incorporating trim, copings, and miscellaneous flashings, in manufacturer's standard profiles.
 - b. Provide required fasteners, closure strips, and sealants as indicated in manufacturer's written instructions.
 3. Flashing and Trim: Match material, thickness, and finish of metal panel face sheet.
 4. Panel Fasteners: Self-tapping screws and other acceptable corrosion-resistant fasteners recommended by metal panel manufacturer. Where exposed fasteners cannot be avoided, supply fasteners with EPDM or neoprene gaskets, with heads matching color of metal panels by means of factory-applied coating.
 5. Joint Sealers: Manufacturer's standard or recommended liquid and preformed sealers and tapes, and as follows:
 - a. Tape Sealers: Manufacturer's standard non-curing butyl tape, AAMA 809.2.
 - b. Concealed Joint Sealant: Non-curing butyl, AAMA 809.2.
- D. Steel Sheet Miscellaneous Framing Components: ASTM C 645, with ASTM A 653/A 653M, G60 (Z180) hot dip galvanized zinc coating.
- E. Metal Accessories: Approved by metal panel manufacturer.
- F. FABRICATION
1. General:
 - a. Provide factory fabricated and finished metal panels and accessories meeting performance requirements, indicated profiles, and structural requirements.
 2. Fabricate metal panel joints configured to accept sealant providing weathertight seal and preventing metal-to-metal contact and minimizing noise resulting from thermal movement.
 3. Form panels in continuous lengths for full length of detailed runs, except where otherwise indicated on approved shop drawings.
 4. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's written instructions, approved shop drawings, and project drawings. Form from materials matching metal panel substrate.
- G. FINISHES
1. Two coat coil applied, baked on full strength (70% resin, PVF2) fluorocarbon coating consisting of a nominal 0.25 mil dry film thickness primer, and a nominal dry film thickness of 0.7 -0.8 mil color coat for a total 0.9 to 1.1 mil total system dry film thickness.
 - a. Finish to be selected from manufacturer's standard color selection. The back side of the material should be 0.25 mil primer and a 0.25 mil polyester wash coat.
 - b. Metal Panel Color:
 - 1) Selected from full range of manufacturer's standard colors.
 - 2) Color: [Specify color.].
 - 3) Color: As indicated on panel schedule.
 - c. Metal Related Trim/Accessories Color:
 - 4) Selected from full range of manufacturer's standard colors.
 - 5) Color: [Specify color.].
 - 6) Color: As indicated on panel schedule.
 - d. Bare Galvalume steel sheet conforming to ASTM A792, AZ55

PART 3 EXECUTION

3.1 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied enclosure.
 1. Comply with paint and coating manufacturers' written recommendations to ensure that

shop primers and topcoats are compatible with one another.

- B. Coordinate installation of metal fabrications that are anchored to or that receive other work.
 - 1. 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.
 - 2. Deliver such items to Project site in time for installation.

3.2 FIELD CONDITIONS

- A. Field Measurements:
 - 1. Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication:
 - a. Established dimensions: Where field measurements cannot be made without delaying the work, establish dimensions and proceed with fabricating metal fabrications without field measurements. Coordinate wall and other contiguous construction to ensure that actual dimensions correspond to established dimensions.
 - b. Provide allowance for trimming and fitting at site.

3.3 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation, with edges and surfaces level, plumb, true, and free of rack, and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: No field welding allowed.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction.
 - 1. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.
- E. Erection Tolerances:
 - 1. Maximum Variation from Plumb: 1/4 inch per story, noncumulative.
 - 2. Maximum Offset from True Alignment: 1/4 inch.
 - 3. Maximum Out of Position: 1/4 inch.

3.4 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on shop drawings.
- B. Anchor supports for overhead doors securely to, and rigidly brace from, building structure.

3.5 ADJUSTING AND CLEANING

- A. Touchup Painting:
 - 1. Immediately after erection, clean field welds, bolted connections, and abraded areas.

Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop painted surfaces:

- a. Apply by brush or spray to provide a minimum 2.0 mil dry film thickness.
- B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in Section 09 90 00: Painting and Coating.
- C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION 05 58 19

SECTION 07 19 00 WATER REPELLENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements including but not limited to:
 - 1. Penetrating water repellent treatment for masonry and concrete surfaces.
 - 2. Film forming water repellent treatments for masonry and concrete surfaces.
 - 3. Accessories necessary for a complete installation.

1.3 SUBMITTALS

- A. Product Data: Technical data including performance data, DFT per coat, spreading rate, number of coats for each type of substrate, application procedures, and available colors.

1.4 PERFORMANCE REQUIREMENTS

- A. Performance: Water repellents shall meet the following performance requirements as determined by testing on standard substrates representing those indicated.
- B. Water Absorption:
 - 1. Minimum 90 percent reduction of water absorption after 24 hours for treated compared to untreated specimens when tested according to the following:
 - a. Cast stone: ASTM C1195.
 - b. Concrete masonry units: ASTM C140.
 - c. Clay brick: ASTM C67.
 - d. Portland cement plaster (stucco): ASTM D6532.
- C. Water-Vapor Transmission:
 - 1. Comply with one or both of the following:
 - a. Maximum ten percent (10%) reduction water-vapor transmission of treated compared to untreated specimens, according to ASTM E96/E96M.
 - b. Minimum 80 percent water-vapor transmission of treated compared to untreated specimens, according to ASTM D1653.
- D. Water Penetration and Leakage through Masonry: Minimum 90 percent reduction in leakage rate of treated compared to untreated specimens, according to ASTM E514/E514M.
- E. Durability: Maximum five percent (5%) loss of water repellent performance after 2,500 hours of weathering according to ASTM G154 compared to water repellent-treated specimens before weathering.

1.5 QUALITY ASSURANCE

- A. Applicator Qualifications: An employer of workers trained and approved by manufacturer.
- B. Pre-Installation Conference: Conduct conference at site.

1.6 WARRANTY

- A. Written warranty signed by manufacturer in which manufacturer and applicator agree to repair or replace materials that fail to maintain water repellency within specified warranty period:
 - 1. Warranty period: Two (2) years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 PENETRATING WATER REPELLENTS

- A. Silane, penetrating water repellent:
 - 1. Clear, containing 20 percent or more solids of alkyltrialkoxysilanes; with alcohol, mineral spirits, water, or other proprietary solvent carrier; and with 400 g/L or less of VOCs:
 - a. Manufacturers are subject to compliance with requirements; provide products by one of the following:
 - 1) W.R. Meadows; (800) 342-5976.
 - 2) BASF Corporation; Construction Systems; (800) 526-1072.
 - 3) PROSOCO, Inc.; (800) 255-4255.
 - 4) Tnemec, Inc.; (816) 483-3400.
 - 5) Vexcon Chemicals Inc.; (888) 839-2661.
 - 6) Approved equal.

PART 3 EXECUTION

3.1 PROJECT CONDITIONS

- A. Limitations:
 - 1. Proceed with application when existing and forecasted weather and substrate conditions permit water repellents to be applied according to manufacturers' written instructions and warranty requirements:
 - a. Concrete surfaces and mortar have cured for not less than 28 days.
 - b. Building has been closed in for not less than 30 days before treating wall assemblies.
 - c. Ambient temperature is above 40 degrees F (4.4 degrees C) and below 100 degrees F (37.8 degrees C) and will remain so for 24 hours.
 - d. Substrate is not frozen and substrate surface temperature is above 40 degrees F (4.4 degrees C) and below 100 degrees F (37.8 degrees C).
 - e. Rain or snow is not predicted within 24 hours.
 - f. Not less than 24 hours have passed since surfaces were last wet.
 - g. Windy conditions do not exist that might cause water repellent to be blown onto vegetation or surfaces not intended to be treated.

3.2 EXAMINATION

- A. Examine substrates, areas, and conditions for compliance with requirements and conditions affecting performance of the Work:
 - a. Verify that surfaces are clean and dry according to water-repellent manufacturer's requirements. Check moisture content in minimum of three (3) representative locations by method recommended by manufacturer.
 - b. Verify that there is no efflorescence or other removable residues that would be trapped beneath the application of water repellent.
 - c. Verify that required repairs are complete, cured, and dry before applying water

repellent.

- B. Test pH level according to water-repellent manufacturer's written instructions to ensure chemical bond to silica containing or siliceous minerals.
- C. Proceed with installation after correcting unsatisfactory conditions.

3.3 PREPARATION

- A. New Construction and Repairs: Allow concrete and other cementitious materials to age before application of water repellent, according to repellent manufacturer's written instructions.
- B. Cleaning:
 - 1. Before application of water repellent, clean substrate of substances that could impair penetration or performance of product according to water repellent manufacturer's written instructions:
 - a. Cast stone and concrete unit masonry: Remove oil, curing compounds, laitance, and other substances that inhibit penetration or performance of water repellents according to ASTM E1857.
 - b. Clay brick masonry: ASTM D5703.
 - c. Natural stone: ASTM C1515.
 - d. Portland cement plaster (stucco): ASTM E1857.
- C. Protect adjoining work, including mortar and sealant bond surfaces, from spillage or blow over of water repellent. Cover adjoining and nearby surfaces of aluminum and glass if there is the possibility of water repellent being deposited on surfaces. Cover live vegetation.
- D. Coordination with Mortar Joints: Do not apply water repellent until pointing mortar for joints adjacent to surfaces receiving water-repellent treatment has been installed and cured.
- E. Coordination with Sealant Joints:
 - 1. Do not apply water repellent until sealants for joints adjacent to surfaces receiving water repellent treatment have been installed and cured:
 - a. Water repellent work may precede sealant application if sealant adhesion and compatibility have been tested and verified using substrate, water repellent, and sealant materials identical to those required.

3.4 APPLICATION

- A. Manufacturer's Field Service: Engage a factory authorized service representative to inspect the substrate before application of water repellent and to instruct applicator on the product and application method to be used.
- B. Apply coating of water repellent on surfaces to be treated using 15 psi (103 kPa) pressure spray with a fan type spray nozzle, roller, or brush to the point of saturation. Apply coating in dual passes of uniform, overlapping strokes. Remove excess material; do not allow material to puddle beyond saturation. Comply with manufacturer's written instructions for application procedure unless otherwise indicated:
 - 1. Precast concrete and cast stone: At Contractor's option, first application of water repellent may be completed before installing units. Mask mortar and sealant bond surfaces to prevent water repellent from migrating onto joint surfaces. Remove masking after repellent has cured.
- C. Apply second saturation coating, repeating first application. Comply with manufacturer's

written instructions for limitations on drying time between coats and after rainstorm wetting of surfaces between coats. Consult manufacturer's technical representative if written instructions are not applicable to Project conditions.

3.5 FIELD QUALITY CONTROL

- A. Testing of Water Repellent Material:
 - 1. Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when water repellent is being applied:
 - a. Owner will engage the services of a qualified testing agency to sample water repellent material being used. Samples of material delivered to site will be taken, identified, sealed, and certified in presence of Contractor.
 - b. Testing agency will perform tests for compliance of water-repellent material with product requirements.
 - c. Owner may direct Contractor to stop applying water repellents if test results show material being used does not comply with product requirements. Contractor shall remove noncomplying material from Project site, pay for testing, and correct deficiency of surfaces treated with rejected materials, as approved by Architect.
- B. Coverage Test:
 - 1. In the presence of Architect, hose down a dry, repellent-treated surface to verify complete and uniform product application. A change in surface color will indicate incomplete application:
 - a. Notify Architect seven (7) days in advance of the dates and times when surfaces will be tested.
 - b. Reapply water repellent until coverage test indicates complete coverage.

3.6 CLEANING

- A. Immediately clean water repellent from adjoining surfaces and surfaces soiled or damaged by water-repellent application as work progresses. Correct damage to work of other trades caused by water-repellent application, as approved by Architect.
- B. Comply with manufacturer's written cleaning instructions.

END OF SECTION 07 19 00

SECTION 09 91 00 PAINTING

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Surface preparation.
2. Products and application.
3. Surface finish schedule.

B. Related Sections:

1. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.
2. 05 50 00 – Metal Fabrications.
3. Division 21 – Fire Protection.
4. Division 22 – Plumbing.
5. Division 23 – Mechanical.

1.02 REFERENCES

- A. ASTM D16 – Standard Terminology for Paint, Related Coatings, Materials, and Applications.

1.03 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this Section.

1.04 SYSTEM DESCRIPTION

- A. Preparation of all surfaces to receive final finish.
- B. Painting and finishing work of this section using coating systems of materials including primers, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.
- C. Surface preparation, priming, and finish coats specified in this Section are in addition to shop-priming and surface treatment specified under other Sections.
- D. Painting and finishing all exterior and interior surfaces of materials including structural, mechanical, and electrical work on site, in building spaces, and above or on the roof.
- E. Paint exposed surfaces except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces.

1.05 SUBMITTALS

- A. Submit product data under provisions of Section 01 33 00.
- B. Provide manufacturer's technical information and instructions for application of each material proposed for use by catalog number.
- C. List each material by catalog number and cross-reference specific coating with specified finish system.

- D. Provide manufacturer's certificate that products proposed meet or exceed specified materials.
- E. Submit samples under provisions of Section 01 33 00.
- F. Submit two (2) samples 8-1/2 x 11 inch in size of each paint color and texture applied to cardboard. Resubmit samples until acceptable color, sheen and texture is obtained.
- G. On same species and quality of wood to be installed, submit two (2) 4 x 8-inch samples showing system to be used.

1.06 QUALITY ASSURANCE

- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with five (5) years' experience.
- B. Applicator: Company specializing in commercial painting and finishing with five (5) years documented experience.
- C. Regulatory Requirements
 - 1. Comply with applicable codes and regulations of governmental agencies having jurisdiction including those having jurisdiction over airborne emissions and industrial waste disposal. Where those requirements conflict with this specification, comply with the more stringent provisions.
 - 2. Comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA).
 - 3. Coats: The number of coats specified is the minimum number acceptable. If full coverage is not obtained with the specified number of coats, apply such additional coats as are necessary to produce the required finish.
 - 4. Employ coats and undercoats for all types of finishes in strict accordance with the recommendations of the paint manufacturer.
 - 5. Provide primers and undercoat paint produced by the same manufacturer as the finish coat.
- D. Field Samples
 - 1. Provide field samples under provisions of Section 01 33 00.
 - 2. On wall surfaces and other exterior and interior components, duplicate specified finishes on at least 100 sq. ft. of surface area.
 - 3. Provide full-coat finishes until required coverage, sheen; color and texture are obtained.
 - 4. Simulate finished lighting conditions for review of field samples.
 - 5. After finishes are accepted, the accepted surface may remain as part of the work and will be used to evaluate subsequent coating systems applications of a similar nature.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site and store and protect under provisions of Section 01 66 00.
- B. Deliver products to site in sealed and labelled containers; inspect-to verify acceptance.
- C. Full unopened 1 GAL can (new) - Container labelling to include paint Formula, manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing. Paint containers not displaying product identification will not be acceptable.
- D. Store paint materials at minimum ambient temperature of 50 degrees F and a maximum of 90 degrees F, in well-ventilated area, unless required otherwise by manufacturer's instructions.

- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.08 PROJECT CONDITIONS

A. Environmental Requirements

1. Provide continuous ventilation and heating facilities to maintain interior surface and ambient temperatures above 50 degrees F with a maximum humidity level of 50 percent for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
2. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
3. Minimum Application Temperatures for Latex Paints: 50 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
4. Minimum Application Temperature for Varnish and Urethane Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
5. Provide lighting level of 80 foot candles measured mid-height at substrate surface.

1.09 OWNER'S INSTRUCTIONS

A. Extra Material

1. If product used was SCUSD Paint shop's #1 choice listed in these technical specs, please provide 1-quart only unopened container of each color and surface texture to Owner along with physical draw down and formula; however, if any other product other than our first choice is used, do not provide any attic stock and instead only provide physical draws with formula for each color used.
 - a. Separate draw downs and formula are required for each paint product, color, and sheen used.
2. Label each container with paint mixture formula, color, texture, and room locations in addition to the manufacturer's label.

1.12 WARRANTY

- A. All "Deep Tone" colors shall be warranted for 10-year color retention with a delta loss of no more than 75 cie lab units.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Unless specifically identified otherwise, product designations included at end of section are those of the Dunn Edwards, www.dunnedwards.com and shall serve as the standard for kind, quality, and function.
- B. Subject to compliance with requirements, other manufacturers offering equivalent products are:
 1. Dunn Edwards, www.dunnedwards.com.
 2. Kelly Moore, <https://kellymoore.com/professional/contractors/>
 3. Sherwin Williams, <https://www.sherwin-williams.com/painting-contractors/project-solutions/commercial>

- C. Substitutions: Under provisions of Section 01 25 13.

2.02 MATERIALS

- A. Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
- B. Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- C. "Deep Tone" colors to be composed of 100 percent acrylic pigments, factory ground, with a colored base.
- D. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.
- E. Chemical Components of Interior Paints and Coatings: Shall not exceed the limitations of Green Seal's Standard GS-11 for VOC content and the following restrictions:
1. Flat Paints and Coatings: VOC content of not more than 50 g/L.
 2. Non-Flat Paints and Coatings: VOC content of not more than 150 g/L.
 3. Anticorrosive Coatings: VOC content of not more than 250 g/L.
- F. Varnishes and Sanding Sealers: VOC content of not more than 350 g/L.
- G. Stains: VOC content of not more than 250 g/L.
- H. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
- I. Restricted Components: Paints and coatings shall not contain any of the following:
1. Acrolein.
 2. Acrylonitrile.
 3. Antimony.
 4. Benzene.
 5. Butyl benzyl phthalate.
 6. Cadmium.
 7. Di (2-ethylhexyl) phthalate.
 8. Di-n-butyl phthalate.
 9. Di-n-octyl phthalate.
 10. 1, 2-dichlorobenzene.
 11. Diethyl phthalate.
 12. Dimethyl phthalate.
 13. Ethylbenzene.
 14. Formaldehyde.
 15. Hexavalent chromium.
 16. Isophorone.
 17. Lead.
 18. Mercury.
 19. Methyl ethyl ketone.
 20. Methyl isobutyl ketone.
 21. Methylene chloride.
 22. Naphthalene.
 23. Toluene (methylbenzene).
 24. 1, 1, 1-trichloroethane.
 25. Vinyl chloride.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
 - 1. Plaster and Gypsum Wallboard 12 percent.
 - 2. Masonry, Concrete, and Concrete Unit Masonry 12 percent.
 - 3. Interior Located Wood 15 percent, measured in accordance with ASTM 02016.
 - 4. Exterior Located Wood 15 percent, measured in accordance with ASTM 02016.
 - a. Beginning of installation means acceptance of existing surfaces.

3.02 PREPARATION

A. Work Not to Be Painted

- 1. Painting is not required on surfaces in concealed and inaccessible areas such as furred spaces, foundation spaces, utility tunnels, pipe spaces and duct shafts.
- 2. Do not paint metal surfaces such as stainless steel, chromium plate, brass, bronze, and similar finished metal surfaces.
- 3. Do not paint anodized aluminum or other surfaces which are specified to be factory pre-finished.
- 4. Do not paint sandblasted or architecturally finished concrete surfaces.
- 5. Do not paint prefinished acoustic materials or acoustic suspension systems.
- 6. Do not paint over Underwriters Laboratories, Factory Mutual or other code-required labels or identifications.
- 7. Do not paint exterior hot-dipped galvanized materials/products as specified elsewhere.

B. Surface Preparation

- 1. See attached sheet for Lead paint and Asbestos awareness.
- 2. Remove all tacks, stickers, staples adhesive glue, picture hangers, protruding nails, tape and adhesive glue, and all other foreign materials from surfaces prior to priming or painting. Mask off and protect existing room identification tags including Asbestos tags on door frames.
- 3. All exterior surfaces to be painted will be pressure washed to remove all loose paint, blisters, bridged cracks, surface-chalk and loose debris at no less than 3200-PSI, or sand blasted.
- 4. If prior is not possible, washing all surfaces with TSP made by Synco or Jasco, by hand means, scraping and sanding of all surfaces is required prior to pre-priming for proper patching and painting of surfaces.
- 5. Prior to any painting, any wood or metal deficiencies should be replaced including but not limited to, doors, facial boards, overhang wood, siding, trim etc.
- 6. All glossy surfaces WILL be sanded prior to any paint application. NO EXCEPTIONS.
- 7. Clean all roofing tar from facial boards and metal flashing etc.
- 8. All factory primed new material wood, metal etc, will be sanded prior to priming and painting.
- 9. All surfaces to be patched will be pre-primed with the proper material as per manufacture specifications for substrate.
- 10. Any efflorescence will be primed as per Dunn-Edwards EFF-Stop concrete and masonry filler manufactures specifications.
- 11. Wash all doors, casings and other surfaces with TSP made by Synco or Jasco to remove oily dirt, dust, smoke, and other residues that could prevent proper adhesion of any paint products.

12. For all fillers and patching compounds used, surfaces will be primed before, after application, and before finish paint being applied.
13. Do not paint over all murals until artist waiver is filled out and provided. Please check with the SCUSD Paint Shop Supervisor before project starts.
14. All prep work will be done like the SCUSD standard NO EXCEPTIONS. This includes patching, scraping, sanding, caulking, and removal of all drips, sags, runs and removal of all foreign matter on or in painted surface.
15. All interior window trim, door trim, cabinets, cubbyholes, pin-board, counter tops in addition, wall panel joints shall be caulked.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply prime coat to surfaces which are to be painted or finished.
- D. Apply each coat to uniform finish.
- E. Sand lightly between coats to achieve required finish.
- F. Allow applied coat to dry according to the Manufacturers Specifications before the next coat is applied.
- G. The number of coats specified is the minimum that shall be applied. Apply additional coats when undercoats, stains or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.
- H. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- I. Prime back surfaces of interior and exterior woodwork with primer paint.
- J. Prime back surfaces of interior woodwork scheduled to-receive stain or varnish finish with water-based Urethane varnish.
- K. Paint mill finished door seals to match door or frame.
- L. Paint primed steel glazing stops in doors to match door or frame.
- M. Cloudiness, spotting, lap marks, brush marks, runs, sags, spikes and other surface imperfections will not be acceptable.
- N. Where spray application is used, apply each coat of the required thickness. Do not double back to build up film thickness of two (2) coats in one pass.
- O. Where roller application is used, roll and redistribute paint to an even and fine texture. Leave no evidence of roller laps, irregularity of texture, skid marks, or other surface imperfections.
- P. Finishing Mechanical and Electrical Equipment:
 1. Refer to Division 23 and Division 26 for schedule of color coding and identification banding of equipment, ductwork, piping, and conduit.
 2. Paint shop primed equipment. Do not paint shop prefinished items.

3. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
4. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.
5. Replace identification markings on mechanical or electrical equipment when painted accidentally.
6. Paint interior surfaces of air ducts, and connector and baseboard heating cabinets that are visible through grilles and louvers with one (1) coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, and connector and baseboard cabinets to match face panels.
7. Paint exposed conduit and electrical equipment occurring in finished areas with existing matching wall color.
8. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
9. Color code equipment, piping, conduit, and exposed ductwork in accordance with requirements indicated. Color band and identify with flow arrows, names, and numbering.
10. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.
11. Paint grilles, registers, and diffusers which do not match color of adjacent surface.
12. Paint all mechanical and electrical equipment, vents, fans, and the like occurring on roof.
13. Do not paint moving parts of operating units; mechanical or electrical parts such as valve operators; linkages; sensing devices; and motor shafts.
14. Do not paint over labels or equipment identification markings.
15. Do not paint mechanical room specialties such as compressors, boilers, pumps, control panels, etc.
16. Do not paint switch plates, light fixtures, and fixture lenses.

3.04 CONSTRUCTION

A. Priming:

1. All new or bare galvanized metal will first be etched and then primed with appropriate galvanized latex or oil base primer, use cleaner and primer measures as per manufactures specification.
2. All door and Casings may be sprayed. Doors may also be tight rolled with a 3/8th inch nap roller. All casings to be brushed or laid off with a brush. ABSOLUTELY NO EXCEPTIONS.
3. All holes and cracks are to be filled with the proper exterior patching compound and latex caulking with silicone.
4. All rusty ferrous and ferrous metal are to be primed with a rust-inhibitive red, gray or white oxide all galvanized metal will be primed with a galvanized primer.

B. Finish Coat

1. All existing walls and overhangs to be coated with 100% acrylic exterior eggshell exterior paint.
2. All fascia boards to be coated with 100% acrylic exterior semi-gloss paint.
3. All metal poles, ungalvanized OR painted handrails, and iron gates are to be finished in water-borne alkyd urethane semi-gloss finish paint.
4. All doors and casings to have water-borne alkyd urethane finish, including tops, bottoms, and proper edges of doors and casings according to trade standards. All doors can be sprayed or tight rolled with a 3/8th inch nap roller or sprayed. All Casings must have sprayed or brushed finishes. NO EXCEPTIONS.
5. All concrete pillars are to be done in water-borne alkyd urethane semi-gloss paint.
6. All trim finishes are to be done in water-borne alkyd urethane semi-gloss paint.
7. All colors and product material to be used are to be APPROVED by the SCUSD paint shop Supervisor before application NO EXCEPTIONS.
8. Interior lower walls below door header to be painted with water-borne alkyd urethane.
9. Interior doors, door trim and painted cabinets to be painted with water-borne alkyd urethane.
9. Interior kitchens and baths to be painted with water-borne alkyd urethane.

3.05 REPAIR/RESTORATION

A. PATCHING

1. After completion of painting in any one room or area, repair surfaces damaged by other trades.
2. Touch-up or re-finish as required to produce intended appearance.

3.06 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01 45 00.
- B. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary.
- C. The Owner will engage the services of an independent testing agency to sample paint material being used.
- D. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
- E. The testing agency will perform appropriate quantitative materials analysis and other characteristic testing of materials as required by the Owner.
- F. If test results show materials being used and their installation do not comply with specified requirements or manufacturer's recommendations, the Contractor may be directed to stop painting, remove noncomplying paint, pay for testing and repaint surfaces to acceptable condition.

3.07 CLEANING

- A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.08 PROTECTION OF COMPLETED WORK

- A. Protect finished installation under provisions of Division 01.
- B. Erect barriers and post warning signs. Maintain in place until coatings are fully dry.
- C. Confirm that no dust generating activities will occur following application of coatings.

3.09 SCHEDULES

A. Color Schedule Guidelines

1. Paint and finish colors shall be selected by the Architect from manufacturer's entire range to match District standard colors or compliment those colors with the approval of the SCUSD Paint Shop Supervisor.
2. Access doors, registers, exposed piping, electrical conduit and mechanical/electrical panels: Generally, the same color as adjacent walls.
3. Exterior and interior steel doors, frames and trim: Generally, a contrasting color to adjacent walls.
4. Doors generally are all the same color, but of a contrasting color from frame and trim.
5. Exterior and interior steel fabrications: Generally, a contrasting color to adjacent walls.

6. Exposed interior mechanical/ductwork: Generally, a contrasting color to adjacent walls or ceiling.
7. Ceilings are generally to be painted a different color than walls.
8. Five (5) different color schemes for painting of walls.
9. Approximately 20 percent of overall painting work will be required to be "Deep Tone" colors. This work will require one (1) additional coat of paint beyond that as specified.
10. All existing walls and overhangs to be painted should be colored as either the SCUSD (SPECIAL HEATHER) or to match existing body color.
11. All fascia boards should be painted using 1 of the 5 standard SCUSD trim colors. Please check with SCUSD Paint Shop Supervisor for correct formula.
12. Interior upper walls above door frame to be done in (SCUSD ALTAMONT) SHEEN TO MATCH.
13. Interior lower walls below door header to be done in (SCUSD (COLONY WHITE) SHEEN TO MATCH.
14. Exterior Body color to be (SCUSD SPECIAL HEATHER) some school colors to be determined. Check with SCUSD paint shop Supervisor. Exterior trim colors to be determined by SCUSD paint shop Supervisor and school site.
15. Interior kitchens and baths to be painted to match existing paint finish material.
16. All pin boards if not replaced or re-covered with appropriate material, shall be patched then painted with SCUSD approved pin board paint and color.

B. Exterior Painting Schedule

1. Concrete Substrates, Masonry, Clay, Stucco, Non-Traffic Surfaces:
 - a. Prime Coat: Primer, alkali resistant, waterbased, interior/exterior, Dunn-Edwards, Eff-Stop Premium, ESPR00.
 - b. Intermediate Coat: Latex, exterior, matching topcoat.
 - c. Topcoat: Latex, exterior, eggshell, Dunn-Edwards, Evershield, EVSH30, 100% acrylic, (Gloss Level 3).
Or
 - d. Topcoat: Latex, exterior, low sheen, Dunn-Edwards, Evershield, EVSH40, 100% acrylic, (Gloss Level 4).
Or
 - e. Topcoat: Waterborne urethane alkyd, interior/exterior, eggshell, Dunn-Edwards, Aristoshield ASHL30, (Gloss Level 3).
Or
 - f. Topcoat: Waterborne urethane alkyd, interior/exterior, low sheen, Dunn-Edwards, Aristoshield ASHL40, (Gloss Level 4).
Or
 - g. Topcoat: Waterborne urethane alkyd, interior/exterior, semi-gloss, Dunn-Edwards, Aristoshield ASHL50, (Gloss Level 5).
2. CMU Substrates:
 - a. Prime Coat: Block filler, latex, interior/exterior, Dunn-Edwards, Smooth BLOCFIL Select SBSL00 or Eff-Stop Premium ESPR00.
 - b. Intermediate Coat: Latex, exterior, matching topcoat.
 - c. Topcoat: Latex, exterior, eggshell, Dunn-Edwards, Evershield, EVSH30, 100% acrylic, (Gloss Level 3).
Or
 - d. Topcoat: Latex, exterior, low sheen, Dunn-Edwards, Evershield, EVSH40, 100% acrylic, (Gloss Level 4).
3. Wood Substrates:
 - a. Prime Coat: Primer, waterbased, exterior, Dunn-Edwards, Ultra-Grip Premium UGPR00 or EZ-Prime Premium EZPR00
 - b. Intermediate Coat: Latex, exterior, matching topcoat.
 - c. Topcoat: Latex, exterior, eggshell, Dunn-Edwards, Evershield, EVSH30, 100% acrylic, (Gloss Level 3).

- Or
 - d. Topcoat: Latex, exterior, low sheen, Dunn-Edwards, Evershield, EVSH40, 100% acrylic, (Gloss Level 4).
 - Or
 - e. Topcoat: Latex, exterior, semi-gloss, Dunn-Edwards, Evershield, EVSH50, 100% acrylic, (Gloss Level 5).
4. Ferrous Metal Substrates:
- a. Waterborne Urethane Alkyd Enamel System:
 - 1) Prime Coat: Primer, rust inhibitive, waterborne alkyd, interior/exterior, Dunn-Edwards, Bloc-Rust Premium BRPR00 Series or Enduraprime rust preventative primer ENPR00.
 - 2) Intermediate Coat: Waterborne urethane alkyd, interior/exterior matching topcoat.
 - 3) Topcoat: Waterborne urethane alkyd, interior/exterior, eggshell, Dunn-Edwards, Aristoshield ASHL30, (Gloss Level 3).
 - Or
 - 4) Topcoat: Waterborne urethane alkyd, interior/exterior, low sheen, Dunn-Edwards, Aristoshield ASHL40, (Gloss Level 4).
 - Or
 - 5) Topcoat: Waterborne urethane alkyd, interior/exterior, semi-gloss, Dunn-Edwards, Aristoshield ASHL50, (Gloss Level 5)
5. Non-Ferrous Metal Substrates:
- a. Waterborne Urethane Alkyd Enamel over a Latex Primer System:
 - 1) Prime Coat: Primer, waterbased, interior/exterior, Dunn-Edwards Ultrashield Galvanized Metal Primer ULGM00.
 - 2) Intermediate Coat: Waterborne urethane alkyd, interior/exterior, matching topcoat.
 - 3) Topcoat: Waterborne urethane alkyd, interior/exterior, eggshell, Dunn-Edwards, Aristoshield ASHL30, (Gloss Level 3).
 - Or
 - 4) Topcoat: Waterborne urethane alkyd, interior/exterior, low sheen, Dunn-Edwards, Aristoshield ASHL40, (Gloss Level 4).
 - Or
 - 5) Topcoat: Waterborne urethane alkyd, interior/exterior, semi-gloss, Dunn-Edwards, Aristoshield ASHL50, (Gloss Level 5)

C. Interior Painting Schedule

1. Gypsum Board Substrates:
- a. Prime Coat: Primer sealer, latex, interior, Dunn-Edwards, Vinylastic Select VNSL00.
 - b. Intermediate Coat: Latex, interior, matching topcoat
 - c. Topcoat: Latex, interior/exterior, eggshell, Dunn-Edwards, Evershield, EVSH30, (Gloss Level 3).
 - Or
 - d. Topcoat: Waterborne urethane alkyd, interior/exterior, eggshell, Dunn-Edwards, Aristoshield ASHL30, (Gloss Level 3).
 - Or
 - e. Topcoat: Waterborne urethane alkyd, interior/exterior, low sheen, Dunn-Edwards, Aristoshield ASHL40, (Gloss Level 4).
 - Or
 - f. Topcoat: Waterborne urethane alkyd, interior/exterior, semi-gloss, Dunn-Edwards, Aristoshield ASHL50, (Gloss Level 5)
2. Wood Substrates:
- a. Prime Coat: Primer, acrylic, for interior wood, Dunn-Edwards, Ultra-Grip Select UGSL00 or Dunn-Edwards, Decoprime DCPR00.
 - b. Intermediate Coat: Latex, interior, matching topcoat.

- c. Topcoat: Waterborne urethane alkyd, interior/exterior, eggshell, Dunn-Edwards, Aristoshield ASHL30, (Gloss Level 3)
Or
 - d. Topcoat: Waterborne urethane alkyd, interior/exterior, low sheen, Dunn-Edwards, Aristoshield ASHL40, (Gloss Level 4).
Or
 - e. Topcoat: Waterborne urethane alkyd, interior/exterior, semi-gloss, Dunn-Edwards, Aristoshield ASHL50, (Gloss Level 5)
3. Ferrous Metal Substrates:
- a. Ultra-Premium Low Odor / Zero VOC Latex over a Waterborne Alkyd Primer System:
 - 1) Prime Coat: Primer, alkyd, anti-corrosive, for metal, Dunn-Edwards, Bloc-Rust Premium BRPR00 Series or Enduraprime rust preventative primer ENPR00.
 - 2) Intermediate Coat: Latex, interior, matching topcoat.
 - 3) Topcoat: Waterborne urethane alkyd, interior/exterior, eggshell, Dunn-Edwards, Aristoshield ASHL30, (Gloss Level 3)
Or
 - 4) Topcoat: Waterborne urethane alkyd, interior/exterior, low sheen, Dunn-Edwards, Aristoshield ASHL40, (Gloss Level 4).
Or
 - 5) Topcoat: Waterborne urethane alkyd, interior/exterior, semi-gloss, Dunn-Edwards, Aristoshield ASHL50, (Gloss Level 5).
4. Non-Ferrous Metal Substrates:
- a. Pre-Treatment: Water based, Krud Kutter, Metal Clean & Etch SCME-01
 - b. Prime Coat: Primer, water based, Dunn-Edwards, Ultrashield Galvanized Metal Primer ULGM00.
 - c. Intermediate Coat: Latex, interior, matching topcoat.
 - d. Topcoat: Waterborne urethane alkyd, interior/exterior, eggshell, Dunn-Edwards, Aristoshield ASHL30, (Gloss Level 3)
Or
 - e. Topcoat: Waterborne urethane alkyd, interior/exterior, low sheen, Dunn-Edwards, Aristoshield ASHL40, (Gloss Level 4).
Or
 - f. Topcoat: Waterborne urethane alkyd, interior/exterior, semi-gloss, Dunn-Edwards, Aristoshield ASHL50, (Gloss Level 5).

Cross-Over Chart			
Paint Type	Dunn-Edwards BOD	Kelly Moore	Sherwin Williams
100% Acrylic Eggshell Exterior Paint	EVSH30 Evershield 100% Acrylic	1294 Envy Exterior 100% Acrylic	KxxW000xx Series Emerald Exterior Acrylic Latex
100% Acrylic Low Sheen Exterior Paint	EVSH40 Evershield 100% Acrylic	1294 Envy Exterior 100% Acrylic	KxxW000xx Series Emerald Exterior Acrylic Latex
100% Acrylic Semi-Gloss Exterior Paint	EVSH50 Evershield 100% Acrylic	1298 Envy Exterior 100% Acrylic	KxxW000xx Series Emerald Exterior Acrylic Latex
Water-Borne Alkyd Urethane Eggshell Interior/Exterior Paint	ASHL30 Aristoshield Urethane Alkyd	1997 Epic Urethane Alkyd Enamel	KxxW0xxxx Series Emerald Urethane Trim Enamel

Water-Borne Alkyd Urethane Low Sheen Interior/Exterior Paint	ASHL40 Aristoshield Urethane Alkyd	1997 Epic Urethane Alkyd Enamel	KxxW0xxxx Series Emerald Urethane Trim Enamel
Water-Borne Alkyd Urethane Semi-Gloss Interior/Exterior Paint	ASHL50 Aristoshield Urethane Alkyd	1998 Epic Urethane Alkyd Enamel	KxxW0xxxx Series Emerald Urethane Trim Enamel

END OF SECTION 09 91 00

SECTION 22 00 50 BASIC PLUMBING MATERIALS AND METHODS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Strainers.
2. Valve boxes.
3. Gauges.
4. Access Doors.
5. Expansion loops.
6. Flexible joints.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. This Section is a part of each Division 22 Section.

1.03 ADDITIONAL REQUIREMENTS

- A. Furnish and install any incidental work not shown or specified which is necessary to provide a complete and workable system.
- B. Make all temporary connections required to maintain services during the course of this Contract without additional cost to the Owner. Notify the Owner seven days in advance before disturbing any service.
- C. Plumbing work done under this contract shall not adversely affect the operation of the existing plumbing systems.

1.04 REFERENCES AND STANDARDS

- A. Where material or equipment is specified to conform to referenced standards, it shall be assumed that the most recent edition of the standard in effect at the time of bid shall be used.
1. CSA – Canadian Standards Association International.
 2. ANSI - American National Standards Institute.
 3. ASTM - American Society for Testing and Materials.
 4. CCR - California Code of Regulations.
 - a. Title 8 - Division of Industrial Safety, Subchapter 7; General Industry Safety Orders, Articles 31 through 36.
 5. NCPWB - National Certified Pipe Welding Bureau.
 6. CEC - California Electrical Code.
 7. NEMA - National Electrical Manufacturers' Association.
 8. NFPA - National Fire Protection Association.
 9. OSHA - Occupational Safety and Health Act.
 10. UL - Underwriters' Laboratories, Inc.
- B. Requirements of Regulatory Agencies:

1. The publications listed below form part of this specification; comply with provisions of these publications except as otherwise shown or specified.
 - a. California Building Code, 2022.
 - b. California Electrical Code, 2022.
 - c. California Energy Code, 2022.
 - d. California Fire Code, 2022.
 - e. California Green Building Standards Code, 2022.
 - f. California Mechanical Code, 2022.
 - g. California Plumbing Code, 2022.
 - h. California Code of Regulations, Title 24.
 - i. California Health and Safety Code.
 - j. CAL-OSHA.
 - k. California State Fire Marshal, Title 19 CCR.
 - l. National Fire Protection Association.
 - m. Occupational Safety and Health Administration.
 - n. Other applicable state laws.
2. Nothing in Drawings or specifications shall be construed to permit work not conforming to these codes, or to requirements of authorities having jurisdiction. It is not the intent of Drawings or specifications to repeat requirements of codes except where necessary for clarity.

1.05 DRAWINGS

- A. Examine Contract Documents prior to bidding of work and report discrepancies in writing to Architect.
- B. Drawings showing location of equipment and materials are diagrammatic and job conditions will not always permit installation in location shown. The Plumbing Drawings show general arrangement of equipment and materials, etc., and shall be followed as closely as existing conditions, actual building construction, and work of other trades permit.
 1. Architectural and Structural Drawings shall be considered part of the Work. These Drawings furnish Contractor with information relating to design and construction of the Project. Architectural Drawings take precedence over Plumbing Drawings.
 2. Because of the small scale of Plumbing Drawings, not all offsets, fittings, and accessories required are shown. Investigate structural and finish conditions affecting the Work and arrange Work accordingly. Provide offsets, fittings, and accessories required to meet conditions. Inform Architect immediately when job conditions do not permit installation of equipment and materials in the locations shown. Obtain the Architects approval prior to relocation of equipment and materials.
 3. Relocate equipment and materials installed without prior approval of the Architect. Remove and relocate equipment and materials at Contactors' expense upon Architects' direction.
 4. Minor changes in locations of equipment, piping, etc., from locations shown shall be made when directed by the Architect at no additional cost to the Owner providing such change is ordered before such items of work, or work directly connected to same are installed and providing no additional material is required.
- C. Execute work mentioned in Specifications and not shown on Drawings, or vice versa, the same as if specifically mentioned or shown in both.

1.06 FEES AND PERMITS

- A. Obtain and pay for all permits and service required in installation of this work; arrange for required inspections and secure approvals from authorities having jurisdiction. Comply with requirements of Division 01.

- B. Arrange for utility connections and pay charges incurred, including excess service charges.
 - 1. Bear the cost of construction related to utility services, from point of connection to utility services shown on Contract Documents. This includes piping, excavation, backfill, meters, boxes, check valves, backflow prevention devices, general service valves, concrete work, and the like, whether or not Work is performed by Contractor, local water/sanitation district, public utility, other governmental agencies or agencies' assigns.
- C. Prior to the start of construction, contact local gas company representative and coordinate location of gas meter and piping. In addition, coordinate time required for installation, in order to avoid delay to the Project.
- D. Coordination:
 - 1. General:
 - a. Coordinate plumbing Work with trades covered in other Specifications Sections to provide a complete, operable and sanitary installation of the highest quality workmanship.
 - 2. Electrical Coordination:
 - a. Refer to the Electrical Drawings and Specifications, Division 26, for service voltage and power feed wiring for equipment specified under this section. Contractor has full responsibility for the following items of work:
 - 1) Review the Electrical Drawings and Division 26 Specifications to verify that electrical services provided are adequate and compatible with equipment requirements.
 - 2) If additional electrical services are required above that indicated on Electrical Drawings and in Division 26, such as more control interlock conductors, larger feeder, or separate 120 volt control power source, include cost to furnish and install additional electrical services as part of the bid.
 - 3) Prior to proceeding with installation of additional electrical work, submit detailed drawings indicating exact scope of additional electrical work.
 - 3. Mechanical Coordination:
 - a. Arrange for pipe spaces, chases, slots and openings in building structure during progress of construction, to accommodate mechanical system installation.
 - b. Coordinate installation of supporting devices. Set sleeves in poured-in-place concrete and other structural components during progress of construction.
 - c. Coordinate requirements for access panels and doors for mechanical items requiring access where concealed behind finished surfaces. Access panels and doors are specified in Division 08 Section "Access Doors and Frames."
 - d. Coordinate with other trades equipment locations, pipe, duct and conduit runs, electrical outlets and fixtures, air inlets and outlets, and structural and architectural features. Provide information on location of piping and seismic bracing to other trades as required for a completely coordinated project.

1.07 SUBMITTALS - GENERAL

- A. Refer to Division 01 Submittals Section(s) for additional requirements.
- B. Submittal packages may be submitted via email as PDF electronic files, or as printed packages. PDFs shall be legible at actual size (100 percent). Provide seven copies of printed submittal packages.

- C. Provide submittal of materials proposed for use as part of this Project. Product names in Specifications and on Drawings are used as standards of quality. Furnish standard items on specified equipment at no extra cost to the Contract regardless of disposition of submittal data. Other materials or methods shall not be used unless approved in writing by Architect. Architect's review will be required even though "or equal" or synonymous terms are used.
1. Partial or incomplete submittals will not be considered.
 2. Quantities are Contractor's responsibility and will not be reviewed.
 3. Provide materials of the same brand or manufacturer for each class of equipment or material.
 4. Identify each item by manufacturer, brand, trade name, number, size, rating, or other data necessary to properly identify and review materials and equipment. Words "as specified" are not sufficient identification.
 5. Identify each submittal item by reference to items' Specification Section number and paragraph, by Drawing and detail number, and by unit tag number.
 6. Organize submittals in same sequence as in Specification Sections.
 7. Show physical arrangement, construction details, finishes, materials used in fabrications, provisions for piping entrance, access requirements for installation and maintenance, physical size, mechanical characteristics, foundation and support details, and weight.
 - a. Submit Shop Drawings, performance curves, and other pertinent data, showing size and capacity of proposed materials.
 - b. Specifically indicate, by drawn detail or note, that equipment complies with each specifically stated requirement of Contract Documents.
 - c. Drawings shall be drawn to scale and dimensioned (except schematic diagrams). Drawings may be prepared by vendor but must be submitted as instruments of Contractor, thoroughly checked and signed by Contractor before submission to Architect for review.
 - d. Catalog cuts and published material may be included with supplemental scaled drawings.
- D. Review of submittals will be only for general conformance with design concept and general compliance with information given in Contract Documents. Review will not include quantities, dimensions, weights or gauges, fabrication processes, construction methods, coordination with work of other trades, or construction safety precautions, which are sole responsibility of Contractor. Review of a component of an assembly does not indicate acceptance of an assembly. Deviations from Contract Documents not clearly identified by Contractor are Contractor's responsibility and will not be reviewed by Architect.
- E. Within reasonable time after award of contract and in ample time to avoid delay of construction, submit to Architect Shop Drawings or submittals on all items of equipment and materials provided. Provide submittal in at least seven copies and in complete package.
1. Shop Drawings and submittals shall include Specification Section, Paragraph number, and Drawing unit symbol or detail number for reference. Organize submittals into booklets for each Specification section and submit in loose-leaf binders with index. Deviations from the Contract Documents shall be prominently displayed in the front of the submittal package and referenced to the applicable Contract requirement.
- F. Furnish to the Project Inspector complete installation instructions on material and equipment before starting installation.

1.08 ACTION SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data and installation instructions for plumbing systems materials and products.
- B. Shop Drawings.

C. Sustainable Design Submittals:

1. Product Data: For adhesives and sealants, documentation of compliance including printed statement of VOC content and chemical components.
2. Laboratory Test Reports: For adhesives and sealants, indicating compliance with requirements for low-emitting materials.

D. Pipe, pipe or plumbing fittings, fixtures, solder and flux installed in a system providing water for human consumption shall comply with lead free requirements of the California Health and Safety Code Section 11 68 75. Provide submittal information for products third-party certified by an approved laboratory as complying with California Health and Safety Code Section 11 68 75.

E. Delegated-Design Submittals: For seismic supports, anchorages, restraints, and vibration isolators indicated to comply with performance requirements and design criteria.

1. Calculations performed for use in selection of seismic supports, anchorages, and restraints shall utilize criteria indicated in Structural Contract Documents.
2. Include design calculations and details for selecting vibration isolators and vibration isolation bases complying with performance requirements, design criteria, and analysis data signed and sealed by the California registered structural engineer responsible for their preparation.
3. Supports, anchorages and restraints for piping, ductwork, and equipment shall be an HCAI pre-approved system such as TOLCO, ISAT, Mason, or equal. Pipes, ducts and equipment shall be seismically restrained in accordance with requirements of current edition of California Building Code. System shall have current OPM number and shall meet additional requirements of authority having jurisdiction. Provide supporting documentation required by the reviewing authority and the Architect and Engineer. Provide layout drawings showing piping, ductwork and restraint locations.
 - a. Bracing of Piping and Equipment: Specifically state how bracing attachment to structure is accomplished. Provide shop drawings indicating seismic restraints, including details of anchorage to building. In-line equipment must be braced independently of piping, and in conformance with applicable building codes. Provide calculations to show that pre-approval numbers have been correctly applied in accordance with general information notes of pre-approval documentation. Gas pipe bracing shall be designed in accordance with California Building Code Section 1615A.1.22 and ASCE 7-10 Section 13.6. Coefficient $I_p = 1.5$ shall be used for gas piping bracing calculations.
 - b. In lieu of the above or for non-standard installations not covered in the above pre-approved systems, Contractor shall provide layout drawings showing piping, ductwork, and restraint locations, and detail supports, attachments and restraints, and furnish supporting calculations and legible details sealed by a California registered structural engineer, in accordance with 2016 California Building Code
4. Additional Requirements: In addition to the above, conform to all state and local requirements.

1.09 INFORMATIONAL SUBMITTALS

- A. Provide layouts for plumbing systems, for inclusion in coordinated layout specified in Section 23 80 00. Comply with requirements for layouts specified in Section 23 80 00.

1.10 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:

1. Refer to Division 01 for complete instructions.

2. Furnish three complete sets of Operation and Maintenance Manual bound in hardboard binder, and one compact disc containing complete Operation and Maintenance Manual in searchable PDF format. Provide Table of Contents. Provide index tabs for each piece of equipment in binder and disc. Begin compiling data upon approval of submittals.
 - a. Sets shall incorporate the following:
 - 1) Product Data.
 - 2) Shop Drawings.
 - 3) Record Drawings.
 - 4) Service telephone number, address and contact person for each category of equipment or system.
 - 5) Complete operating and maintenance instructions for each item of plumbing equipment and systems.
 - 6) Copies of guarantees/warrantees for each item of equipment and systems.
 - 7) Test data and system balancing reports.
 - 8) Typewritten maintenance instructions for each item of equipment listing lubricants to be used, frequency of lubrication, inspections required, adjustment, etc.
 - 9) Manufacturers' bulletins with parts numbers, instructions, etc., for each item of equipment.
 - 10) Control diagrams and literature.
 - 11) A complete list or schedule of all scheduled valves giving the number of the valve, location and the rooms or area controlled by the valve. Identify each valve with a permanently attached metal tag stamped with number to match schedule. Post list in frame under plastic on wall in mechanical room or where directed by Architect.
 - 12) Check test and start reports for each piece of plumbing equipment provided as part of the Work.
 - 13) Commissioning and Preliminary Operation Tests required as part of the Work.
 - b. Post service telephone numbers and/or addresses in an appropriate place as designated by the Architect.
- B. Record Drawings:
 1. Refer to Division 01, Record Documents, for requirements governing Work specified herein.
 2. Upon completion of the work, deliver to Architect the following:
 - a. Originals of drawings showing the Work exactly as installed.
 - b. One complete set of reproducible drawings showing the Work exactly as installed.
 - c. One compact disc with complete set of drawings in PDF format showing the Work exactly as installed.
 - d. Provide Contractor's signature, verifying accuracy of record drawings.
 - e. Obtain the signature of the Project Inspector for all record drawings.

1.11 SUBSTITUTIONS

- A. Refer to Division 01 for complete instructions. Requirements given below are in addition to or are intended to amplify Division 01 requirements. In the case of conflict between requirements given herein and those of Division 01, Division 01 requirements shall apply.
- B. It is the responsibility of Contractor to assume costs incurred because of additional work and or changes required to incorporate proposed substitute into the Project. Refer to Division 01 for complete instructions.

- C. Substitutions will be interpreted to be all manufacturers other than those specifically listed in the Contract Documents by brand name, model or catalog number.
- D. Only one request for substitution will be considered for each item of equipment or material.
- E. Substitution requests shall include the following:
 - 1. Reason for substitution request.
 - 2. Complete submittal information as described herein; see "Submittals."
 - 3. Coordinated scale layout drawings depicting position of substituted equipment in relation to other work, with required clearances for operation, maintenance and replacement.
 - 4. List optional features required for substituted equipment to meet functional requirements of the system as indicated in Contract Documents.
 - 5. Explanation of impact on connected utilities.
 - 6. Explanation of impact on structural supports.
- F. Installation of reviewed substitution is the Contractors' responsibility. Any mechanical, electrical, structural, or other changes required for installation of reviewed substituted equipment or material must be made by the Contractor without additional cost to the Owner. Review by the Architect of the substituted equipment or material, including dimensioned Drawings will not waive these requirements.
- G. Contractor may be required to compensate the Architect for costs related to substituted equipment or material.

1.12 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of plumbing systems products, of types, materials, and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. Contractor's Qualifications: Firm with at least 5 years of successful installation experience on projects with plumbing systems work similar to that required for this Project.
- C. California Health and Safety Code Compliance: For products covered under the scope of HSC 116875 for potable water service. Products for potable water service shall be third-party certified by an approved laboratory as complying with California Health and Safety Code Section 11 68 75.
- D. Comply with applicable portions of California Plumbing Code pertaining to selection and installation of plumbing materials and products.
- E. All materials and products shall be new and shall match existing.

1.13 DELIVERY, STORAGE, AND HANDLING

- A. Protect equipment and piping delivered to Project site from weather, humidity and temperature variations, dirt, dust and other contaminants.

1.14 FIELD CONDITIONS

- A. Contractor shall visit Project site and examine existing conditions in order to become familiar with Project scope. Verify dimensions shown on Drawings at Project site. Bring discrepancies to the attention of Architect. Failure to examine Project site shall not constitute basis for claims for additional work because of lack of knowledge or location of hidden conditions that affect Project scope.
- B. Information on Drawings relative to existing conditions is approximate. Deviations from Drawings necessary during progress of construction to conform to actual conditions shall be approved by the

Architect and shall be made without additional cost to the Owner. The Contractor shall be held responsible for damage caused to existing services. Promptly notify the Architect if services are found which are not shown on Drawings.

1.15 WARRANTY

- A. Refer to Division 01 for warranty requirements, and duration and effective date of Contractor's Standard Guarantee.
- B. Repair or replace defective work, material, or part that appears within the warranty period, including damage caused by leaks.
- C. On failure to comply with the warranty requirements within a reasonable length of time after notification is given, the Architect/Owner shall have the repairs made at the Contractor's expense.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Materials or equipment of the same type shall be of the same brand wherever possible. All materials shall be new and in first class condition.
- B. All sizes, capacities, and efficiency ratings shown are minimum, except that gas capacity is maximum available.
- C. Refer to Sections 22 10 00 and 23 80 00 for specific system piping materials.

2.02 MATERIALS AND PRODUCTS

- A. No material installed as part of this Work shall contain asbestos.
- B. Insulation products, including insulation, insulation facings, jackets, adhesives, sealants and coatings shall not contain polybrominated diphenyl ethers (PBDEs) in penta, octa, or deca formulations in amounts greater than 0.1 percent (by mass).

2.03 VALVE BOXES

- A. General:
 - 1. Where several valves or other equipment are grouped together, provide larger boxes of rectangular "vault" type adequately sized for condition and similar in construction to those specified above.
 - 2. Provide valve box extensions as required to set bottom of valve box tight up to top of piping in which valve is installed.
 - 3. Provide a tee handle wrench for each size, Alhambra Foundry Co. #A-3008, or equal.
- B. Valve Boxes in Traffic Areas: Provide Christy No. G5 traffic valve box, Brooks, or equal, 10-3/8 inches inside diameter with extensions to suit conditions, with cast iron or steel locking cover. Provide Owner with set of special wrenches or tools as required for operation of valves.
- C. Valve Boxes in Non-Traffic Areas: Provide Christy No. F22, Brooks, or equal, 8 inches inside diameter by 30 inches long, with cast iron or steel locking cover. Provide Owner with set of special wrenches or tools as required for operation of valves. Cut bottom of plastic body for operation of valves.

- D. Valve Box (Rectangular Vault Type): Precast concrete or cast iron with cast iron or steel locking type covers lettered to suit service – Brooks No. 3-TL, Christy No. B3, Fraser No. 3, Alhambra A-3004 or A-3005, Alhambra E-2202, or E-2702, or equal, with extension to suit conditions.

2.04 GAUGES

- A. Marsh "Series J", U.S. Gage, Danton 800, or equal, with bronze bushed movement and front recalibration. Dials shall be white with black numerals, 3-1/2 inch dial face. Normal reading shall be at mid-scale. Provide a needle valve on each gauge connection. Supply a gauge piped with branch isolation valves across the inlet and outlet of each pump and where shown on the Drawings.
- B. Provide Pete's Plug II, Sisco P/T, or equal, test plug with Nordel core (and gasketed cap), on inlet and outlet of each coil, boiler, condenser, chiller and heat exchanger and where shown on Drawings.

2.05 ACCESS DOORS

- A. Where floors, walls, or ceilings must be penetrated for access to mechanical equipment, provide access doors, 14 inch by 14 inch minimum size in usable opening. Where entrance of a serviceman may be required, provide 20 inch by 30 inch minimum usable opening. Locate access doors/panels for non-obstructed and easy reach.
 - 1. All access doors less than 7'-0" above floors and exposed to public access shall have keyed locks.
- B. Access doors shall match those supplied in Division 08 in all respects, except as noted herein.
- C. Provide stainless steel access doors for use in toilet rooms, shower rooms, kitchens and other damp areas. Provide steel access doors with prime coat of baked-on paint for all other areas.
- D. Do not locate access doors in highly visible public areas such as lobbies, waiting areas, and primary entrance areas. Coordinate with the Architect when access is required in these areas.
- E. Where specific information or details relating to access panels different from the above is shown or given on the Drawings or other Divisions of work, then that information shall supersede this specification.
- F. Manufacturers: Subject to compliance with requirements, available manufacturers offering products which may be incorporated into the Work include Milcor, Karp, Nystrom, or Cesco, equal to the following:
 - 1. Milcor
 - a. Style K (plaster).
 - b. Style DW (gypsum board).
 - c. Style M (Masonry).
 - d. Style "Fire Rated" where required.

2.06 THERMAL AND SEISMIC EXPANSION LOOPS

- A. Manufactured assembly consisting of inlet and outlet elbow fittings, two sections of flexible metal hose and braid, and 180-degree return bend. Return bend section shall have support lug and plugged FPT drain. Flexible hose shall consist of corrugated metal inner hose and braided metal outer sheath. Assemblies shall be constructed from materials compatible with the fluid or gas being conveyed and shall be suitable for the system operating pressure and temperature. Provide assembly selected for 4 inches of movement.

- B. Provide CSA certified expansion loops for use in natural or propane gas piping systems.
- C. Where used in potable water systems, provide expansion loops of certified lead-free construction.
- D. Basis-of-Design Product: Subject to compliance with requirements, provide Metraflex Inc., Metraloop series, or comparable product by one of the following, or equal:
 - 1. Flexicraft Industries.

2.07 FLEXIBLE JOINTS

- A. Where indicated on Drawings, provide Metraflex Metrasphere, Style R, Mason Industries, or equal, Spherical Expansion Joints. Provide control units at each expansion joint, arranged to limit both expansion and compression.
- B. Flexible joints at entry points to building shall be Barco Ductile iron, Advanced Thermal Systems, or equal, threaded style with stainless ball and mineral filled seal.

2.08 PIPE GUIDES

- A. Where flexible connections are indicated on Drawings, provide Metraflex style IV, B-Line, or equal, pipe guides in locations recommended by manufacturer. Maximum spacing from flexible connection to first pipe guide is 4 pipe diameters, and maximum spacing from second pipe guide is 14 pipe diameters.

2.09 EQUIPMENT IDENTIFICATION

- A. Identify each piece of equipment with a permanently attached engraved bakelite plate, 1/2 inch high white letters on black background.

2.10 PIPE IDENTIFICATION

- A. Identify each piping system and indicate the direction of flow by means of Seton, Inc., Marking Services Inc., Reef Industries, Inc., or equal, pre-tensioned, coiled semi-rigid plastic pipe labels formed to circumference of pipe, requiring no fasteners or adhesive for attachment to pipe.
- B. The legends and flow arrows shall conform to ASME A13.1.

PART 3 - EXECUTION

3.01 EXISTING MATERIALS

- A. Remove existing equipment, piping, wiring, construction, etc., which interferes with Work of this Contract. Promptly return to service upon completion of work in the area. Replace items damaged by Contractor with new material to match existing.
- B. Removed materials which will not be re-installed and which are not claimed by Owner shall become property of Contractor and shall be removed from Project site. Consult Owner before removing any material from Project site. Carefully remove materials claimed by Owner to prevent damage and deliver to Owner-designated storage location.
- C. Existing piping and wiring not reused and are concealed in building construction may be abandoned in place and all ends shall be capped or plugged. Remove unused piping and wiring exposed in Equipment Rooms or occupied spaces. Material shall be removed from Project premises. Disconnect power, water, gas, pump or any other active energy source from piping or electrical service prior to abandoning in place.

- D. Existing piping, ductwork, and equipment modified or altered as part of this Work shall comply with the most recent applicable code requirements.

3.02 FRAMING, CUTTING AND PATCHING

- A. Special framing, recesses, chases and backing for Work of this Section, unless otherwise specified, are covered under other Specification Sections.
- B. Contractor is responsible for placement of pipe sleeves, hangers, inserts, supports, and location of openings for the Work.
- C. Cutting, patching, and repairing of existing construction to permit installation of equipment, and materials is the responsibility of Contractor. Repair or replace damage to existing work with skilled mechanics for each trade.
- D. Cut existing concrete construction with a concrete saw. Do not utilize pneumatic devices.
- E. Core openings through existing construction for passage of new piping and conduits. Cut holes of minimum diameter to suit size of pipe and associated insulation installed. Coordinate with building structure, and obtain Structural Engineer's approval prior to coring through existing construction.

3.03 PLUMBING DEMOLITION

- A. Refer to Division 01 Sections "Cutting and Patching" and "Selective Demolition" for general demolition requirements and procedures.
- B. Disconnect, dismantle and remove mechanical systems, equipment, and components indicated to be removed. Coordinate with all other trades.
 - 1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - 2. Piping to Be Abandoned in Place: Drain piping and cap or plug piping to remain with same or compatible piping material. Refrigerant system must be evacuated per EPA requirements.
 - 3. Equipment to Be Removed: Drain down and cap remaining services and remove equipment.
 - 4. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - 5. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- C. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.04 ELECTRICAL REQUIREMENTS

- A. Provide adequate working space around electrical equipment in compliance with the California Electrical Code. Coordinate the Mechanical Work with the Electrical Work to comply.
- B. Furnish necessary control diagrams and instructions for the controls. Before permitting operation of any equipment which is furnished, installed, or modified under this Section, review all associated electrical work, including overload protection devices, and assume complete responsibility for the correctness of the electrical connections and protective devices. Motors and control equipment shall conform to the Standards of the National Electrical Manufacturers' Association. All equipment and connections exposed to the weather shall be NEMA IIIIR with factory-wired strip heaters in each starter enclosure and temperature control panel where required to inhibit condensation.

- C. All line voltage and low voltage wiring and conduit associated with the Temperature Control System are included in this Section. Wiring and conduit shall comply with Division 26.

3.05 PIPING SYSTEM REQUIREMENTS

- A. Drawing plans, schematic and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.

3.06 PRIMING AND PAINTING

- A. Perform priming and painting on the equipment and materials as specified herein.
- B. See Division 09 Painting Section(s) for detailed requirements.
- C. Priming and Painting:
 - 1. Exposed ferrous metals, including piping, which are not galvanized or factory-finished shall be primed and painted.
 - a. Black Steel Piping:
 - 1) Primer: One coat gray Sherwin-Williams Pro Industrial Pro-Cryl Universal Primer, comparable products by Rust-Oleum, Kelly Moore, or equal.
 - 2) Topcoat: Two coats gray Sherwin-Williams Pro Industrial Waterbased Alkyd Urethane Enamel, comparable products by Rust-Oleum, Kelly Moore, or equal.
 - 2. Metal surfaces of items to be jacketed or insulated except piping shall be given two coats of primer unless furnished with equivalent factory finish. Items to be primed shall be properly cleaned by effective means free of rust, dirt, scale, grease and other deleterious matter and then primed with the best available grade of zinc rich primer. After erection or installation, all primed surfaces shall be properly cleaned of any foreign or deleterious matter that might impair proper bonding of subsequent paint coatings. Any abrasion or other damage to the shop or field prime coat shall be properly repaired and touched up with the same material used for the original priming.
 - 3. Where equipment is provided with nameplate data, the nameplate shall be masked off prior to painting. When painting is completed, remove masking material.

3.07 EXCAVATING

- A. Perform all excavating required for work of this Section. Provide the services of a pipe/cable locating service prior to excavating activities to determine location of existing utilities.
- B. Unless shown otherwise, provide a minimum of 2'-6" cover above top of pipe to finished grade for all service piping, unless otherwise noted. Trim trench bottom by hand or provide a 4 inch deep minimum bed of sand to provide a uniform grade and firm support throughout entire length of pipe. For all PVC pipe and for PE gas pipe, bed the pipe in 4 inch sand bed. Pipe bedding materials should be clean crushed rock, gravel or sand of which 100 percent will pass a 1 inch sieve. For pipes that are larger than 10 inches in diameter, at least 95 percent should pass a 3/4 inch sieve, and for pipes 10 inches in diameter or smaller, 100 percent should pass a 1/2 inch sieve. All other materials should have a minimum sand equivalent of 50. Only a small proportion of the native soils will meet these requirements without extensive processing; therefore, importation of pipe bedding materials should be anticipated. Pipe bedding materials shall be compacted in lifts not exceeding 6 inches in compacted thickness. Each lift shall be compacted to not less than 90 percent relative compaction at or above the optimum moisture content, in accordance with ASTM Specification D2940, except that

bedding materials graded such that 100 percent of the material will pass a No. 200 sieve shall be compacted in 6 inch lifts using a single pass of a flat-plate, vibratory compactor or vibratory drum. Pipe bedding materials should extend at least to the spring line.

- C. Maintain all warning signs, barricades, flares, and red lanterns as required.
- D. For all trenches 5 feet or more in depth, submit copy of permit detailed drawings showing shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trenches. Obtain a permit from the Division of Industrial Safety prior to beginning excavations. A copy of the permit shall be available at the site at all times.

3.08 BACKFILLING

- A. Backfill shall comply with applicable provisions of Division 31 of these Specifications.
- B. Except under existing or proposed paved areas, walks, roads, or similar surfaces, backfill for other types of pipe shall be made using suitable excavated material or other approved material. Place backfill in 8 inch layers, measured before compaction, and compact with impact hammer to at least 90 percent relative compaction per ASTM D2940.
 - 1. Backfill plastic pipe and insulated pipe with sand for a minimum distance of 12 inches above the top of the pipe. Compact using mechanical tamping equipment.
- C. Entire backfill for excavations under existing or proposed pavements, walks, roads, or similar surfaces, under new slabs on grade, shall be made with clean sand compacted with mechanical tamping equipment vibrator to at least 90 percent relative compaction per ASTM D2940. Remove excess earth. Increase the minimum compaction within the uppermost two feet of backfill to 95 percent.
- D. Replace or repair to its original condition all sod, concrete, asphalt paving, or other materials disturbed by the trenching operation. Repair within the guarantee period as required.

3.09 PIPING SYSTEMS INSTALLATION

- A. At time of final connection, and prior to opening valve to allow pressurization of water and gas piping from existing systems, on site or off site, perform a pressure test to indicate static pressure of existing systems. If pressure on water piping is greater than 80 psi, or gas pressure is not as indicated on Contract Documents, inform Architect immediately. Do not allow piping systems to be pressurized without written consent of the Architect.
- B. General:
 - 1. All piping shall be concealed unless shown or otherwise directed. Allow sufficient space for ceiling panel removal.
 - 2. Installation of piping shall be made with appropriate fittings. Bending of piping will not be accepted.
 - 3. Install piping to permit application of insulation and to allow valve servicing.
 - 4. Where piping or conduit is left exposed within a room, the same shall be run true to plumb, horizontal, or intended planes. Where possible, uniform margins are to be maintained between parallel lines and/or adjacent wall, floor, or ceiling surfaces.
 - 5. Horizontal runs of pipes and/or electrical conduit suspended from ceilings shall provide for a maximum headroom clearance. The clearance shall not be less than 6'-6" without written approval from the Architect.
 - 6. Close ends of pipe immediately after installation. Leave closure in place until removal is necessary for completion of installation.

7. Each piping system shall be thoroughly flushed and proved clean before connection to equipment.
8. Pipe the discharge of each relief valve, air vent, backflow preventer, and similar device to floor sink or drain.
9. Install exposed polished or enameled connections with special care showing no tool marks or threads at fittings.
10. Install horizontal valves with valve stem above horizontal.
11. Use reducing fittings; bushings shall not be allowed. Use eccentric reducing fittings wherever necessary to provide free drainage of lines and passage of air.
12. Verify final equipment locations for roughing-in.
13. Service Markers: Mark the location of each plugged or capped pipe with a 4 inch round by 30 inch long concrete marker, set flush with finish grade. Provide 2-1/2 inch diameter engraved brass plate as part of monument marker.
14. Furnish and install anchors or thrust blocks on PVC water lines in the ground, at all changes in direction of piping, and at all connections or branches from mains 1-1/2 inch and larger. Form anchors or thrust blocks by pouring concrete between pipe and trench wall. Thrust blocks shall be of adequate size and so placed as to take thrusts created by maximum internal water pressure. Sizing and placement shall be per manufacturer's recommendations, CPC, and IAPMO installation standards. Anchor piping to building construction.
15. Sanitary Sewer and Storm Drain: Grade piping inside building uniformly 1/4 inch per foot if possible but not less than 1/8 inch per foot. Run piping as straight as possible. Make piping connections between building piping and outside service pipe with cast iron reducers or increasers. Slope sewers uniformly between given elevations where invert elevations are shown.
16. Where piping is installed in walls within one inch of the face of stud, provide a 16 gauge sheet metal shield plate on the face of the stud. The shield plate shall extend a minimum of 1-1/2 inches beyond the outside diameter of the pipe.

C. Expansion Loops:

1. Install expansion loops where piping crosses building expansion or seismic joints, between buildings, between buildings and canopies, and as indicated on Drawings.
2. Install expansion loops of sizes matching sizes of connected piping.
3. Install grooved-joint expansion joints to grooved-end steel piping.
4. Materials of construction and end fitting type shall be consistent with pipe material and type of gas or liquid conveyed by the piping system in which expansion loop is installed.

D. Sleeves:

1. Install Adjus-to-Crete, Pipeline Seal and Insulator, or equal, pipe sleeves of sufficient size to allow for free motion of pipe, 24 gauge galvanized steel. The space between pipe and sleeves through floor slabs on ground, through outside walls above or below grade, through roof, and other locations as directed shall be caulked with oakum and mastic and made watertight. The space between pipe and sleeve and between sleeve and slab or wall shall be sealed watertight.
2. At Contractor's option, Link-Seal, Metraflex Metraseal, or equal, casing seals may be used in lieu of caulking. Wrap pipes through slabs on grade with 1 inch thick fiberglass insulation to completely isolate the pipe from the concrete.

E. Floor, Wall, and Ceiling Plates:

1. Fit all pipes with or without insulation passing through walls, floors, or ceilings, and all hanger rods penetrating finished ceilings with chrome-plated or stainless escutcheon plates.

F. Firestopping:

1. Pack the annular space between the pipe sleeves and the pipe through all floors and walls with UL listed fire stop, and sealed at the ends. All pipe penetrations shall be UL listed, Hilti, 3M Pro-Set, or equal.
 - a. Install fire caulking behind mechanical services installed within fire rated walls, to maintain continuous rating of wall construction.
2. Provide SpecSeal Systems UL fire rated sleeve/coupling penetrators for each pipe penetration or fixture opening passing through floors, walls, partitions or floor/ceiling assemblies. All Penetrators shall comply with UL Fire Resistance Directory (Latest Edition), and in accordance with Chapter 7, CBC requirements.
3. Sleeve penetrators shall have a built in anchor ring for waterproofing and anchoring into concrete pours or use the special fit cored hole penetrator for cored holes.
4. Copper and steel piping shall have SpecSeal plugs on both sides of the penetrator to reduce noise and to provide waterproofing.
5. All above Systems to be installed in strict accordance with manufacturer's instructions.
6. Alternate firestopping systems are acceptable if approved equal. However, any deviation from the above specification requires the Contractor to be responsible for determining the suitability of the proposed products and their intended use, and the Contractor shall assume all risks and liabilities whatsoever in connection therewith.

G. Flashing:

1. Flashing for penetrations of metal or membrane roof for mechanical items such as flues and pipes shall be coordinated with the roofing manufacturer and roofing installer for the specific roofing type. The work of this section shall include furnishing, layout, sizing, and coordination of penetrations required for the mechanical work.
 - a. Furnish and install flashing and counterflashing in strict conformance with the requirements of the roofing manufacturer. Submit shop drawing details for review prior to installation.
 - b. Furnish and install counterflashing above each flashing required. Provide Stoneman, or equal, vandalproof top and flashing combination. Provide vandalproof top for each plumbing vent through roof. Elmdor/Stoneman Model 1540, 1550, 1570, or equal.
2. For all other types of roofing system, furnish and install around each pipe, where it passes through roof, a flashing and counterflashing. All flashing shall be made of four pound seamless sheet lead with 6 inch minimum skirt and steel reinforced boot. Counterflashing shall be cast iron. For vents, provide vandalproof top and flashing combination. Elmdor/Stoneman Model 1100-4, 1100-5, 1100-7, or equal.

H. Hangers and Supports:

1. General: Support equipment and piping so that it is firmly held in place by approved iron hangers and supports and special hangers. Hanger and support components shall support weight of equipment and pipe, fluid, and pipe insulation based on spacing between supports with minimum factor of safety of five based on ultimate strength of material used. Do not exceed manufacturer's load rating. Pipe attachments or hangers, of same size as pipe or tubing on which used, or nearest available. Rigidly fasten hose faucets, fixture stops, compressed air outlets, and similar items to the building construction. The Architect shall approve hanger material before installation. Do not support piping with plumbers' tape, wire rope, wood, or other makeshift devices. Where building structural members do not match piping support spacing, provide "bridging" support members firmly attached to building structural members in a fashion approved by the structural engineer.

- a. Materials, design, and type numbers per Manufacturers' Standardization Society (MSS), Standard Practice (SP)-58.
 - 1) Provide copper-plated or felt-lined hangers for use on copper tubing.
- 2. Hanger components shall be provided by one manufacturer: B-Line, Grinnell, Unistrut, Badger, or equal.
- 3. Riser clamps: B-line model B3373, or equal.
- 4. Pipe Hanger and Support Placement and Spacing:
 - a. Vertical piping support spacing: Provide riser clamps for piping, above each floor, in contact with the floor. Provide support at joints, branches, and horizontal offsets. Provide additional support for vertical piping, spaced at or within the following maximum limits:

<u>Pipe Diameter</u>	<u>Steel Threaded or Welded (Note 3)</u>	<u>Steel Gas</u>	<u>Copper Brazed or Soldered (Note 3)</u>	<u>CPVC & PVC (Note 2)</u>
1/2 - 1"	12 ft.	6 ft.	Each Floor, Not to Exceed 10 ft.	Base and Each Floor (Note 1)
1-1/4 - 2"	12 ft.	Each Floor, Not to Exceed 10 ft.	Each Floor, Not to Exceed 10 ft..	Base and Each Floor (Note 1)
2-1/2 - 3"	12 ft.	Each Floor, Not to Exceed 10 ft.	Each Floor, Not to Exceed 10 ft.	Base and Each Floor (Note 1)
Over 4"	12 ft.	Each Floor, Not to Exceed 10 ft.	Each Floor, Not to Exceed 10 ft.	Base and Each Floor (Note 1)

- 1) Note 1: Provide mid-story guides.
 - 2) Note 2: For PVC piping, provide for expansion every 30 feet per IAPMO installation standard. For CPVC piping, provide for expansion per IAPMO installation standard.
 - 3) Note 3: Spacing of hangers and supports for piping assembled with mechanical joints shall be in accordance with standards acceptable to authorities having jurisdiction.
- b. Vertical cast iron piping support spacing: Base and each floor not to exceed 15 feet.
 - c. Horizontal piping, hanger and support spacing: Locate hangers and supports at each change of direction, within one foot of elbow, and spaced at or within following maximum limits:

<u>Pipe Diameter</u>	<u>Steel Threaded or Welded (Note 2)</u>	<u>Steel Gas</u>	<u>Copper Brazed or Soldered (Notes 2, 3)</u>	<u>CPVC & PVC (Note 1)</u>
1/2 - 1"	6 ft.	6 ft.	5 ft.	3 ft.
1-1/4 - 2"	7 ft.	10 ft.	6 ft.	4 ft.

2-1/2 - 3"	10 ft.	10 ft.	10 ft.	4 ft.
Over 4"	10 ft.	10 ft.	10 ft.	4 ft.

- 1) Note 1: For PVC piping, provide for expansion every 30 feet per IAPMO installation standard. For CPVC piping, provide for expansion per IAPMO installation standard.
- 2) Note 2: Spacing of hangers and supports for piping assembled with mechanical joints shall be in accordance with standards acceptable to authorities having jurisdiction.
- 3) Note 3: Includes all refrigerant piping, including vapor and hot gas pipes.

5. Suspended Piping:

- a. Individually suspended piping: B-Line B3690 J-Hanger or B3100 Clevis, complete with threaded rod, or equal. All hangers on supply and return piping handling heating hot water or steam shall have a swing connector at point of support.

<u>Pipe Size</u>	<u>Rod Size Diameter</u>
2" and Smaller	3/8"
2-1/2" to 3-1/2"	1/2"
4" to 5"	5/8"
6"	3/4"

- b. Trapeze Suspension: B-Line 1-5/8 inch width channel in accordance with manufacturer's published load ratings. No deflection to exceed 1/180 of a span.
- c. Trapeze Supporting Rods: Shall have a safety factor of five; securely anchor to building structure.
- d. Pipe Clamps and Straps: B-Line B2000, B2400; isolate copper pipe with two thicknesses of 2 inches wide 10-mil polyvinyl tape. Where used for seismic support systems, provide B-Line B2400 series pipe straps.
- e. Concrete Inserts: B-line B22-I continuous insert or B2500 spot insert. Do not use actuated fasteners for support of overhead piping unless approved by Architect.
- f. Steel Connectors: Beam clamps with retainers.

6. Support to Structure:

- a. Wood Structure: Provide and install wood blocking as required to suit structure. Provide lag screws or through bolts with length to suit requirements, and with size (diameter) to match the size of hanger rods required.
 - 1) Do not install Lag screws in tension without written review and acceptance by Structural Engineer.

Side Beam Angle Clip	B-Line B3062---MSS Type 34
Side Beam Angle Clip	B-Line B3060
Ceiling Flange	B-Line B3199

- 2) Blocking for support of piping shall be not less than 2 inch thick for piping up to 2 inch size. Provide 3 inch blocking for piping up through 5 inch size, and 4 inch blocking for larger piping. Provide support for blocking in accordance with Structural Engineers requirements.
 - 3) Where lag screws are used, length of screw shall be 1/2 inch less than the wood blocking. Pre-drill starter holes for each lag screw.
- b. Steel Structure: Provide and install additional steel bracing as required to suit structure. Provide through bolts with length to suit requirements of the structural components. Burning or welding on any structural member may only be done if approved by the Architect.
7. Rubber Neoprene Pipe Isolators:
- a. Pipe isolators shall comprise an internal rubber or neoprene material that isolates pipe from hanger and structure. Install at all piping located in acoustical walls. Refer to Architectural Drawings for location of acoustical walls.
 - b. Isolation material shall be either a rubber or neoprene material that prevents contact between the pipe and the structure. The rubber shall have between a 45 to 55 durometer rating and a minimum thickness of 1/2 inch.
 - c. Acceptable Suppliers:
 - 1) Vertical runs: Acousto-Plumb or equal.
 - 2) Horizontal runs: B-Line, Vibraclamp; Acousto-Plumb or equal.
8. Provide support for piping through roof, arranged to anchor piping solidly in place at the roof penetration.
9. Provide rigid insulation and a 12 inch long, 18 gauge galvanized sheet iron shield between the covering and the hanger whenever hangers are installed on the outside of the pipe covering.
10. Insulate copper tubing from ferrous materials and hangers with two thicknesses of 3 inch wide, 10 mil polyvinyl tape wrapped around pipe.
11. Provide a support or hanger close to each change of direction of pipe either horizontal or vertical and as near as possible to concentrated loads.
12. Suspend rods from concrete inserts with removable nuts where suspended from concrete decks. Power actuated inserts will not be allowed.

3.10 UNION AND FLANGE INSTALLATION

- A. Install Watts, Epco, Nibco, or equal, dielectric unions or flanges at points of connection between copper or brass piping or material and steel or cast iron pipe or material except in drain, waste, vent, or rainwater piping. Bushings or couplings shall not be used. Dielectric unions installed in potable water systems shall conform to the lead-free requirements of the California Health and Safety Code Section 11 68 75.
- B. Install unions in piping NPS 2" and smaller, and flanges in piping NPS 2-1/2" and larger whether shown or not at each connection to all equipment and tanks, and at all connections to all automatic valves, such as temperature control valves. Unions installed in potable water systems shall conform to the lead-free requirements of the California Health and Safety Code Section 11 68 75.
- C. Locate the unions for easy removal of the equipment, tank, or valve.

3.11 ACCESS DOOR INSTALLATION

- A. Furnish and install access doors wherever required whether shown or not for easy maintenance of mechanical systems; for example, at concealed valves, strainers, traps, cleanouts, dampers, motors,

controls, operating equipment, etc. Access doors shall provide for complete removal and replacement of equipment.

3.12 CONCRETE WORK

- A. Concrete work required for work of this Section shall be included under another section of the Specification, unless otherwise noted, including poured-in-place concrete work for installing precast manholes, catch basins, etc., and shall include reinforced concrete bases for pumps, tanks, compressors, fan units, boilers, unless the work is specifically indicated on the Drawings to be furnished under this Section.
- B. Thrust blocks, underground anchors, and pads for cleanouts, valve access boxes and washer boxes are included under this Section of the Specification. Concrete shall be 3000 psi test minimum. Refer to Division 03 for concrete types.

3.13 PIPE PROTECTION

- A. Wrap bare galvanized and black steel pipe buried in the ground and to 6" above grade, including piping in conduit, with one of the following, or equal:
 - 1. Polyethylene Coating: Pressure sensitive polyethylene coating, "X-Tru-Coat" as manufactured by Pipe Line Service Corporation or "Green Line" wrap as manufactured by Royston Products, or equal.
 - a. Field Joints and Fittings: Protecto Wrap #1170 tape as manufactured by Pipe Line Service Corporation, or Primer #200 tape by Royston Products, or equal. Installation shall be as per manufacturer's recommendation and instructions.
 - 2. Tape Wrap: Pressure-sensitive polyvinyl chloride tape, "Transtex #V-10 or V-20", "Scotchwrap 50", Slipknot 100, PASCO Specialty & Mfg., Inc., or equal, with continuous identification. Tape shall be a minimum of 20 mils thick for fittings and irregular surfaces, two wraps, 50 percent overlap, 40 mils total thickness. Tape shall be laminated with a suitable adhesive; widths as recommended by the manufacturer for the pipe size. Wrap straight lengths of piping with an approved wrapping machine.
- B. Field Joints: Valves and Fittings: double wrap polyvinyl chloride tape as above. Provide at least two thicknesses of tape over the joint and extend a minimum of 4 inches over adjacent pipe covering. Build up with primer to match adjacent covering thickness. Width of tape of fittings shall not exceed 3 inches. Tape shall adhere tightly to all surfaces of the fittings without air pockets.
- C. Testing: Test completed wrap of piping, including all epoxy painted piping with Tinker and Razor Co. test machine (San Gabriel, CA - 818-287-5259), Pipeline Inspection Company (Houston, TX - 713-681-5837), or equal.
- D. Cleaning: Clean all piping thoroughly before wrapping.
 - 1. Inspection: Damaged or defective wraps shall be repaired as directed. No wrapped pipe shall be covered until approved by Architect.
- E. Sleeve copper piping/tubing installed below slab with "Polywrap-C" polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a minimum of 6 mils thick, colored blue for domestic water piping and orange for other piping. Install sleeve per manufacturer's recommendations and instructions.
- F. Sleeve copper piping/tubing installed outside building below grade with "Polywrap-C" polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a

minimum of 6 mils thick, colored blue for domestic water piping. Install sleeve per manufacturer's recommendations and instructions.

- G. Sleeve cast iron and ductile iron pipe below grade and below slab with "Polywrap" polyethylene sleeve, as manufactured by Northtown Pipe Protection Products, or equal. Sleeve shall be a minimum of 8 mils thick, colored natural. Install sleeve per manufacturer's recommendations and instructions.
- H. Covering: No rocks or sharp edges shall be backfilled against the wrap or sleeve. When backfilling with other than sand, protect wrap with an outer wrapping of Kraft paper; leave in place during backfill.

3.14 PIPE IDENTIFICATION

- A. Provide temporary identification of each pipe installed, at the time of installation. Temporary identification shall be removed and replaced with permanent identification as part of the work.
- B. Apply the legend and flow arrow at all valve locations; at all points where the piping enters or leaves a wall, partition, cluster of piping or similar obstruction, at each change of direction and at approximately 20'-0" intervals on pipe runs. Variations or changes in locations and spacing may be made with the approval of the Architect. There shall be at least one marking in each room. Markings shall be located for maximum visibility from expected personnel approach.
 - 1. Apply legend and flow arrow at approximately 10'-0" intervals in science classrooms and science prep rooms.
- C. Wherever two or more pipes run parallel, the markings shall be supplied in the same relative location on each.
- D. Each valve on non-potable water piping shall be labeled with a metal tag stamped "DANGER -- NON-POTABLE WATER" in 1/4 inch high letters.
- E. Apply markings after painting and cleaning of piping and insulation is completed.

3.15 EXPANSION ANCHORS IN HARDENED CONCRETE

- A. Refer to Structural Drawings.
- B. Qualification Tests: The specific anchor shall have a current ICC-ES report and evaluated in cracked concrete in accordance with Acceptance Criteria AC193. If the specific anchor satisfies cyclic testing requirements per Acceptance Criteria AC01, Section 5.6, the full allowable shear and tension loads listed in the current ICC-ES report and manufacturer's recommendations for the specific anchor may be used. Otherwise, the design shear and tension loads shall not be more than 80% of the listed allowable shear and tension loads for the specific anchor.
- C. Installation: The anchors must be installed in accordance with the requirements given in ICC Research Committee Recommendations for the specific anchor.
- D. Testing: Fifty percent of the anchors shall be load-tested on each job to twice the allowable capacity in tension, except that if the design load is less than 75 pounds; only one anchor in ten need be tested. If any anchor fails, all anchors must be tested. The load test shall be performed in the presence of a special inspector.
- E. The load may be applied by any method that will effectively measure the tension in the anchor, such as direct pull with a hydraulic jack, a torque wrench calibrated using the specific anchor or calibrated

spring-loading devices. Anchors in which the torque is used to expand the anchor without applying tension to the bolt may not be verified with a torque wrench.

3.16 PIPING SYSTEM PRESSURE TESTING

A. General:

1. Perform operational tests under simulated or actual service conditions, including one test of complete plumbing installation with fixtures and other appliances connected.
2. Repair leaks and defects with new materials, and retest piping or portion thereof until satisfactory results are obtained.

B. Piping Systems: Test piping systems in accordance with the following requirements and applicable codes:

1. Authority having jurisdiction shall witness tests of piping systems.
2. Notify Architect at least seven days in advance of testing.
3. All piping shall be tested at completion of roughing-in, or at other times as directed by Architect.
4. Furnish necessary materials, test pumps, gases, instruments and labor required for testing.
5. Isolate from system equipment that may be damaged by test pressure.
6. Make connections to existing systems with flanged connection. During testing of new work, provide a slip-plate to restrict test pressure to new systems. Remove plate and make final connection to existing system at completion of testing.

- a. Authority having jurisdiction shall witness final connection to system.

C. Test Schedule: No loss in pressure or visible leaks shall show after four hours at the pressures indicated.

D. Testing of Sanitary Sewer, Drain, Vent, and Storm Drain may be done in segments in order to limit pressure to within manufacturer's recommendations. Test to 10 feet above highest point in the system.

<u>System Tested</u>	<u>Test Pressure PSI</u>	<u>Test With</u>
Natural Gas (PE)	60	Air & Non-corrosive Leak Test Fluid
Natural Gas (Steel)	100	Air & Non-corrosive Leak Test Fluid

1. Flush deionized water lines with deionized water after test and approval.
2. Non-corrosive leak test fluid shall be suitable for use with piping material specified, and with the type of gas conveyed by the piping system.

3.17 TRACER WIRES

- A. Provide tracer wire for non-metallic gas and water pipe in ground outside of buildings. Use AWG #14 tracer wire with low density high molecular weight polyethylene insulation, and lay continuously on pipe so that it is not broken or stressed by backfilling operations. Secure wire to the piping with tape at 18 inch intervals. Solder all joints. Tracer wire insulation shall be colored yellow for gas piping, blue for water piping.

- B. Terminals: Precast concrete box and cast iron locking traffic cover, Brooks 3TL, or equal; cover marked with name of service; 6 inches of loose gravel below box. Plastic terminal board with brass bolts; identify line direction with plastic tags. Test for continuity between terminals, after backfilling, in presence of Inspector.
- C. Alternate: Use electronically detectable plastic tape with metallic core, Terra Tape D, manufactured by Reef Industries, Inc., Seton, Inc., Marking Services, Inc., or equal; tape 2 inches wide, continuously imprinted "CAUTION WATER (GAS, etc.) LINE BELOW". Install, with printed side up, directly over pipe, 18 inches below finish grade. Backfill material shall be as specified for the particular condition where pipe is installed, but avoid use of crushed rock or of earth with particles larger than 1/2 inch within the top 12 inches of backfill. Take precautions to insure that tape is not damaged or misplaced during backfill operations. Terminal boxes not required.

3.18 OPERATION OF SYSTEMS

- A. Do not operate any plumbing equipment for any purpose, temporary or permanent, until all of the following has been completed:
 - 1. Complete all requirements listed under "Check, Test and Start Requirements."
 - 2. Piping has been properly cleaned. Piping systems shall be flushed and treated prior to operation.
 - 3. Filters, strainers etc. are in place.
 - 4. Bearings have been lubricated, and alignment of rotating equipment has been checked.
 - 5. Equipment has been run under observation, and is operating in a satisfactory manner.
- B. Provide test and balance agency with one set of Contract Drawings, Specifications, Addenda, Change orders issued, applicable shop drawings and submittals and temperature control drawings.

3.19 CHECK, TEST AND START REQUIREMENTS

- A. An authorized representative of the equipment manufacturer shall perform check, test and start of each piece of plumbing equipment. The representative may be an employee of the equipment manufacturer, or a manufacturer-certified contractor. Submit written certification from the manufacturer stating that the representative is qualified to perform the check test and start of the equipment.
 - 1. As part of the submittal process, provide a copy of each manufacturer's printed startup form to be used.
 - 2. Some items of specified equipment may require that check, test and start of equipment must be performed by the manufacturer, using manufacturer's employees. See specific equipment Articles in these Specifications for this requirement.
 - 3. Provide all personnel, test instruments, and equipment to properly perform the check, test and start work.
 - 4. When work has been completed, provide copies of reports for review, prior to final observation of work.
- B. Provide copies of the completed check, test and start report of each item of equipment, bound with the Operation and Maintenance Manual.
- C. Upon completion of the work, provide a schedule of planned maintenance for each piece of equipment. Indicate frequency of service, recommended spare parts (including filters and lubricants), and methods for adjustment and alignment of all equipment components. Provide a copy of the schedule with each operating and maintenance manual. Provide a copy of certification from the Owner's representative indicating that they have been properly instructed in maintenance requirements for the equipment installed.

3.20 PRELIMINARY OPERATIONAL REQUIREMENTS AND TESTS

- A. Prior to observation to determine final acceptance, put all mechanical systems into service and check that work required for that purpose has been done, including but not limited to the following condensed check list. Provide indexed report to tabulating the results of all work.
1. All equipment has been started, checked, lubricated and adjusted in accordance with the manufacturer's recommendations.
 2. Correct rotation of motors and ratings of overload heaters are verified.
 3. Specified filters are installed and spare filters have been turned over to Owner.
 4. All manufacturers' certificates of start-up specified have been delivered to the Owner.
 5. All equipment has been cleaned, and damaged painted finishes touched up.
 6. Missing or damaged parts have been replaced.
 7. Flushing and chemical treatment of piping systems has been completed and water treatment equipment, where specified, is in operation.
 8. Equipment labels, pipe marker labels, ceiling markers and valve tags are installed.
 9. Valve tag schedules, corrected control diagrams, sequence of operation lists and start-stop instructions have been posted.
 10. Preliminary test and balance work is complete, and reports have been forwarded for review.
 11. Automatic control set points are as designated and performance of controls checks out to agree with the sequence of operation.
 12. Operation and Maintenance Manuals have been delivered and instructions to the operating personnel have been made.
- B. Prior to the observation to determine final acceptance, operate all mechanical systems as required to demonstrate that the installation and performance of these systems conform to the requirements of these specifications.
1. Operate and test all mechanical equipment and systems for a period of at least five consecutive 8 hour days to demonstrate the satisfactory overall operation of the project as a complete unit.
 2. Commence tests after preliminary balancing and adjustments to equipment have been checked. Immediately before starting tests, install air filters and lubricate all running equipment. Notify the Architect at least seven calendar days in advance of starting the above tests.
 3. During the test period, make final adjustments and balancing of equipment, systems controls, and circuits so that all are placed in first class operating condition.
 4. Where Utility District rebates are applicable, demonstrate that the systems meet the rebate program requirements.
- C. Review of Contractor's Tests:
1. All tests made by the Contractor or manufacturers' representatives are subject to observation and review by the Owner. Provide timely notice prior to start of each test, in order to allow for observation of testing. Upon the completion of all tests, provide a letter to confirm that all testing has been successful.
- D. Test Logs:
1. Maintain test logs listing the tests on all mechanical systems showing dates, items tested, inspectors' names, remarks on success or failure of the tests.
- E. Preliminary Operation:
1. The Owner reserves the right to operate portions of the plumbing system on a preliminary basis without voiding the guarantee.

3.21 CERTIFICATES OF INSTALLATION

- A. Contractor shall complete applicable "Certificates of Installation" forms contained in the California Building Energy Efficiency Standards and submit to the authorities having jurisdiction for approval and issuance of final occupancy permit, as described in the California Energy Code.

3.22 DEMONSTRATION AND TRAINING

- A. An authorized representative of the equipment manufacturer shall train Owner-designated personnel in maintenance and adjustment of equipment. The representative may be an employee of the equipment manufacturer, or a manufacturer-certified contractor. Submit written certification from the manufacturer stating that the representative is qualified to perform the Owner training for the equipment installed.
1. As part of the submittal process, provide a training agenda outlining major topics and time allowed for each topic.
 2. Some items of specified equipment require that training must be performed by the manufacturer, using manufacturer's employees. See specific equipment Articles in these Specifications for this requirement.
 3. Contractor shall provide three copies of certification by Contractor that training has been completed, signed by Owner's representative, for inclusion in Operation and Maintenance Manual. Certificates shall include:
 - a. Listing of Owner-designated personnel completing training, by name and title.
 - b. Name and title of training instructor.
 - c. Date(s) of training.
 - d. List of topics covered in training sessions.
 4. Refer to specific equipment Articles for minimum training period duration for each piece of equipment.

END OF SECTION 22 00 50

SECTION 22 05 53 PLUMBING IDENTIFICATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Nameplates.
- B. Tags.
- C. Stencils.
- D. Pipe Markers.

1.02 RELATED REQUIREMENTS

- A. Refer to the General Conditions, Special Conditions and Division 1 General Requirements. The requirements of these sections apply to this section.
- B. Section 09 90 00 - Paints and Coatings: Identification painting.

1.03 REFERENCE STANDARDS

- A. ASME A13.1 - Scheme for the Identification of Piping Systems; The American Society of Mechanical Engineers; 2007.

1.04 SUBMITTALS

- A. See Section 00 72 00 - Submittals, for submittal procedures.
- B. Chart and Schedule: Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.
- C. Product Data: Provide manufacturers catalog literature for each product required.
- D. Manufacturer's Installation Instructions: Indicate special procedures, and installation.
- E. Project Record Documents: Record actual locations of tagged valves.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Brady Corporation: www.bradycorp.com.
- B. Seton Identification Products: www.seton.com/aec.

2.02 NAMEPLATES

- A. Description: Laminated three-layer plastic with engraved letters.
 - 1. Letter Color: White.
 - 2. Letter Height: Equipment, control panels 1 inch.
 - 3. Letter Height: Thermostats and small control components, 1/4 inch.
 - 4. Background Color: Black.

2.03 TAGS

- A. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch diameter with smooth edges.
- B. Chart: Typewritten letter size list in anodized aluminum frame.

2.04 STENCILS

- A. Stencils: With clean cut symbols and letters of following size:
 - 1. Access Doors and Similar Operational Instructions: Minimum 3/4" high letters.
- B. Stencil Paint: As specified in Section 09 90 00, semi-gloss enamel, colors conforming to ASME A13.1.

2.05 PIPE MARKERS

- A. Comply with ASME A13.1.
- B. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid being conveyed.
- C. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape, minimum 6 inches wide by 4 mil thick, manufactured for direct burial service.
- D. Service Markers: Identify buried plugged or capped pipe with concrete marker, 4 inch diameter by 30 inches long, set flush with grade. Provide engraved brass nameplate identifying pipe stub.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.
- B. Prepare surfaces in accordance with Section 09 90 00 for stencil painting.

3.02 INSTALLATION

- A. Install plastic nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.
- B. Install tags with corrosion resistant chain.
- C. Apply stencil painting in accordance with Section 09 90 00.
- D. Install plastic pipe markers in accordance with manufacturer's instructions.
- E. Install underground plastic pipe markers 6 to 8 inches below finished grade, directly above buried pipe.
- F. Identify domestic hot water heating equipment, including water heaters, pumps, expansion tanks, etc. with plastic nameplates.
- G. Identify control panels and major control components outside panels with plastic nameplates.

- H. Identify valves in main and branch piping with tags.
- I. Tag automatic controls, instruments, and relays. Key to control schematic.
- J. Identify piping, concealed or exposed, with plastic pipe markers. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20 feet (6 m) on straight runs including risers and drops, adjacent to each valve and Tee, at each side of penetration of structure or enclosure, and at each obstruction.
- K. Provide red ceiling dots to locate valves above T-bar type panel ceilings. Locate in corner of T-bar panel closest to equipment..

END OF SECTION 22 05 53

SECTION 22 10 00 PLUMBING PIPING SYSTEMS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Pipe and fittings.
2. Valves.
3. Gas piping specialties.

1.02 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 22 00 50 Basic Plumbing Materials and Methods.

1.03 ACTION SUBMITTALS

- A. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods.
- B. Product Data: Submit manufacturer's technical product data and installation instructions for plumbing piping systems materials and products.

1.04 INFORMATIONAL SUBMITTALS

- A. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods.
- B. Provide welding certificate for all gas pipe welders.
- C. Gas Pipe Installer Qualifications: Provide evidence of current qualifications for individuals performing work requiring qualifications.

1.05 CLOSEOUT SUBMITTALS

- A. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods.
- B. Maintenance Data: Submit maintenance data and parts lists for plumbing piping systems materials and products. Include this data in Operation and Maintenance Manual.

1.06 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish to Owner, with receipt, one valve key for each key operated hydrant, bibb, or faucet installed.

1.07 QUALITY ASSURANCE

- A. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods.
- B. Gas Pipe Installer Qualifications: Individuals performing tasks requiring qualifications under Federal and State regulations shall be qualified by the gas utility supplying Project site. The qualifications shall be current at the time of performing the Work.
- C. NFPA/ANSI Compliance: Fabricate and install natural gas systems in accordance with latest edition of NFPA 54/ANSI Z223.1 "National Fuel Gas Code."

- D. Pipe Welding: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.
- E. Fabricate and install natural gas systems in accordance with California Plumbing Code.
- F. Utility Compliance: Fabricate and install natural gas systems in accordance with local gas utility company requirements.

PART 2 - PRODUCTS

2.01 MATERIALS AND PRODUCTS

- A. Provide piping materials and factory-fabricated piping products of sizes, types, pressure ratings, temperature ratings, and capacities as indicated. Provide materials and products complying with California Plumbing Code. Where more than one type of material or product is indicated, selection from materials or products specified is Contractor's option.

2.02 PIPE AND FITTINGS ATTACHED TO AND BELOW BUILDINGS INCLUDING 5 FEET FROM BUILDINGS

- A. Piping and fittings attached to covered walkways and corridors shall comply with the requirements of this article.
- B. Gas Pipe: Schedule 40 black steel conforming to ASTM A53, with malleable iron threaded fittings above grade for piping 2 inch and smaller; welded piping below grade and for above grade piping larger than 2 inches, with Class 150 welding fittings.

1. Appliance Flexible Connectors for Indoor Equipment Without External Spring Isolation:

a. Contractor may choose one of the following:

- 1) Direct gas pipe connection.
- 2) Appliance flexible connector:
 - a) Comply with ANSI Z21.24.
 - b) Polymer or hot-dipped PVC coated corrugated 304 stainless steel.
 - c) Operating-Pressure Rating: 0.5 psig.
 - d) End Fittings: Zinc-coated steel.
 - e) Maximum Length: 30 inches.
 - f) Manufacturers: Dormont, Series 30C, 31, 40C, 41, and 51, Brasscraft model ProCoat, or equal.

- b. Provide with end connections compatible with equipment and piping system.
- c. Equipment located in spaces normally accessible to building occupants, other than maintenance personnel, shall utilize direct gas pipe connection.
- d. Provide anti-microbial PVC coating for use with appliances located in kitchen areas.

2. Flexible Gas Connector for Outdoor Equipment Without External Spring Isolation:

a. Contractor may choose one of the following:

- 1) Direct gas pipe connection.
- 2) Corrugated stainless steel hose with 304 stainless steel braid covering, CSA certified. Metraflex model GASCT, Unisource Manufacturing series 400, or equal. Provide with end connections compatible with equipment and piping system.

3. Flexible Gas Connector for Equipment with External Spring Isolation, Indoors and Outdoors:
 - a. Where Drawings indicate installation of mechanical equipment on spring isolation rails spring mounted curbs, or spring hangers, provide metal flexible connectors, Metraflex Metraloop, or equal by Unisource Mfg. Co., or Flexicraft Industries, CSA certified for 4 inches of movement in all directions.
4. Flexible Gas Connection System for Movable Gas-Fired Cooking Equipment:
 - a. System shall include flexible PVC coated braided stainless steel hose, quick disconnect fitting, full port CSA certified ball valve, 2 swivel elbows, coiled steel restraining cable and mounting hardware. Assembly shall be certified per ANSI Z21.69/CSA 6.16, "Connectors for Movable Gas Appliances." Size as required for appliance connection, 48" minimum hose length. Install per manufacturer's instructions. Connectors shall be Dormont Safety System, T&S Safe-T-Link, or equal.

2.03 SITE PIPING AND FITTINGS TO 5 FEET FROM BUILDINGS

- A. Buried Drain, Waste, and Vent Piping:
- B. Gas Piping Underground: Performance Pipe, "DriscoPlex" 6500 PE 2708 (yellow), Polypipe, Inc., "Polypipe", or equal, polyethylene gas distribution pipe, ASTM D2513, ASTM D3261, and ASTM D2683 fittings with fusion welded joints. Provide piping labeled for natural gas in accordance with CPC.
 1. Electrically isolate underground ferrous gas piping from the rest of the gas system with listed or approved isolation fittings installed a minimum of six inches above grade.
 2. Provide Central Plastics Corp., Perfection, or equal, anodeless, single seal riser for transition from below grade polyethylene to schedule 40 steel piping above grade. Minimum horizontal length shall be 30 inches. Minimum vertical length shall be 30 inches, or greater as required. Provide fusion connection to polyethylene pipe below grade, and screwed connection to steel pipe above grade.
- C. Gas Piping Aboveground to 30 inches Belowground: Schedule 40 black steel with beveled ends for welding, with Class 150 welding fittings. Mitering to form elbows or tees will not be permitted; where branch tee connections of welded piping are required, Bonney "Weldolet" Allied Pipe Fittings, or equal fittings may be used if the branch is one-half of the diameter of the main or less.

2.04 PIPE JOINING MATERIALS

- A. Refer to piping Articles in this Section for special joining materials not listed below.
- B. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
 1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch (3.2-mm) maximum thickness unless thickness or specific material is indicated
 - a. Full-Face Type: For flat-face, Class 125, cast iron and cast bronze flanges.
 - b. Narrow-Face Type: For raised-face, Class 250, cast iron and steel flanges.
 2. AWWA C111, rubber, flat face, 1/8-inch (3.2mm) thick, unless otherwise indicated; and full-face or ring type, unless other indicated.
 3. Flange Bolts and Nuts: AWWA C111, carbon steel, unless otherwise indicated.

4. Plastic, Pipe-Flange Gasket, Bolts and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.
- C. Solder Filler Metals: ASTM B 32, 100 percent lead free alloys. Include water-flushable flux according to ASTM B813.
- D. Brazing Filler Metals: AWS A5.8, BCup-5 Series, copper-phosphorus unless otherwise indicated. Sil-Fos 15, or equal.
- E. Welding Filler Metals: Comply with ASME B31.1 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.
- F. Solvent Cements for Joining CPVC Piping: ASTM F 493.
 1. CPVC solvent cement shall have VOC content of 490 g/L or less.
 2. Adhesive primer shall have VOC content of 550 g/L or less.
 3. Solvent cement and adhesive primer shall comply with testing and product requirements of South Coast Air Quality Management District, Rule 1168.
- G. Solvent Cements for Joining PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.
 1. PVC solvent cement shall have VOC content of 510 g/L or less.
 2. Adhesive primer shall have VOC content of 550 g/L or less.
 3. Solvent cement and adhesive primer shall comply with testing and product requirements of South Coast Air Quality Management District, Rule 1168.
- H. Building Gas Shut-Off Valves:
 1. 2 inches and smaller: Provide 175 psi SWP ball valve, CSA listed, full port, lockwing type, with AGA painted grey finish. Jomar 175-LWN, or equal.
 2. Above 2 inches: Provide ReSun D-126, Key Port, or equal, lubricated plug cock, CSA listed, rectangular port, full pipe area, 125 psi SWP, flanged ends. Provide T-Handle socket wrench and adapter fittings as required for operation of valves. Provide one package of spare lubricant sticks, sizes as required for valve sizes. Lubricant shall be the product recommended by valve manufacturer for use with type of gas conveyed by the piping system.
 3. Provide valves same size as upstream piping. Make any reduction in size of gas piping downstream of shutoff valves.
- I. Gas Shut-off Valve Above Grade:
 1. 2 inches and smaller: Provide Milwaukee BB2-100, Jomar T-100NE, or equal, ball valve, CSA listed, full port.
 2. Above 2 inches: Provide ReSun D-126, Key Port, or equal, CSA listed, rectangular port, full pipe area, 125 psi SWP, flanged ends. Provide T-Handle socket wrench and adapter fittings as required for operation of valves. Provide one package of spare lubricant sticks, sizes as required for valve sizes. Lubricant shall be the product recommended by valve manufacturer for use with type of gas conveyed by the piping system.
 3. Provide valves same size as upstream piping. Make any reduction in size of gas piping downstream of shutoff valves.
- J. For Gas Service Below Grade:
 1. Lubricated plug cocks: ReSun Model D-126, Key Port, or equal, lubricated plug cock, CSA listed, rectangular port, full pipe area, 125 psi SWP, flanged ends. Provide extended lubrication stem, arranged to allow for lubrication of the valve from grade. The extension must be constructed to

allow for lubrication of the valve and for operation of the valve from grade. Provide T-Handle socket wrench and adapter fittings as required for operation of valves. Provide one package of spare lubricant sticks, sizes as required for valve sizes. Lubricant shall be the product recommended by valve manufacturer for use with type of gas conveyed by the piping system.

- a. Provide flanged ends on valves installed below grade. Connect to polyethylene piping with flanges and stainless steel bolts.
 - b. Anchor each valve flange to valve box with welded angle iron, or provide vertical stiff leg, minimum 18 inches into earth.
 - c. Provide Central Double O Seal Transition Fittings, or equal, flanged style for connection between valve and piping system.
 - d. Wrap valve, flanges and exposed pipe with PASCO Specialty & Mfg., Inc., or equal tape wrap, installed in accordance with requirements listed under "Pipe Protection".
2. Molded polyethylene body ball valves: Nordstrom Valves - Polyvalve II for sizes 1-1/4 inches to 2 inches, and Polyvalve for sizes 2 inches and larger, or equal. Valves 1 inch and smaller shall be listed lubricated plug cocks, with transition fittings..
- a. Provide stub ends to match SDR of the piping, arranged for butt fusion welding. Provide valve body material to suit the adjacent piping system.
 - b. Provide wrench to suit the valve operator.
- K. Seismic Gas Shut-Off Valves: Certified by State of California and compliant with ASCE 25. Provide standard or high pressure model as required to match site gas pressure. Provide unit arrangement per Drawings schedule and details.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- a. Little Firefighter Corporation, models NAGV, VAGV, and AGV.
 - b. Seismic Safety Products, LLC, Northridge series.

2.05 GAS PIPING SPECIALTIES

A. Gas Pressure Regulating Valves:

- 1. Provide single-stage, spring-loaded, corrosion-resistant gas pressure regulators, with die-cast aluminum or cast iron body, complying with ANSI Z21.80. Unit shall be with atmospheric vent, internal relief overpressure protection, threaded ends for 2 inches and smaller, flanged ends for 2-1/2 inches and larger. For inlet and outlet gas pressures, specific gravity, and volume flow refer to Drawings schedule.
- 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include the following, or equal:

<u>Size</u>	<u>Manufacturer/Model</u>
1/2 inch	Elster (American, Singer) model 1213B Itron (Actaris, Slumberger, Sprague) model B42R.
3/4 thru 1-1/4inches	Elster (American, Singer) model 1813C Sensus (Ivensys, Equimeter, Rockwell) model 143-80-12 Itron (Actaris, Slumberger, Sprague) models

	B42R, B57R, B58R
1-1/2 thru 2 inches	Elster (American, Singer) models 1813, 1813B Sensus (Ivensys, Equimeter, Rockwell) model 243 Itron (Actaris, Slumberger, Sprague) models B43SR, B34R, B38R

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine areas and conditions under which plumbing piping systems are to be installed. Do not proceed with Work until unsatisfactory conditions have been corrected in manner acceptable to Contractor.
- B. Make all arrangements for the utilities required. Pay all costs involved in obtaining the services including gas service and meter, water meter, pressure reducing valve, access boxes, street work. Connect to site utilities. Verify the location of all services. No extra cost will be allowed if services are not as shown.
- C. Determine sanitary sewer and storm drain location and elevation at all points of connection before installing any piping. Notify Architect immediately if indicated grades cannot be maintained.
- D. At time of final connection, and prior to opening valve to allow pressurization of water and gas piping from existing systems, on site or off site, perform a pressure test to indicate static pressure of existing systems. If pressure on water piping is greater than 80 psi, or gas pressure is not as indicated on Contract Documents, inform Architect immediately. Do not allow piping systems to be pressurized without written consent of the Architect.

3.02 INSTALLATION OF NATURAL GAS PIPING

- A. Install natural gas piping in accordance with Division 22 Basic Plumbing Materials and Methods sections.
- B. Use sealants on metal gas piping threads that are chemically resistant to natural gas. Use sealants sparingly, and apply to only male threads of metal joints.
- C. Remove cutting and threading burrs before assembling piping.
- D. Do not install defective piping or fittings. Do not use pipe with threads that are chipped, stripped, or damaged.
- E. Plug each gas outlet, including valves, with threaded plug or cap immediately after installation and retain until continuing piping or equipment connections are completed.
- F. Ground gas piping electrically and continuously within project, and bond tightly to grounding connection.
- G. Install drip-legs in gas piping where indicated and where required by code or regulation.
 - 1. Install "Tee" fitting with bottom outlet plugged or capped at bottom of pipe risers.

2. Where gas supply is connected to equipment with flexible connectors, install drip-leg in piping on downstream side of flexible connector, and install shut off valve on piping on upstream side of flexible connector.
- H. Install piping with 1/64 inch per foot (1/8 percent) downward slope in direction of flow.
 - I. Install piping parallel to other piping.
 - J. Paint all gas piping installed in exposed exterior locations. For additional requirements, refer to Section 22 00 50, Basic Plumbing Materials and Methods, article, Painting.
 - K. Provide shutoff valve downstream of meter.
 - L. Provide exterior shutoff valve at each building. Provide sign affixed to wall at valve location reading: "Gas Shut-Off." Size and location of the sign shall be as required by the Authority Having Jurisdiction. Where gas piping enters a building in more than one location, exterior shutoff valves shall have a permanently attached metal tag identifying the area served by that valve, in addition to sign on wall.
 - M. Provide watertight Schedule 40 PVC conduit to protect gas piping installed below covered walk, covered driveways, and where noted on Drawings. Extend sleeve at least 12 inches beyond any area where it is required to be installed, and terminate with valve box extended to grade, and marked "GAS".
 - N. Maintain minimum of 12 inch clearance between gas piping and steam piping above 200 degrees F.

3.03 PIPE JOINTS AND CONNECTIONS

A. General:

1. Cutting: Cut pipe and tubing square, remove rough edges or burrs. Bevel plain ends of steel pipe.
2. Remove scale, slag, dirt and debris from inside and outside of pipe before assembly.
3. Boss or saddle type fittings or mechanically extracted tube joints will not be allowed.

B. Threaded Pipe: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply thread compound to external pipe threads: Rectorseal No. 5, Permatex No. 1, or equal.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

C. Flanged Joints: Select appropriate asbestos-free, nonmetallic gasket material in size, type, and thickness suitable for domestic water service. Join flanges with gasket and bolts according to ASME B31.9.

D. Joint Construction for Solvent-Cemented Plastic Piping: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements. Apply primer.
2. CPVC Piping: Join according to ASTM D 2846/D 2846M Appendix.
3. PVC Piping: Join according to ASTM D 2855.

E. Welded Pipe:

1. Make up with oxyacetylene or electric arc process.
2. All line welds shall be of the single "V" butt type. Welds for flanges shall be of the fillet type.

3. Where the branch is two pipe sizes smaller than the main or smaller, Bonney Weldolets, Threadolets, Nibco, or equal, may be used in lieu of welding tees.
- F. Polyethylene and Polypropylene Pipe: Assemble with fusion joints in strict accordance with manufacturer's instructions.
- G. Flexible Connections:
1. Furnish and install Thermo Tech., Inc. F/J/R, Metraflex, or equal, flexible couplings with limiter bolts on piping connections to all equipment mounted on anti-vibration bases, on each connection to each base mounted pump and where shown. Couplings shall be suitable for pressure and type of service.
 2. Anchor piping securely on the system side of each flexible connection.

3.04 INSTALLATION OF VALVES

A. General:

1. Valves shall be full line size unless indicated otherwise on Drawings.
2. Install horizontal valves with valve stem above horizontal, except butterfly valves.
3. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
4. Locate valves for easy access and provide separate support where necessary.
5. Install valves in position to allow full stem movement.
6. Install exposed polished or enameled connections with special care showing no tool marks or exposed threads.
7. Butterfly valves conforming to the paragraph "Butterfly Valves" may be used in lieu of gate or globe valves for locations above grade.
8. Ball valves conforming to the paragraph "Ball Valves" may be used in lieu of gate valves for locations above grade for services 2-1/2 inches and smaller.
9. Valves 2-1/2 inches and smaller (except ball valves) in nonferrous water piping systems may be solder joint type with bronze body and trim.
10. Rigidly fasten hose bibbs, hydrants, fixture stops, compressed air outlets, and similar items to the building construction.

B. Gas Shut-Off Valves:

1. Provide line size ball valve in gas line to each appliance.
2. Provide line size ball valve in gas line, to be used as emergency shut-off for science classrooms. Install valve in locking box where indicated on the drawings.
3. Provide line size electric solenoid gas valve in gas line to kitchen equipment (if not supplied with appliance) under Type 1 hood. Interlock with hood fire alarm system.

- C. Valve Adjustment: Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.05 INSTALLATION OF GAS PRESSURE REGULATING VALVES

- A. Install as indicated; comply with utility requirements. In locations where regulators are installed in confined spaces, pipe atmospheric vent to outdoors, full size of outlet. Install gas shutoff valve upstream and downstream of each pressure-regulating valve.

3.06 GAS PIPING EQUIPMENT CONNECTIONS

- A. Connect gas piping to each gas-fired equipment item, with union, drip leg and shutoff gas cock full size of supply line shown. Reduce only at connection to equipment. Comply with equipment manufacturer's instructions.
 - 1. Route gas vent and gas relief to outside.
 - 2. Gas shutoff valve shall be placed as close as possible to equipment in a location where it can be serviced. Distance from equipment to valve shall not exceed 6 feet.

3.07 CARE AND CLEANING

- A. Repair or replace broken, damaged, or otherwise defective parts, materials, and work. Leave entire work in condition satisfactory to Architect. At completion, carefully clean and adjust equipment, fixtures, and trim that are installed as part of this work. Remove labels from stainless steel sinks, except 316 stainless steel sink labels should be retained to confirm that the correct material has been provided. Leave systems and equipment in satisfactory operating condition.

3.08 OPERATIONAL TESTS

- A. Test each piece of equipment to show that it will operate in accordance with indicated requirements.

3.09 TESTING AND BALANCING

- A. See Section 23 05 93 of Specifications for testing and balancing requirements.

3.10 CLEANING UP

- A. Upon completion of Work remove materials, equipment, apparatus, tools, and the like, and leave premises clean, neat, and orderly.

END OF SECTION 22 10 00

SECTION 26 05 00 - COMMON WORK RESULTS FOR ELECTRICAL

CONDITIONS OF THE CONTRACT AND DIVISION 01, as applicable, apply to this Section.

PART 1 GENERAL

1.1 SUMMARY

- A. Provide all work for electrical systems required in the project to be properly installed, tested, and performing their intended function.

1.2 QUALITY ASSURANCE

- A. Perform all work in accordance with the latest edition of the California Electrical Code, and local codes.
- B. All electrical materials and distribution, and utilization equipment shall be UL Listed.
- C. All equipment and materials shall be new and unused and of United States Domestic manufacture unless approved otherwise by engineer or owner.
- D. Eliminate any abnormal sources of noise that are considered by the architect not to be an inherent part of the electrical systems as designed.

1.3 COORDINATION WITH OTHER TRADES

- A. Coordinate the work of this division with all other divisions to ensure that all components of the electrical system will be installed at the proper time and fit the available space.
- B. Locate and size all openings in work of other trades required for the proper installation of the electrical system components.
- C. Make all electrical connections to all equipment furnished by this division and any other division.
- D. Make all electrical connections from all 120 volt and greater dampers and switches to associated exhaust fan(s) furnished by any other division.

1.4 DRAWINGS

- A. The drawings are schematic in nature but show the various components of the systems approximately to scale and attempt to indicate how they are to be integrated with other parts of the building. Determine exact locations by review of equipment manufacturer's data, by job site measurements, by checking the requirements of other trades, and by reviewing all Contract Documents. The size of the electrical equipment indicated on the Drawings may be based on the dimensions of a particular manufacturer. While other listed manufacturers will be acceptable, it is the responsibility of the Contractor to determine if the equipment that Contractor proposes to furnish will fit in the space. The drawings are not intended to show exact locations of conduit and wire, or to indicate all wire terminators, connectors, conduit fittings, boxes or supports, but rather to indicate distribution, circuitry, and control.
- B. The Electrical Drawings are necessarily diagrammatic in character and cannot show every connection in detail or conduit in its exact location. These details are subject to the requirements of ordinances and also structural and architectural conditions. The Contractor

shall carefully investigate structural and finish conditions and shall coordinate the separate trades in order to avoid interference between the various phases of work. Work shall be laid out so that it will be concealed in furred chases and suspended ceilings, etc., in finished portions of the building, unless specifically noted to be exposed. Work shall be installed to avoid crippling of structural members. All exposed work shall be installed parallel or perpendicular to the lines of the building unless otherwise noted.

- C. When the mechanical and electrical Drawings do not give exact details as to the elevation of pipe, conduit, and ducts, physically arrange the systems to fit in the space available at the elevations intended with the proper grades for the functioning of the system involved. Exposed conduit is generally intended to be installed true and square to the building construction and located as high as possible against the structure in a neat and workmanlike manner. The Drawings do not show all required offsets and their location details. Work shall be concealed in all finished areas.

1.5 SUBMITTALS

- A. Specification Review:
 - 1. Include a paragraph-by-paragraph written specification review for each product listed requiring a submittal. Denote any proposed deviations from specifications.

1.6 EXISTING CONDITIONS

- A. Do all work required to maintain electrical services to the Owner occupied portions of the building during construction.
- B. No connection to existing services or utilities shall be made without Owner's knowledge and permission. All such connections shall be planned and scheduled to minimize the length of service interruption required. Request for shutdown shall be made to Owner at least two (2) weeks in advance and shall be accompanied by detailed written schedule of activities during shutdown and list of materials required for connection and renewal of service. It shall be understood that all such service interruptions shall be made at the Owner's convenience, not the Contractor's. No increase in contract amount will be allowed for reasons of premium time, inefficiency of operations or other considerations not calculated in original bid.
- C. All items removed shall be stored on-site. Schedule a review of the items with the Owner. Remove from site all items the Owner does not choose to keep. Deliver Owner designated items to Owner's storage facility.

1.7 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.

PART 2 EXECUTION

2.1 EXISTING WORK

- A. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.

- B. Provide temporary wiring and connections to maintain existing systems in service during construction.
- C. When performing work on energized equipment or circuits, use personnel experienced and trained in similar operations.
- D. Remove, relocate, and extend existing installations to accommodate new construction.
- E. Repair adjacent construction and finishes damaged during demolition and extension work.

2.2 OWNER INSTRUCTION

- A. Provide on-site Owner training for all new equipment.
- B. Use Operation and Maintenance manuals and actual equipment installed as basis for instruction.
- C. At conclusion of on-site training program have Owner personnel sign written certification they have completed training and understand equipment operation. Include copy of training certificates in final Operation and Maintenance manual submission.
- D. Supply record drawings to the district in PDF and the latest version of AutoCAD.

END OF SECTION 26 05 00

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes:
 - 1. Wires and cables rated for 600 volts or less.
 - 2. Connectors, splices, and terminations rated for 600 volts or less.
 - 3. Lugs and pads rated for 600 volts or less.
- B. System Description:
 - 1. Provide wires, cables, connectors, lugs, strain reliefs, racking insulators for a complete and operational electrical system.
- C. Reference Standards:
 - 1. California Electrical Code (CEC) based on NFPA 70 (NEC). California Code of Regulations, Title 24, Part 3.
 - 2. National Electrical Manufacturers Association (NEMA):
 - a. WC 70 Power Cables Rated 2,000 V or Less for the Distribution of Electrical Energy.
 - 3. National Electrical Testing Association (NETA):
 - a. ATS Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
 - 4. Underwriters Laboratories, Inc. (UL):
 - a. 83 UL Standard for Safety Thermoplastic-Insulated Wires and Cables.
 - b. 486 Standard for Wire Connectors.
 - 5. American Society for Testing and Materials (ASTM):
 - a. B1 Standard Specification for Hard-Drawn Copper Wire.
 - b. B3 Standard Specification for Soft or Annealed Copper Wire.
 - c. B8 Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.

1.3 SUBMITTALS

- A. Provide product data for the following equipment:
 - 1. Wires.
 - 2. Cables.
 - 3. Connectors.
 - 4. Lugs.
 - 5. Splice Kits.
- B. Provide the insulation cable testing report in the project closeout documentation, refer to Closeout Requirements in the General Conditions portion of this specification.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Confirm to requirements of the CEC, latest adopted version with amendments by local

- Authority Having Jurisdiction (AHJ).
2. Furnish products listed by UL or other testing firm acceptable to AHJ.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Wires and Cables:
 1. Southwire Company
 2. Encore Wire Corporation
 3. Cerro Wire and Cable Co.
 4. General Cable Corp.; a brand of Prysmian Group
 5. Okonite Co.
 6. Alan Wire
 7. LS Cable and System USA
 8. American Wire and Cable

- B. Connectors:
 1. FCI Burndy Corp.
 2. Cooper Crouse Hinds.
 3. O.Z./ Gedney Co.
 4. Thomas & Betts Co.
 5. 3-M Co.
 6. Ideal Industries Co.
 7. Polaris Electrical Connectors
 8. ILSCO

- C. Wire connectors shall be minimum 75 degree centigrade rated and properly sized for the number of conductors being connected, terminated, spliced etc. All above grade connectors shall be solderless lug or plastic wire nut type, screw on, pressure cable type (wire nut or spring nut type), 600 Volt, 105-degree C, with skirt to cover all portions of stripped wires. Connector shall be U.L. rated for number and size of conductors being joined together as a splice.

- D. Splices:
 1. Branch Circuit Splices: Ideal, Scotch-Lock, 3M, or approved.
 2. Feeder Splices: Compression barrel splice with two layers Scotch 23 and four layers of Scotch 33+ as vapor barrier.
 3. Screw Terminal Lugs.
 4. Kearney Split Bolt.

2.2 WIRES AND CABLES FOR LINE VOLTAGE SYSTEM AND CONTROLS.

- A. Wire and Cable Shall Be:
 1. Copper, 600 volt rated throughout. Conductors 12AWG to 10AWG, solid or stranded. Conductors 8AWG and larger, stranded.
 2. Phase color to be consistent at all feeder terminations; A-B-C, top to bottom, left to right, front to back. Phasing tape shall be permitted on sizes #6 and larger.

- B. Each phase wire shall be uniquely color-coded as indicated below:
 1. 120/ 240 Volts
Phase A – Black
Phase B – Red
Neutral – White
Ground – Green

2. 120/ 208 Volts
Phase A – Black
Phase B – Red
Phase C – Blue
Neutral – White
Ground – Green
 3. 277/ 480 Volts
Phase A – Brown
Phase B – Orange
Phase C – Yellow
Neutral – White or Natural Gray
Ground – Green
 4. Isolated Grounds: Green with Yellow Stripes
- C. All conductors shall be copper unless otherwise noted. Minimum size for individual conductors shall be #12 AWG unless otherwise noted. Sizes #8 AWG and larger shall be stranded conductor. Individual conductors shall be insulated with type, XHHW, THW, THHN/ THWN 600- volt insulation unless otherwise noted. Control, signal, communication conductors shall be as dictated by the vendor of that equipment or as specified here-in. Proper insulation type shall be used for the proper environmental application (i.e., waterproof, wet location, plenum, temperature rated). If a condition exists where the application is uncertain, contact the Engineer for direction. Contractor is responsible to follow specific cabling requirements described in other sections of this specification relative to various communications and controls systems as well as the respective riser diagrams shown on plans. If a discrepancy occurs, communicate such discrepancy to the Architect and Engineer immediately for resolution.
- D. Insulation types THWN, THHN or XHHW. Minimum insulation rating of 90C for branch circuits.
- E. Refer to signal and communications specification sections for cable requirements.

2.3 CONNECTORS

- A. Copper Pads: Drilled and tapped for multiple conductor terminals.
- B. Lugs: Indent/ compression type for use with stranded branch circuit or control conductors.
- C. Solid Conductor Branch Circuits: Spring connectors, wire nuts, for conductors 12 through 8AWG.

2.4 LUGS AND PADS

- A. Ampacity: Cross-sectional area of pad for multiple conductor terminations to match ampere rating of panelboard bus or equipment line terminals.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Installation: Conductors shall not be installed until after conduit systems are permanently in place. Use an approved non-hardening type wire pulling lubricant if lubricant is to be used. Maintain all conduits and wire pulls free from foreign material. If due to field conditions, more than a total of 300 degrees of bend are required; a pull box shall be furnished and installed for ease of installation. Said pull boxes must be sized and rated for the appropriate

application and must remain easily accessible upon completion of the project (approval of the location shall be obtained from the Architect prior to installation). Show these pullboxes on the field record drawings. Conductors installed in underground raceways on site shall be duct sealed and taped where they exit the raceway to prevent the entrance of foreign material and moisture after the conductors are installed. Proper drainage shall be provided for underground pull and splice boxes.

- B. Insulation: Use proper insulation types where temperature and environment are a factor.
- C. Labeling: All conductors in panels, switchboards, terminal cabinets, vaults, pull boxes, and junction boxes shall be labeled with tape number markers indicating circuit number and identifying system. All labeling shall be permanent. See Section 26 05 53: Identification of Electrical Systems.
- D. All conductors, wiring, cable where installed below floor, slab or underground shall be considered wet locations, and shall be rated accordingly. Non-waterproof cabling is not allowed in any below grade or wet application.
- E. Cables routed together in cable tray shall be stacked, organized and tie wrapped together in a neat and workman like manner. Random cable routing is not acceptable.
- F. Cable and conductors routed through pull boxes and vaults shall be properly supported. Bend radius of cable or conductor shall not be less than six times the overall cable diameter.
- G. Wires and Cables:
 - 1. Conductor Installation:
 - a. Install conductors in raceways having adequate, code size cross-sectional area for wires indicated.
 - b. Install conductors with care to avoid damage to insulation.
 - c. Do not apply greater tension on conductors than recommended by manufacturer during installation.
 - d. Use of pulling compounds is permitted. Clean residue from exposed conductors and raceway entrances after conductor installation.
 - 2. Conductor Size and Quantity:
 - a. Install no conductors smaller than 12AWG unless otherwise shown (e.g. – Fire alarm and communications systems, as defined in their respective specifications sections and/ or drawings).
 - b. Provide all required conductors for a fully operable system.
 - 3. Provide dedicated neutrals (one neutral conductor for each phase conductor). Exceptions may only be granted with Electrical Engineer approval.
 - 4. Conductors in Cabinets:
 - a. Cable and train all wires in panels and cabinets for power and control neatly and uniformly. Use plastic ties in panels and cabinets.
 - b. Tie and bundle feeder conductors in wireways of panelboards.
 - c. Hold conductors away from sharp metal edges.

3.2 FIELD QUALITY CONTROL

- A. Field inspection and test shall be performed under provisions of NETA ATS section 7.3 (2) - Low Voltage Cables, 600-Volt Maximum as follows:
 - 1. Visual and Mechanical Inspection:
 - a. Compare cable data with drawings and specifications.
 - b. Inspect exposed sections of cable for physical damage and correct connection in accordance with single-line diagram.
 - c. Inspect all bolted electrical connections for high resistance using one of the following methods:

- 1) Use of low-resistance ohm-meter in accordance with NETA section 7.3.2.2 (Electrical Tests).
- 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data from NETA ATS Table 10.12.
- d. Inspect compression-applied connectors for correct cable match and indentation.
- e. Verify cable color coding with applicable specifications and CEC.
2. Electrical Tests
 - a. Perform insulation-resistance test on each conductor with respect to ground and adjacent conductors. Applied potential shall be 500 volts dc for 300 volt rated cable and 1000 volts dc for 600 volt rated cable. Test duration shall be one minute.
 - b. Perform resistance measurements through all bolted connections with low-resistance ohmmeter, if applicable, in accordance with Section 7.3.2.1 (Visual and Mechanical Inspection).
 - c. Perform continuity test to insure correct cable connection.
 - d. Correct malfunctions and/ or deficiencies immediately as detected at no additional cost to the District, including additional verification testing.
 - e. Subsequent to final wire and cable terminations, energize all circuitry and demonstrate functional adequacy in accordance with system requirements.
3. Test Values
 - a. Compare bolted connection resistance to values of similar connections.
 - b. Bolt-torque levels should be in accordance with NETA ATS Table 10.12 unless otherwise specified by the manufacturer.
 - c. Micro-ohm or milli-volt drop values shall not exceed the high levels of the normal range as indicated in the manufacturer's published data. If manufacturer's data is not available, investigate any values which deviate from similar connections by more than 50 percent of the lowest value.
 - d. Minimum insulation-resistance values should not be less than 50 meg-ohms.
 - e. Investigate deviations between adjacent phases.

END OF SECTION 26 05 19

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section Includes:
 - 1. Grounding and bonding requirements of electrical installations for personnel safety and to provide a low impedance path for possible ground fault currents as described in CEC Article 250.
 - 2. "Grounding electrode system" refers to all electrodes required by CEC, as well as including made, supplementary, lightning protection system and telecommunications system grounding electrodes.
 - 3. The terms "connect" and "bond" are used interchangeably in this specification and have the same meaning.
- B. Related Sections:
 - 1. Section 26 05 00: Common Work Results for Electrical.
 - 2. Section 26 05 19: Low-Voltage Electrical Power Conductors and Cables.
- C. Reference Standards:
 - 1. California Electrical Code (CEC) based on NFPA 70. California Code of Regulations, Title 24, Part 3.
 - 2. Institute of Electrical and Electronics Engineers (IEEE):
 - a. 81 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System.
 - b. 142 Recommended Practice for Grounding of Industrial and Commercial Power Systems.
 - c. 1100 Recommended Practice for Powering and Grounding Electronic Equipment
 - 3. National Electrical Testing Association (NETA):
 - a. ATS Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems
 - 4. Underwriters Laboratories, Inc. (UL):
 - a. 83 UL Standard for Safety Thermoplastic-Insulated Wires and Cables.
 - b. 467 Grounding and Bonding Equipment.
 - 5. American Society for Testing and Materials (ASTM):
 - a. B1 Standard Specification for Hard-Drawn Copper Wire.
 - b. B3 Standard Specification for Soft or Annealed Copper Wire.
 - c. B8 Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.

PART 2 PRODUCTS

2.1 GROUNDING AND BONDING CONDUCTORS

- A. Equipment grounding conductors shall be UL 83 insulated stranded copper, except that sizes No. 10 AWG and smaller shall be solid copper. Insulation color shall be continuous green for all equipment grounding conductors, except that wire sizes No. 4 AWG and larger shall be permitted to be identified per CEC.

- B. Bonding conductors shall be ASTM B8 bare stranded copper, except that sizes No. 10 AWG and smaller shall be ASTM B1 solid bare copper wire.
- C. Conductor sizes shall not be less than what is shown on the drawings and not less than required by the CEC, whichever is greater.

2.2 SPLICES AND TERMINATION COMPONENTS

- A. Components shall meet or exceed UL 467 and be clearly marked with the manufacturer, catalog number, and permitted conductor size(s).

PART 3 EXECUTION

3.1 GENERAL

- A. Ground in accordance with the CEC, as shown on drawings, and as hereinafter specified.
- B. System Grounding:
 - 1. Secondary service neutrals: Ground at the supply side of the secondary disconnecting means and at the related transformers.
 - 2. Separately derived systems (transformers downstream from the service entrance): Ground the secondary neutral.
- C. Equipment Grounding: Metallic structures (including ductwork and building steel), enclosures, fire sprinklers, plumbing piping, raceways, junction boxes, outlet boxes, cabinets, machine frames, and other conductive items in close proximity with electrical circuits shall be bonded and grounded.

3.2 INACCESSIBLE GROUNDING CONNECTIONS

- A. Make grounding connections which are buried or otherwise normally inaccessible (except connections for which periodic testing access is required) by exothermic weld.

3.3 SECONDARY EQUIPMENT AND CIRCUITS

- A. Main Bonding Jumper: Bond the secondary service neutral to the ground bus in the service equipment.
- B. Metallic Piping, Building Steel, and Supplemental Electrode(s):
 - 1. Provide a grounding electrode conductor sized per CEC between the service equipment ground bus and all metallic water and gas pipe systems, building steel, and supplemental or made electrodes. Jumper insulating joints in the metallic piping. All connections to electrodes shall be made with fittings that conform to UL 467.
 - 2. Provide a supplemental ground electrode and bond to the grounding electrode system.
- C. Service Disconnect: Provide a ground bar bolted to the enclosure with lugs for connecting the various grounding conductors.
- D. Switchgear, Switchboards, and Motor Control Centers:
 - 1. Connect the various feeder equipment grounding conductors to the ground bus in the enclosure with suitable pressure connectors.
 - 2. For service entrance equipment, connect the grounding electrode conductor to the ground bus.
 - 3. Connect metallic conduits, which terminate without mechanical connection to the housing, by grounding bushings and grounding conductor to the equipment ground

bus.

- E. Transformers:
 - 1. Exterior: Exterior transformers supplying interior service equipment shall have the neutral grounded at the transformer secondary. Provide a grounding electrode at the transformer.
 - 2. Separately derived systems (transformers downstream from service equipment): Ground the secondary neutral at the transformer. Provide a grounding electrode conductor from bar at the service equipment.
- F. Conduit Systems:
 - 1. Ground all metallic conduit systems. All metallic conduit systems shall contain an equipment grounding conductor sized per CEC.
 - 2. Nonmetallic conduit systems shall contain an equipment grounding conductor, except that non-metallic feeder conduits which carry a grounded conductor from exterior transformers to interior or building-mounted service entrance equipment need not contain an equipment grounding conductor.
 - 3. Metal conduit containing only a grounding conductor, and which is provided for mechanical protection of the conductor, shall be bonded to that conductor at the entrance and exit from the conduit.
- G. Feeders and Branch Circuits: Install equipment grounding conductors with all feeders, power, and lighting branch circuits.
- H. Boxes, Cabinets, Enclosures, and Panelboards:
 - 1. Bond the equipment grounding conductor to each pullbox, junction box, outlet box, device box, cabinets, and other enclosures through which the conductor passes.
 - 2. Provide lugs in each box and enclosure for equipment grounding conductor termination.
 - 3. Provide ground bars in panelboards, bolted to the housing, with sufficient lugs to terminate the equipment grounding conductors.
- I. Motors and Starters: Provide lugs in motor terminal box and starter housing or motor control center compartment to terminate equipment grounding conductors.
- J. Receptacles shall not be grounded through their mounting screws. Ground with a jumper from the receptacle green ground terminal to the device box ground screw and the branch circuit equipment grounding conductor.
- K. Ground lighting fixtures to the equipment grounding conductor of the wiring system when the green ground is provided; otherwise, ground the fixtures through the conduit systems. Fixtures connected with flexible conduit shall have a green ground wire included with the power wires from the fixture through the flexible conduit to the first outlet box.
- L. Fixed electrical appliances and equipment shall be provided with a ground lug for termination of the equipment grounding conductor.

3.4 CONDUCTIVE PIPING

- A. Bond all conductive piping systems, interior and exterior, to the building to the grounding electrode system. Bonding connections shall be made as close as practical to the equipment ground bus.

3.5 TELECOMMUNICATIONS SYSTEM

- A. Bond telecommunications system grounding equipment to the electrical grounding electrode

system. Refer to communications backbone cabling specification section.

3.6 GROUND RESISTANCE

- A. Grounding system resistance to ground shall not exceed 15 ohms. Make necessary modifications or additions to the grounding electrode system for compliance without additional cost to the Owner. Final tests shall assure that this requirement is met, and test results shall be submitted to the Owner with final close out documents.
- B. Resistance of the grounding electrode system shall be measured using a four-terminal fall-of-potential method as defined in IEEE Standard 81. Ground resistance measurements shall be made before the electrical distribution system is energized and shall be made in normally dry conditions not less than 48 hours after the last rainfall. Resistance measurements of separate grounding electrode systems shall be made before the systems are bonded together below grade. The combined resistance of separate systems may be used to meet the required resistance, but the specified number of electrodes must still be provided.
- C. Below-grade connections shall be visually inspected by the Inspector of Record (IOR) prior to backfilling. The Contractor shall notify the IOR 24 hours before the connections are ready for inspection.
- D. Furnish a copy of tests to Owner at completion of project.

END OF SECTION 26 05 26

SECTION 26 05 29 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

CONDITIONS OF THE CONTRACT AND DIVISION 01, as applicable, apply to this Section.

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Conduit 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. Equipment bases and supports.

1.2 REFERENCES

- A. Underwriters Laboratories Inc.:
 - 1. UL 263 - Fire Tests of Building Construction and Materials.
 - 2. UL 723 - Tests for Surface Burning Characteristics of Building Materials.
 - 3. UL 1479 - Fire Tests of Through-Penetration Firestops.
 - 4. 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 PERFORMANCE REQUIREMENTS

- A. Firestopping: Conform to Building Code and UL for fire resistance ratings and surface burning characteristics.

1.5 SUBMITTALS

- A. Product Data:
 - 1. Hangers and Supports: Submit manufacturers catalog data including load capacity.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with the Building Code.

PART 2 PRODUCTS

2.1 CONDUIT SUPPORTS

- A. Manufacturers:
 - 1. Allied Tube & Conduit Corp.
 - 2. Electroline Manufacturing Company.

3. O-Z Gedney Co.
 4. Appleton.
- B. Hanger Rods: Threaded high tensile strength galvanized carbon steel with free running threads.
- C. Beam Clamps: Malleable Iron, with tapered hole in base and back to accept either bolt or hanger rod. Set screw: hardened steel.
- D. Conduit clamps for trapeze hangers: Galvanized steel, notched to fit trapeze with single bolt to tighten.
- E. Conduit clamps - general purpose: One hole malleable iron for surface mounted conduits.
- F. Cable Ties: High strength nylon temperature rated to 185 degrees F. Self-locking. With Stainless tooth.

2.2 FORMED STEEL CHANNEL

- A. Manufacturers:
1. Allied Tube & Conduit Corp.
 2. B-Line Systems.
 3. Midland Ross Corporation, Electrical Products Division.
 4. Unistrut Corp.
- B. Product Description: Galvanized 12 gage thick steel. With holes 1-1/2 inches on center.

2.3 SLEEVES

- A. Sleeves for raceway Through Non-fire Rated Floors: 18 gage galvanized steel.
- B. Sleeves for raceway Through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe or 18 gage galvanized steel.
- C. Sleeves for raceway Through Fire Rated and Fire Resistive Floors and Walls, and Fire Proofing: Prefabricated fire rated sleeves including seals, UL Listed.
- D. Fire-stopping Insulation: Glass fiber type, non-combustible.

2.4 SPRING STEEL CLIPS

- A. Product Description: Mounting clamp, and screw.

2.5 MECHANICAL SLEEVE SEALS

- A. Manufacturers:
1. Thunderline Link-Seal, Inc.
 2. NMP Corporation.
- B. 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. Manufacturers:
 - 1. Dow Corning Corp.
 - 2. Fire Trak Corp.
 - 3. Hilti Corp.
 - 4. International Protective Coating Corp.
 - 5. 3M fire Protection Products.
 - 6. Specified Technology, Inc.

- B. 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: Multiple component silicone elastomeric compound and compatible silicone sealant.
 - 2. Foam Firestopping Compounds: 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 or 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. Installation Accessories: Provide clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.

- B. General:
 - 1. Furnish UL Listed products.
 - 2. Select products with rating not less than rating of wall or floor being penetrated.

- C. 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 INSTALLATION - HANGERS AND SUPPORTS

- A. Anchors and Fasteners:
 - 1. Concrete Structural Elements: Provide precast inserts, expansion anchors, powder actuated anchors or preset inserts as required.
 - 2. Steel Structural Elements: Provide beam clamps, spring steel clips, steel ramset

- fasteners or welded fasteners as required.
 - 3. Concrete Surfaces: Provide self-drilling anchors and expansion anchors as required.
 - 4. Hollow Masonry, Plaster, and Gypsum Board Partitions: Provide toggle bolts or hollow wall fasteners as required.
 - 5. Solid Masonry Walls: Provide expansion anchors or preset inserts as required.
 - 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 four (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 recessed into and grouted flush with slab.
- C. Install conduit and raceway support and spacing in accordance with CEC.
- D. Do not fasten supports to suspended ceiling support system, pipes, ducts, mechanical equipment, or conduit.
- E. Install multiple conduit runs on common hangers.
- F. 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 one (1) inch off wall.
 - 4. Support vertical conduit at every floor.

3.3 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. Compress fibered material to maximum 40 percent of its uncompressed size.
- E. Place intumescent coating in sufficient coats to achieve rating required.
- F. Remove dam material after firestopping material has cured.
- G. Fire Rated Surface:
 - 1. Seal opening at all rated floors and walls as follows:
 - a. Install sleeve through opening and extending beyond minimum of one (1) inch on both sides of building element.
 - b. Size sleeve allowing minimum of one (1) inch void between sleeve and building

- element.
 - c. Pack void with backing material.
 - d. Seal ends of sleeve with UL Listed fire resistive silicone compound to meet fire rating of structure penetrated.
 - 2. Where cable tray, bus, or conduit, penetrates fire rated surface, install firestopping product ins accordance with manufacturer's instructions.
- H. Non-Rated Surfaces:
- 1. Seal opening through non-fire rated floors and walls as follows:
 - a. Install sleeve through opening and extending beyond minimum of one (1) inch on both sides of building element.
 - b. Size sleeve allowing minimum of one (1) inch void between sleeve and building element.
 - c. Install type of firestopping material recommended by manufacturer.
 - 2. Install escutcheons where conduit, penetrates non-fire rated surfaces in occupied spaces. Occupied spaces include rooms with finished ceilings and where penetration occurs below finished ceiling.
 - 3. Exterior wall openings below grade: Assemble rubber links of mechanical seal to size of conduit and tighten in place, in accordance with manufacturer's instructions.

3.4 INSTALLATION - SLEEVES

- A. Exterior watertight entries: Provide mechanical sleeve seals.
- B. Interior 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 and walls one (1) inch above finished floor level. Caulk sleeves.

END OF SECTION 26 05 29

SECTION 26 05 33 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
1. Conduit and fittings.
 2. Outlet boxes.
 3. Weatherproof outlet boxes.
 4. Junction and pull boxes.
 5. Floor boxes.
 6. Cabinets, termination cabinets.
 7. Gutters.

1.3 SUBMITTALS

- A. Provide Product Data for the Following Equipment:
1. Conduit and fittings.
 2. Outlet boxes.
 3. Weatherproof outlet boxes.
 4. Junction and pull boxes.
 5. Floor boxes.
 6. Cabinets, termination cabinets.
 7. Gutters.
 8. Putty pads.
 9. Raceways
- B. Submit detailed conduit routing plan, for review and approval, prior to installation as follows:
1. Exposed and/ or concealed in building walls for conduits larger than 2-inch outside diameter.
 2. All underground conduits (3/4-inch and larger) in duct bank; concealed in floor slabs, equipment pads and concrete slabs.

1.4 SUBMITTALS

- A. Minimum acceptable conduit sizes are summarized in the following table:

	Minimum Size
Underground, site wiring	1"
Underground <ul style="list-style-type: none">• Building Wiring Aboveground <ul style="list-style-type: none">• Equipment or panel feeders• Telecommunications	3/4"
Aboveground <ul style="list-style-type: none">• Lighting or branch circuit wiring• Fire alarm• Security	1/2"

Other	3/4"
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1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Conform to requirements of the CEC, latest adopted version with amendments by local AHJs.
 - 2. Furnish products listed by UL or other independent and nationally recognized testing firm.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- B. Protect PVC and PVC-coated metallic conduit from sunlight.
- C. Protection of and cleanliness of pathways and raceways must be assured during the construction process in order to eliminate the possibility of debris entering the conduit, duct, pathway resulting in decreased wire capacity and potential damage to installed conductors and cables.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Polyvinyl Chloride (PVC) coated galvanized rigid steel conduit and intermediate metal conduit shall be in accordance with NEMA RN 1. Coating shall be applied under controlled factory conditions. Prior to coating, conduit shall meet requirements of ANSI C80.1 and UL 6 or ANSI C80.6 and UL 1242 as appropriate. PVC coated conduits shall have ultra-violet (UV) inhibitor in the coating material.
- B. Intermediate Metal Conduit (IMC). Raceway shall be hot dipped galvanized mild steel in accordance with ANSI C80.6 and UL 1242 and shall bear the UL label. Conduit shall have same characteristics of rigid steel except for thinner wall.
- C. Galvanized Rigid Steel Conduit (GRSC or RGS), couplings and elbows shall be hot dip galvanized, rigid mild steel in accordance with ANSI C80.1 and UL 6. The conduit interior and exterior surfaces shall have a continuous zinc coating with a transparent overcoat of enamel, lacquer, or zinc chromate. Conduit shall be formed with continuous welded seams with a uniform wall thickness, in minimum 10-foot lengths, with threaded ends.
- D. Electrical Metallic Tubing (EMT). Electrical metallic tubing, including elbows and bends, shall be zinc coated, mild steel in accordance with the requirements of ANSI C80.3 and UL 797. The interior and exterior surfaces of the tubing shall have a continuous zinc coating. Conduit shall be formed with a continuous welded seam, with a uniform wall thickness, in minimum 10-foot lengths.
- E. Non-Metallic Conduit shall be as follows:
 - 1. Schedule 40: Conduit shall be 90 degree Celsius, polyvinyl chloride in conformance with NEMA TC-2 and UL 651 requirements.
 - 2. Spacers used in duct bank installations shall be high impact plastic, interlocking bases, and intermediate type spacers. Place spacers between 6 and 10 feet apart.

- F. Flexible Metal Conduit shall be galvanized steel meeting the requirements of UL 1. Flexible aluminum conduit is not permitted.
- G. Liquid-Tight Flexible Metal Conduit shall be plastic jacketed, galvanized steel, "Sealtite" Type EF for general service areas or Type HC for high temperature when used under raised floor or in air plenums. Conduit shall be UL listed.
- H. Manufacturers:
 - 1. Outlet Boxes: Bowers, Raco, Orbit, Steel City or equal.
 - 2. Weatherproof Outlet Boxes: Bell, Red Dot, Carlon or equal.
 - 3. Floor Boxes: Wiremold/ Walker, Hubbell, Steel City, or equal.
 - 4. Junction and Pull Boxes: Circle AW, Hoffman, Wireguard or equal.
 - 5. Box Extension Adapter: Bell, Red Dot, Carlon or equal.
 - 6. Conduit Fittings: O-Z Gedney, Thomas & Betts, Raco, Crouse Hinds, or equal.
 - 7. Putty pads: 3M, Hilti, or equal.
 - 8. Heavy wall rigid non-metallic conduit, Carlon, Certainteed, R&G Sloane or equal.
 - 9. Extra heavy wall non-metallic conduit, Carlon, Certainteed, R&G Sloane or equal.
 - 10. Flexible Metal Conduit (FMC), Alflex, American Flexible Conduit or equal.
 - 11. Liquid tight flexible metal conduit, Anacanda (type UA), Electri-flex Liguatite or equal.
 - 12. Floor Boxes, Single Gang, Walker/ Wiremold 880 CS Series or approved equal.
 - 13. Floor Boxes, Multiple Gang, Walker/ Wiremold RFB Series or Walker Omnibox multi-service floor box with carpet plates, and/ or water resistant device covers.
 - 14. Masonry Boxes, outlets in concrete, Raco Series 690 or equal.
- I. Listed products for termination, coupling, extending, benching supports of raceways shall be used.

2.2 OUTLET BOXES

- A. NEMA 1 gutter, junction and pull boxes shall be fabricated from code gage steel finished in grey enamel with screw cover fronts and concentric knockouts in all sides.
- B. NEMA 3R gutter, junction and pull boxes shall be fabricated from code gage galvanized steel with screw cover fronts and concentric knockouts in the bottom only. Any penetrations to the side, top or back shall be weatherproofed in an approved manner such as "MYERS" gasketed type hub or equal.
- C. Steel outlet boxes and plaster rings shall be galvanized rigid assemblies, either one piece pressed or factory welded construction containing the size and number of knockouts required. Steel outlet boxes shall be manufactured, sized and installed in accordance with CECArticle 314. Device Outlet: Installation of one or two devices at common location, minimum 4" square, minimum 1-1/2" deep. Single or 2 gang flush device plaster ring. Raco or equal.
- D. Luminaire Outlet: minimum 4" square with correct plaster ring depth, minimum 1-1/2" deep with 3/8" luminaire stud if required. Provide proper depth plaster ring on bracket outlets and on ceiling outlets.
- E. Construction: Provide galvanized steel interior outlet wiring boxes, of the type, shape and size, including depth of box, to suit each respective location and installation; constructed with stamped knockouts in back and sides, and with threaded holes with screws for securing box covers or wiring devices. Boxes shall be properly secured to the structure such that they are flush with the finish surface. Boxes shall be made structurally secure by means of the proper fastening devices.

- F. Accessories: Provide outlet box accessories as required for each installation, including mounting brackets, wallboard hangers, extension rings, plaster rings, luminaire studs, cable clamps and metal straps for supporting outlet boxes, compatible with outlet boxes being used and meeting requirements of individual wiring situations.

2.3 JUNCTION AND PULL BOXES

- A. Construction: Provide galvanized sheet steel junction and pull boxes, with screw-on covers; of the type shape and size, to suit each respective location and installation; with welded seams and equipped with steel nuts, bolts, screws and washers.
- B. Location:
 - 1. Install junction boxes above accessible ceilings for drops into walls for receptacle outlets from overhead.
 - 2. Install junction boxes and pull boxes as required to facilitate the installation of conductors and limiting the accumulated angular sum of bends between boxes, cabinets and appliances to 300 degrees.
 - 3. Locations: Junction boxes shall be located only where necessary and only in equipment rooms, closets, and accessible attic and underfloor spaces. A horizontal distance of 24" shall separate outlet boxes on opposite sides of occupancy separation walls, fire-rated walls or partitions.
 - 4. Labeling: Junction box covers shall be marked with indelible ink indicated the circuit numbers passing through the box.

2.4 CONDUIT FITTINGS

- A. Requirements: Provide corrosion-resistant punched-steel box knockout closures, conduit locknuts and plastic conduit bushings of the type and size to suit each respective use and installation.
- B. Steel boxes may allow for field knock-out modifications, but shall in all other ways conform to code requirements.

2.5 FLOOR BOXES - SINGLE GANG

- A. Construction: Deep cast iron fully adjustable before and after concrete pour with all required components for complete activation. Verify required components for application of service fittings, covers, monuments, and the like, attached to floor boxes.
- B. Activations:
 - 1. Flush: Provide brass duplex or single signal cover, hinged with set screw lock. Carpet or tile finish ring.
 - 2. Monuments: Provide stainless steel monuments with power receptacle or data grommet as noted.
 - 3. Coordinate specific application of systems as noted on Drawings.

2.6 FLOOR BOXES - MULTIPLE GANG

- A. Construction: Deep cast iron, fully adjustable before and after pour. Equal to Walker/ Wiremold RFB Series or Walker Omnibox multi-service floor box with carpet plates, and/ or water resistant device covers. Verify color. Partition for different power or signal applications. Provide required power receptacle devices and signal grommets or receptacles as noted. Flange type shall be compatible with floor covering for either carpet or vinyl as required and shall be brass type not polycarbonate.

- B. Floor mounted boxes shall be water tight and cast iron when installed in grade level concrete slab floor, fully adjustable with interior and exterior leveling screws. Receptacle flange shall be brass with a duplex lift lid. Flange type shall be compatible with floor type. Before installation, coordinate exact location with Architect.

2.7 PUTTY PADS

- A. Intumescent moldable firestop putty designed to protect electrical outletboxes.
- B. Provide putty pads of proper type around outlet boxes and/ or as detailed on plan to meet sound transmission restrictions and fire ratings of walls

PART 3 EXECUTION

3.1 INSTALLATION

- A. Conduit systems listed below are for use in installations where they are permitted to be used by CEC and/ or other occupancy restrictions. The below installation methods do not intend to suggest that these materials be installed in conflict with any applicable code. Special attention to applications shall be made in building types such as wet location, hazardous locations, assembly occupancy and multi-story, but not limited to these. Requirements which are more restrictive than the CEC may be called for by the drawings and/ or these specifications. These requirements must be adhered to. The Electrical Contractor shall be responsible to use the proper conduit system for the application. Exposed conduit is not allowed below ceilings or above slab of floor, without prior approval from Electrical Engineer. All conduits shall be concealed except in electrical and telecommunication rooms or where shown to be surface mounted. Exposed conduit (where allowed) shall be run square and plumb with building lines in an approved manner. Support roof mount conduits, where allowed, with minimum 12" wide approved rooftop supports (B-Line Durablok or approved equal) unless otherwise detailed in roof requirements or as specified in roofing specification. Strap conduits to blocks with proper sized conduit straps. Spacing of support shall be a minimum as provided for in the CEC. All exposed conduit mounted below 8' above finished grade shall be strapped at a minimum of 5' spacing.
- B. Non-Metallic Rigid Conduit shall be used in concrete slabs, below concrete slabs on grade, or underground outside of a building slab or foundation. Maintain minimum depth requirements and cover with appropriate fill material. Conduit shall be heavy wall Schedule 40 or 80, rigid PVC only. Rigid utility P&C duct shall not be used in any application. Properly sized grounding conductors shall be installed per CEC article 250, in all non-metallic conduit branch circuit and feeder runs. PVC conduit shall be formed or field bent only with the use of properly approved bending tools such as to not decrease the internal bore of the conduit. All conduits shall be cut square and reamed of burrs. Approved and compatible glue shall be used on all PVC fittings to attain watertight joints.
- C. Galvanized Rigid Steel (GRS) conduit shall be used where exposed less than 8'-0" above finished grade to 18" below finished grade and where subject to physical damage. Conduits shall be cut square and reamed to remove burrs and sharp edges. Strap conduit below 8' above grade at 5' intervals. Unless otherwise noted, threadless setscrew and threadless weathertight fittings may be used in lieu of threaded fittings. All threaded ends entering a junction box of any type shall require one locknut on the inside and one on the outside of the enclosure and be provided with a plastic bushing or grounding bushing where necessary for proper grounding. Where exposed to moisture, a watertight hub or other approved method shall be required. All conduits shall be stubbed up straight and uniform into junction boxes, panels, cabinets, etc., and shall be (GRS) properly supported and strapped. All GRS conduit located below grade, shall be tape wrapped.

- D. Electrical Metallic Tubing (EMT) shall be used as allowed by code and as permitted by this specification. It shall not be in contact with soil or the concrete slab on the ground floor of any structure. Connectors and couplings shall be steel insulated set screw type where installed in indoor dry locations not subject to moisture. Where the potential for moisture is present, compression type weathertight fittings are required. One hole conduit straps are permitted from 1/2" to 1" and two hole conduit straps are required for size 1-1/4" and larger. EMT shall not be allowed in areas subject to severe physical damage. Install copper ground wire sized per CEC 250-122 in all EMT conduits.
- E. Flexible conduit may be used where concealed in building construction or above dropped ceilings, but shall meet the following criteria: No individual circuit path from distribution panel to last device shall exceed a cumulative length of 6' of flexible conduit from start to end. Flexible conduit shall not exceed a total directional change of 270 bending degrees in any one run between conduit terminations. Squeeze type or Jake type steel flex fittings of a grounding type are required. Flexible conduit must be supported in accordance with CEC. Where exposed to the weather, moisture, or spray down flexible conduit shall be of the liquidtight type. Fittings shall be manufactured for use with liquidtight flexible conduit. All motor connections shall be made with liquidtight flex. Flexible conduit may not be used where exposed except for last 2' of equipment connection and unless otherwise noted or approved. A copper ground wire sized per CEC 250-122 shall be installed in all flexible conduit runs. Flexible conduit may not be used exposed. Weatherproof liquid tight conduit shall not be used at roof level for equipment connections with lengths exceeding 24" nor shall it be used to circumvent a rigid conduit system in a horizontal direction. Connect recessed lighting fixtures to conduit runs with a maximum of 6' of flexible metal conduit extending from junction box to fixture.
- F. Underground conduits and transition to above grade/ slab shall be as follows:
1. PVC elbows 2" and smaller are allowed, or if top of elbow is minimum 18" BFG or below top of slab, otherwise GRS elbows are required.
 2. GRS risers are required from elbow below grade to equipment (device, outlet, panel, cabinet, etc.) above grade.
 3. GRS elbows/risers to be PVC coated or 10 MIL tape wrapped (1/2" lapped) to 3" above finish grade or top of slab.
- G. Conduit Supports: Conduit runs may be supported by one-hole and two-hole straps or supports as manufactured by Unistrut, Minerallac, Caddy or equals. Supports may be fastened by means of anchors, shields, beam clamps, toggle bolts, or other approved methods appropriate for the application and size of conduit. Pipe nailers (J-hooks) may only be used for 1" conduit and smaller and only in wood frame construction. Conduit support methods are subject to review by the engineer and authority having jurisdiction for adequacy. Installations deemed inadequate shall be corrected by the contractor at no cost to the Owner.
- H. Bends and offsets shall be made with approved tools for the type of conduit being utilized. Bends shall be made without kinking or destroying the smooth bore of the conduit. Parallel conduits shall be run straight and true with bends uniform and symmetrical. Minimum radii shall be per CEC 344-24.
- I. Conduit Stub-outs below grade shall be capped with plastic cap, and identified by placing a pull box marked with correctly identified utility such as "Elec", "Tel", etc. Dimension for exact location on field record drawings. Provide lids for proper field application (i.e. traffic, incidental, pedestrian).
- J. Conduit Seals - Where below grade conduits enter structure through slab or retaining wall of building or basement, seal the inside of each conduit as follows:
1. Provide damming material around conductors 3" into conduit. Polywater or equal.

2. Fill 3" of conduit with 3M #2123 sealing compound.
 3. Wrap conductors where they exit the conduit with 3M #2229 "Scotch Seal" mastic tape. Lap tape to approximate diameter of the raceway and wrap outside of conduit opening with (minimum) one turn.
 4. Use conduit sealing bushings type CSB (O-Z/ Gedney) or equal.
 5. Empty conduits shall be sealed with standard non-hardening duct seal compound and then capped to prevent entrance of moisture and gases and to meet fire resistance requirements.
 6. Provide cable drip loop minimum 12" high.
- K. Marker tape: Place marker tape at 12" below finish grade along and above buried conduits. Label tape "CAUTION: ELECTRICAL LINES BELOW" or similar wording.
- L. Electrical and communications systems raceways routed underground shall not occupy the same trench as plumbing utilities such as sewer, water, storm drain, gas or other wet or dry gaseous utility system. A minimum of 12" of undisturbed earth is required. Where utilities must cross in closer proximity to each other due to physical constraints, 6" minimum crossing distances are allowed.
- M. Conduits, routed below footings, slabs, grade beams, columns, and other structural elements shall be installed in strict compliance with structural details and criteria shown on structural plans. Clearances below structural elements and sleeves through structural elements must be carefully planned to avoid conflict and must be approved by the structural engineer if conflict arises.
- N. All conduit or raceways passing through fire rated walls, floors, or ceilings shall be installed with a listed penetration method which protects the opening to the same rating as the assembly and is non hardening.
- O. Location: Locate boxes and conduit bodies so as to ensure accessibility of electrical wiring.
- P. Anchoring: Secure boxes rigidly to the substrate upon which they are being mounted, or solidly embed boxes in concrete or masonry.
- Q. Special Application: Provide weatherproof outlets for locations exposed to weather or moisture.
- R. Knockout Closures: Provide knockout closures to cap unused knockout holes where blanks have been removed.
- S. Mount outlet boxes, unless otherwise required by ADA, or noted on drawings, the following distances above the finished floor:
1. Receptacles, Telephone, TV & Data outlets. (measured to bottom of outlet box): +15".
 2. Outlet above counter (measured to top of outlet box): +46".
 3. Control (light) Switches. (measured to top of outlet box): +48".
 4. Fire Alarm Manual Pull Stations, T-stats. (measured to top of outlet box): +48".
 5. Fire Alarm Visuals: the lower of +80" to bottom of lens, or 6" below ceiling.
 6. Other Outlets: As indicated in other sections of specifications or as detailed on drawings.
- T. Coordinate all electrical device locations with the architectural floor plan and interior and exterior elevations to prevent mounting devices within elements that they may conflict such as cabinetry, mirrors, planters, etc.
- U. Size outlet and junction boxes to minimum wire fill space requirements. Upsize box as

required to allow ease of wire installation and device installation.

- V. Outlet and junction boxes in fire rated walls shall be gauged and spaced so as not to exceed the maximum penetration allowed by the assembly without compromising the fire rating. If a conflict arises relative to a specific condition, the contractor shall follow the requirements of the fire authority and ask for guidance from the design team. At no time should a larger box be installed prior to resolution of conflict.

END OF SECTION 26 05 33

SECTION 26 05 53 - IDENTIFICATION OF ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section Includes:
 - 1. Nameplates and warning signs where specified herein and as shown on contract documents including the following:
 - a. Nameplates and warning signs permanently installed on all electrical equipment and devices including, but not limited to, the following items:
 - 1) Enclosures for transformers, switchboards, motor control, panels, pullboxes, cabinets, motors, generators, transfer switches.
 - 2) Enclosures for all separately enclosed devices including, but not limited to, disconnect switches, circuit breakers, contactors, time switches, control stations and relays, fire alarm panels and lighting control panel.
 - 3) Wall switches not within sight of outlet controlled.
 - 4) Special systems such as, but not limited to, telephone, fire alarm, warning, and signal systems. Identification shall be at each equipment rack, terminal cabinet, control panel, annunciator and pullbox.
 - 5) Devices mounted within and part of equipment including circuit breakers, switches, control devices, control transformers, relays, indication devices and instruments.
 - 2. Conductor and Cable Identification.
- B. Related Sections:
 - 1. Section 26 05 00: Common Work Results for Electrical.
 - 2. Section 26 05 19: Low-Voltage Electrical Power Conductors and Cables.
 - 3. Section 26 24 16: Panelboards.
 - 4. Section 26 28 16: Enclosed Switches and Circuit Breakers.
- C. Reference Standards:
 - 1. California Electrical Code (CEC) based on NFPA 70 (NEC). California Code of Regulations, Title 24, Part 3.
 - 2. National Fire Protection Agency (NFPA):
 - a. 70E Standard for Electrical Safety in the Workplace.
 - 3. American National Standards Institute (ANSI):
 - a. A13.1 Pipe Markers.
 - b. Z535 Standards for Safety Signs and Labels.
 - 4. Underwriters Laboratories, Inc. (UL):
 - a. 969 Standard for Marking and Labeling Systems.
 - 5. Code of Federal Regulations, Title 29, Part 1910:
 - a. 144 Safety color code for marking physical hazards.
 - b. 145 Specifications for accident prevention signs and tags.

PART 2 PRODUCTS

2.1 EQUIPMENT LABEL DESIGNATIONS

- A. Equipment labels indicating equipment designations both emergency and normal. Designation per drawings or to be supplied with shop drawings approval.
- B. Panelboard labels showing panel designation, voltage, phase, and source.
- C. Distribution panels, transformers, safety switches, transfer equipment, etc. Labels shall be per ANSI Z535.4 guidelines.

2.2 MATERIALS

- A. For Labels: Three layer laminated plastic or micarta with engraved white letters over black background.
- B. For Emergency Equipment: Use engraved white letters over red background.
- C. For Warning Signs: Minimum 18 gauge steel with red lettering on white porcelain enamel finish.
- D. Arc flash labels shall be provided as required by CEC Article 70E.
- E. Conductor tape number markers: TayMac MX4280 Series non-fading permanent adhesive.

PART 3 EXECUTION

3.1 MOUNTING

- A. Equipment labels shall be mounted by self-tapping, threaded screws, and bolts, or by rivets. Adhesive types are not acceptable unless specifically noted in this section.
- B. Conductor tape markers shall be consistently placed for ready conductor identification.

3.2 HEIGHTS ON LABELS

- A. Panelboards, Switchboards and Motor Control Centers and Special Systems Enclosures: 1/4" identify equipment designation; 1/8" identify voltage rating and source.
- B. Individual Circuit Breakers, Switches, and Motor Starters in Panelboards, Switchboards, and Motor Control Centers: 3/16" identify circuit and load served, including location of equipment.
- C. Enclosed Circuit Breakers, Enclosed Switches, and Motor Starters: 3/16" identify load served.
- D. Transformers: 3/16" identify equipment designation; 1/8" identify primary and secondary voltages, primary source, and secondary load. Include location of primary source or secondary load if remote from transformer.

3.3 WARNING SIGNS

- A. Warning signs shall be permanently mounted with cadmium plated steel screws or nickel-plated brass bolts.
- B. Warning signs to read "DANGER - HIGH VOLTAGE", with letters 1-1/2" high, 3/16" stroke minimum.

- C. Provide warning sign on all doors or immediately next to door for equipment rooms, enclosures or closets containing equipment energized above 150 volts to ground as per CEC, and/ or as directed by the Architect. For interior finish spaces and interior doors, signage shall be coordinated and approved with the Architect in advance of installation.

END OF SECTION 26 05 53

SECTION 31 13 00 TEMPORARY TREE PROTECTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Protect, prune, irrigate and maintain all existing trees and other vegetation not designated for removal.
- B. Related Sections:
 - 1. Section 31 10 00: Site Clearing and Demolition.
 - 2. Section 32 01 90: Operations and Maintenance of Planting.
 - 3. Section 32 80 00: Irrigation.
 - 4. Section 32 90 00: Planting.
 - 5. Section 33 10 00: Water Utilities.
- C. References:
 - 1. American Joint Committee on Horticultural Nomenclature (AJCHN), Standardized Plant Names.
 - 2. American Association of Nurserymen, Inc. (AAN), American Standard for Nursery Stock.
 - 3. Sunset Western Garden Book, Lane Publishing CO.
 - 4. Agricultural Code of California.
 - 5. State of California Department of Transportation Standard Specifications, current edition.

1.3 SUBMITTALS

- A. Submit four (4) copies of product data or "cut-sheets" for all products proposed for use.
- B. Submit **Fenced Tree Protection Area Plan**:
 - 1. Outlining all trees and plants listed by number to be protected and their groupings.
 - 2. All trees and plants shall be grouped in their own fenced tree protection areas.
- C. Submit a schedule including any and all activity inside fenced tree protection areas.
 - 1. This schedule to include but not limited to:
 - a. The dates fences are initially installed, altered and dates of fence replacement.
 - b. Show provisions fenced tree protection areas are fenced for the entire duration with only exceptions of short intervals or specifically defined construction activity needs.
 - 2. Revise schedule as directed by Architect.
- D. Provide a Mediation Plan to keep irrigation systems active for adjacent turf and planting areas prior to start of construction.

1.4 CONDITIONS AND REQUIREMENTS

- A. Instruct all trades in the provisions of this specification section.

- B. The work of this section begins before any other work on the site and continues until all other work is completed.
- C. Contractor shall inspect and be familiar with site conditions. Commencement of work signifies acceptance of conditions.
- D. Contractor is responsible for the health of trees and plants for the duration of the project from start of construction. Should decline in overall health of any tree or plant as a result of non-compliance with this provision become evident within the duration of the project, Contractor will be held liable for tree replacement or reimbursement.
- E. The Contractor shall retain the following:
 - 1. Project Arborist:
 - a. Arborist is defined here as ISA-certified arborist or a consulting arborist who is a member of the ASCA.
 - b. Arborists shall perform all tree work to a minimum ANSI A300 Standards. ISA-certified arborist shall be present to perform or oversee all work described in this section.
 - c. Arborist proposed by the Contractor shall be subject to approval by the District.
 - d. Arborist shall be available on an as needed basis throughout the project.
 - 2. A tree service company shall be hired by the Contractor and shall be approved by the District.
 - a. Tree Service Company shall be an experienced tree service firm that has successfully completed tree protection and trimming work similar to that required for this project for no less than ten years.
 - 3. Maintain record of tree and plant concerns and actions.

1.5 COORDINATION WITH DRAWINGS

- A. Refer to Project Landscape Drawings: Which identify trees and plants to be retained.

PART 2 PRODUCTS

2.1 PROTECTIVE FENCING:

- A. Protective fencing shall consist of four foot (4') to six foot (6') high "blaze orange" plastic fencing material installed with metal posts and wire ties. Fence fabric shall be accepted by District's representative.
- B. Metal posts shall be accepted by District's representative.
- C. Weather and Fade Resistant Sign at Eye Level With The Following Information:
 - 1. No vehicle movement inside fence
 - 2. No storage of materials
 - 3. No washing of equipment
 - 4. Contact name & number of Architecture firm for inquiries

PART 3 EXECUTION

3.1 GENERAL

- A. Protect, prune, irrigate and maintain all existing trees and other vegetation not designated for removal.

- B. At a minimum, protect existing all existing trees and other vegetation not designated for removal from the following:
 - 1. Breaking, cutting and/or skinning of branches, bark and/or roots.
 - 2. Stockpiling of building materials, sailor trash within drip line.
 - 3. Vehicular traffic and parking.
- C. Trees and other vegetation not designated for removal, that become damaged during the life of the project shall be repaired or replaced by the contractor at no cost to the District subject to the discretion of the District's representative.
- D. Maintain pre-existing moisture levels.
- E. Maintain areas inside the fenced tree protection area including lawn mowing, leaf removal, operation and repair of irrigation.
- F. Protect root systems from flooding, erosion, excessive water and drying resulting from dewatering or other operations:
- G. Prohibitions – DO NOT:
 - 1. Start construction adjacent to trees and plants prior to implementation of the Fenced Tree Protection Area Plan,
 - 2. Allow runoff or spillage of damaging materials in vicinity of root systems,
 - 3. Rinse tools or equipment under trees and plants,
 - 4. Store materials, stockpile soil, park or drive vehicles within drip lines or in areas with plants,
 - 5. Cut, break skin of bark, bruise roots branches,
 - 6. Allow fires under and adjacent to trees and plants
 - 7. Discharge exhaust under foliage,
 - 8. Secure cable, chain or rope to trees and plants,
 - 9. Change grade within drip line of trees and plants,
 - 10. Lime shall not be used.

3.2 REQUIREMENTS FOR TREES AND PLANTS TO BE PROTECTED

- A. Conform to requirements for trees and plants to be retained, per 3.01, above.
- B. Install fence around trees and plants:
 - 1. Prior to start of any demolition and construction,
 - 2. Enclose within fence the entire drip line of tree or plant as specified on Drawings.
 - 3. Grouping trees and plants together as specified in Drawings
 - 4. Each Fenced Tree Protection Area to be marked with sign as specified in Drawings.
- C. Architect shall give final review on Fenced Tree Protection Areas before construction to begin. Revise schedule as directed by Architect.
- D. When necessary for vehicle movement within Fenced Tree Protection Areas,
 - 1. Architects to be notified as outlined 1.04.
 - 2. Arborist must be on site to manage activity.
 - 3. Within dripline, apply 10 inch layer of mulch over geotextile fabric.
 - 4. 3/4" thick plywood sheets over mulch and geotextile fabric.
 - 5. Tree trunk wrapped in four (4) foot tall wooden snow fencing.
 - 6. Remaining area to be fenced.
 - 7. Fenced Tree Protection Areas shall be restored immediately upon completion of work within protected areas.

- E. Perform grading operations so that:
 - 1. The earth surface within protection fencing shall not be altered except as acceptable to the District's representative.
 - 2. Any grading or trenching necessary within the drip line shall be done by hand per the discretion of the District's representative.

- F. Perform trenching operations within the Fenced Tree Protection Areas so that:
 - 1. Digging shall be by hand using narrow fine spading forks,
 - a. No roots larger than two (2) inch diameter are cut and utilities are routed around or below them,
 - b. Roots smaller than two (2) inch diameter are cut with sharp tools, saws, loppers-not torn, chopped or broken .

- G. Where roots are exposed:
 - 1. Do not allow the roots to dry out,
 - 2. On the same day the excavation is made, provide temporary backfill to original grade at tree roots,
 - 3. Or cover roots with four (4) layers of wet untreated burlap, made wet each day, including weekends.

- H. Roots larger than Two (2) inch in diameter are not to be cut without review and approval of Architect.

3.3 REPAIR AND REPLACEMENT OF TREES AND PLANTS:

- A. It shall be the responsibility of Contractor to repair or replace any damaged trees and plants.

- B. Repair trees and plants damaged by operations:
 - 1. Within 24 hours of damage,
 - 2. To the satisfaction of Architect,
 - 3. To ISA Pruning Standards.

- C. Replace repaired trees and plants where repair has not restored them to health or aesthetics:
 - 1. Within 6 months of request to replace,
 - 2. To the satisfaction of Architect,
 - 3. With replacement plants of a size and variety matching those that were removed,
 - 4. Trees shall be transplanted from approved location on campus in coordination with District Representative.
 - 5. Trees may be sourced from nursery that meets requirements of plants as outlined here-in.

- D. Replaced trees and plants shall be the responsibility of Contractor to maintain in good health and aesthetics for the duration of the project from installation.
 - 1. Contractor shall submit to Architect comprehensive maintenance plan for replacement plants, including but not limited to provisions for irrigation system independent of existing system.

- E. Where suitable replacement of trees and plants are not available:
 - 1. Contractor shall provide affidavits to Architect that they are not available.
 - a. Contractor shall provide compensation to the District at the following rates:
 - 1) \$2000 for each caliper inch of any tree or plants removed under 12 inches.
 - 2) \$4000 for each caliper inch of any tree or plants removed 12 inches or more.
 - b. Caliper of trees and plants measured at 6 inches above grade.
 - c. Caliper defined here as thickness of diameter, measured in inches.

- F. Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, and other materials which could be harmful to trees and plants, and replace with soil approved by District's representative, at Contractor's expense.

3.4 CLEAN-UP

- A. Branches, trimmings and debris remaining upon completion of each operation shall become property of the Contractor and shall be promptly removed from the Site.

END OF SECTION 31 13 00

SECTION 31 20 00 EARTHWORK: EXCAVATION, FILLING, GRADING

GENERAL

1.01 SUMMARY

- A. This Section includes the following:
 - 1. Excavating soil and other material for surface improvements.
 - 2. Placing fill.
 - 3. Compaction of existing ground and fill.
 - 4. Preparation of subgrade for other improvements.
 - 5. Grading of soil.

- B. Related Sections include the following:
 - 1. Contract General Conditions and Division 1, General Requirements.
 - 2. Section 31 11 00 – Site Clearing.
 - 3. Section 31 22 22 – Soil Materials.
 - 4. Section 31 23 00 – Trench Excavation and Backfill.

1.02 REFERENCES

- A. ANSI/ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18 inch (457 mm) Drop.

- B. Geotechnical Engineering Investigation Report has been prepared for the project by Salem Engineering Group, inc.; Salem Project No. 1-220-0775, dated October, 2nd, 2020. A copy of the report is available (for reference only) at the cost of reproduction. Contact Salem Engineering Group if a copy of the report is desired.

1.03 DEFINITIONS

- A. Utility: Any buried or above ground pipe, conduit, cable, associate device or appurtenances, or substructure pertaining thereto.

1.04 SUBMITTALS

- A. Submit in accordance with Specification Section - Submittal Procedures:
 - 1. Product Data:
 - a. Information indicating the source of all import material, the fill material type and where it is to be used. Import material must be approved by District's inspector prior to being brought on site.

 - 2. Quality Assurance/Control:
 - a. Material Test Reports:

- 1) Classification of Soils.
- 2) Compaction Characteristics of Soils.
- 3) Density and Unit Weight of Soils in Place.
- 4) Imported fill shall be tested and approved by the Owner's Geotechnical Engineer prior to import to the site, including testing for compliance with Department of Toxic Substances Control (DTSC) guidelines. Said testing and certification documents shall be paid for by the Owner.

3. Project Closeout: In accordance with Specification Section – PROJECT CLOSEOUT.

- a. Drawings indicating the extent and depth of all engineered fill. This information shall be a part of the Project "As-Built" and Project "Record" Documents in accordance with the Specification Section – PROJECT DOCUMENTS.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Installer:

- a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this project.

B. Regulatory Requirements:

1. In accordance with Specification Section - REGULATORY REQUIREMENTS and the following:

- a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board [CARB].
- b. CF County of Fresno, Codes and Ordinances
- c. EPA Environmental Protection Agency.
- d. CAL/OSHA Comply with all provisions of the Construction Safety Orders and the General Safety Orders of the California Division of Occupational Safety and Health, as well as all other applicable regulations as they pertain to the protection of workers from the hazard of caving ground excavations.
- e. DTSC Comply with all recommendations of the California Department of Toxic Substance Control (DTSC) regarding soil testing for potential contaminants

C. Certificates:

1. Installer's certification that all Earthwork installation meets or exceeds the requirements of this specification.
2. Contractor's certification (on Contractor's letterhead paper) that the Earthwork materials and installation meets or exceeds the requirements of this specification.

D. Meetings:

1. Pre-Installation: Schedule prior to the start of work.

- a. Coordinate the work with other work being performed.
- b. Identify any potential problems, which may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.

2. Progress: Scheduled by the Contractor during the performance of the work.
 - a. Review for proper installation of work progress.
 - b. Identify any installation problems and acceptable corrective measures.
 - c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion: Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems which may impede issuance of warranties or guaranties.
 - b. Maintain installed work until the Notice of Substantial Completion has been filed.

1.06 COORDINATION

- A. Coordinate work with Owner's personnel.
- B. Provide required notification to the Owner and Geotechnical Engineer or the Engineer of Record so that a representative from the Owner's Geotechnical Engineering consultant can be present for all excavation, filling and grading operations to test and observe earthwork construction.
- C. Verify that the location of existing utilities have been indicated at work site by utility authorities and as specified on the Plans.

1.07 EXISTING CONDITIONS

- A. Existing Conditions:
 1. Examine the site and verify conditions with the Drawings and Specifications. Contractor shall familiarize himself with existing site conditions and any changes that have occurred at the site since the preparation of the contract documents, and shall be responsible to account for any such changes in the price bid for this work.
 2. Thoroughly investigate and verify conditions under which the Work is to be performed.
 3. Locate and identify utilities:
 - a. Call a Local Utility Locator Service (USA - "Underground Service Alert" – [800] 227-2600) for the task of locating any applicable off-site and on-site utilities in the area where the Project is located.
 4. No allowance for extra Work will be granted resulting from negligence or failure to meet requirements of Article titled "Existing Conditions" above.
- B. Where subsurface work involves more than the normal depth of excavation required for the removal and/or construction of surface improvements (surface improvements such as concrete work, paving, landscaping, signs, etc.), the Engineer will have made a diligent attempt to indicate on the plans the location of all main and trunkline utility facilities which may affect the Work. In many cases, however, the only available information relative to the existing location of said facilities may have been small scale undimensioned plats. The locations of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.
- C. Under similar circumstance, service laterals and appurtenances will have also been shown where information was available as to their location. In many cases, however, the only available information relative to the existing location of said facilities may have been small scale

undimensioned plats. The locations of said facilities, therefore, shall be considered approximate only, until exposed by the Contractor.

- D. Determine exact location of existing buried utilities by:
 - 1. Marking on ground or pavement surface the alignment and extent of the facilities and the probable location of existing utilities using construction plans and existing surface features.
 - 2. Requesting Underground Service Alert (USA) to indicate location of existing buried facilities (phone 1-800-227-2600). Provide USA a minimum of two (2) working days notice of request for locations, and notify Owner of said request concurrently.
 - 3. Locate exact location of existing utilities by hand methods of excavation, or by use of vacuum equipment.
- E. At proposed work location, expose by hand methods (or vacuum equipment) all existing utilities along the route of the proposed work prior to using any mechanical equipment. If mechanical equipment is allowed at a particular location, it may only be used after the completion by the Contractor of a successful exhaustive search by hand (or vacuum equipment) methods to locate all existing facilities as indicated on the plans, and/or as indicated on the ground by USA or Owner's personnel.
- F. Provide Field Engineering to record the location of all utilities encountered. Where locational conflicts exist between existing utilities and the planned location of facilities to be constructed under this Contract, submit detailed information to the Engineer's for review and direction.
- G. Maintain all existing utility mains and service lines in constant service during construction of the Work.
- H. Where service disruptions are allowed, minimize the length of such disruptions by proper scheduling and diligent pursuit of the work.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Dust control: Perform work in a manner as to minimize the spread of dust and flying particles. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors and concurrent performance of other on-site work.
 - 1. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.
 - 2. All land clearing, demolition, grubbing, scraping, excavation, land leveling, grading, and cut and fill activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by pre-soaking.
 - 3. When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions or at least six inches of freeboard space from the top of the container shall be maintained.
 - 4. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. The use of blower devices is expressly forbidden.
 - 5. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/ suppressant.

- a. Contractor shall comply with all requirements of the San Joaquin Valley Air Pollution Control District (SJVAPCD) for construction activity related to this project.
 - b. A Dust Control Plan, as required by the SJVAPCD, may be required for this project. If required, Contractor shall be responsible for preparing said Dust Control Plan, submitting to the SJVAPCD for review and approval, and paying all SJVAPCD review and permitting fees related to the Dust Control Plan.
 - c. If a dust control plan is required, no construction activity related to this project may begin until Contractor has secured an approved Dust Control Plan.
 - d. Contractor shall be solely responsible to implement all requirements of the Dust Control Plan throughout the life of this contract.
 - e. Should fines or fees be levied against the Project for violations of the Dust Control Plan and/or related SJVAPCD regulations, Contractor shall be responsible to pay all said fines or fees and to implement all mitigation measures required by SJVAPCD in order to bring the construction activity into compliance with SJVAPCD regulations. The costs for any such fines or fees shall be included in the lump sum price bid for work under this contract and no additional payment will be made therefore
- B. Burning: No burning will be allowed on-site.
- C. Rain: Work under this section shall not be started or maintained under threat of rain, unless the work is not affected by the rain.
- D. Do not place fill during weather conditions which will alter moisture content of fill materials sufficiently to make compaction to the specified densities difficult or impossible.
- E. When reference is made to SWPPP (Storm Water Pollution Prevention Plan, if any within this Project Manual), then comply with all environmental protection requirements included therein.
- F. In accordance with EPA and CF.
- G. Protection:
1. Protect cut and fill areas to prevent water running into excavation. Maintain areas free of water. Remove seeping water immediately by pumps.
 2. Protect cut slopes from erosion due to precipitation and other sources of runoff.
 3. Protect utilities to remain within the construction area and special construction. If utility lines are uncovered (water, electric, sewer, etc.) not shown on the drawings during excavation of site, notify the Architect promptly for its review and action.
 4. Do not permit access to undeveloped portions of the site, nor to areas that are outside of the limits of grading.
- H. Before being brought onto the site, all import soil must be sampled, tested and approved by Owner's Geotechnical Engineer. All import material must comply with DTSC recommendations and guidelines for environmentally clean soil suitable for school construction. Import testing will be provided and paid for by the Owner.

1.09 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of General Conditions and Division 1, General Requirements.
- B. Accurately record actual locations of utilities encountered including depth and horizontal location, as measured from permanent site features.

PART 2 PRODUCTS

2.01 MATERIALS

- C. Fill in Turf or Other Planting Areas: Type S2 or S3 per Section 31 22 22.
- D. Fill in Non-planting Areas: Type S1, S2 or S4 per Section 31 22 22.
- E. Imported material: Type S4 or S5 per Section 31 22 22.

PART 3 EXECUTION

3.01 EXAMINATION

- F. Verify site conditions.

3.02 PREPARATION

- A. Layout of Work:
 - 1. Contractor shall be responsible for all lines and grades.
 - 2. Check all bench marks, monuments and property lines and verify locations.
 - 3. Locate and maintain all grade stakes.
 - 4. Monuments moved or displaced during grading operation are to be replaced by a California Registered Civil Engineer or Surveyor, at Contractor's expense.
- B. Locate, identify, and protect existing above and below grade utilities from damage.
- C. Protect plant life, lawns, trees, shrubs, and other features not authorized for removal.
- D. Protect existing structures, fences, curbs, sidewalks, paving and other improvements to remain from damage from excavation equipment and vehicular traffic.
- E. Employ equipment and methods appropriate to the work site.
- F. Protect excavated areas from drainage inflow, and provide for drainage of all excavated areas.
- G. Comply with all provisions of the Construction Safety Orders and General Safety Orders of the California Division of Industrial Safety, as well as all other applicable regulations as they pertain to the protection of workers from the hazard of caving ground in excavations.

3.03 EXCAVATION

- A. Over-excavate areas to receive pavement and concrete site improvements to the bottom of the proposed aggregate base section, 12 inches below preconstruction site grades, 12 inches below the bottom of existing improvements to be removed, or to the depth required to remove any undocumented fill soils, whichever is greater.
- B. Provide additional excavation as required to conform to the lines, grades and cross-sections shown on the plans.

- C. When excavating through tree roots, perform work by hand and cut roots, where authorized, with a saw.
- D. Remove excess soil not to be used as fill in the Work from the site. Unless requested by Owner to be deposited at a site designated by Owner on the property, obtain a disposal site and legally dispose of said excess material, all at no additional cost to the Owner.
- E. Structural building pad areas and over-build zone should be considered as areas extending a minimum of 5 feet horizontally beyond the outside dimensions of the buildings, including footings and non-cantilevered carrying structural loads.
- F. To provide uniform support for the proposed building, it is recommended that over-excavation extend to at least 18 inches below preconstruction site grade, 12 inches below foundations, or to the depth required to remove any undocumented fills. The resulting bottom of excavation shall be scarified to a minimum depth of at least 8 inches, worked until uniform and free from large clods, moisture conditioned to slightly above optimum moisture, and compacted to 92 percent of the maximum density. The horizontal limits of the over-excavation should extend throughout the building pad and over-build zone, extending laterally to a minimum of 5 feet beyond the outer edges of the proposed footings.
- G. Areas of proposed lightly loaded shallow spread foundations (i.e. retaining walls, screen walls, etc.) should be over-excavated to minimum depths of one (1) foot below existing grade, to the bottom of proposed footing bottom, or depth required to remove undocumented fills, whichever is deeper. The over-excavation should also extend laterally to a minimum of 3 feet beyond the outer edges of the proposed footings. The resulting bottom of excavation shall be scarified to a minimum depth of at least 8 inches, worked until uniform and free from large clods, moisture-conditioned to slightly above optimum moisture, and compacted to a minimum of 92 percent of the maximum density.

3.04 FILLING AND COMPACTING

- A. Once clearing, grubbing and over-excavation operations are complete, scarify the surfaces to receive fill material or surface improvements to a depth of 6 inches for exterior slabs and 12 inches for pavement areas. Moisture condition as necessary, and compact as engineered fill to at least 90% of the maximum dry density.
- B. Place and compact soil fill to finish subgrade of improvements to be placed thereon, or to finished surface grade where no improvements are to be placed thereon.
- C. Conform fill to the lines, grades and cross-sections shown on the plans.
- D. All fill placed in improvement areas (structures, pavement and site concrete improvements, is to be placed as engineered fill, as described below:
 - 1. Place fill materials in layers not exceeding 6 inches in uncompacted thickness, and compact in accordance with 31 20 00/3.04.
 - 2. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Fill materials shall conform to 31 22 22.
- F. The Contractor shall be solely responsible for securing an acceptable source of import material as required to grade the site. Reference is made to 31 20 00 1.08.H.

- G. Prior to commencing construction of surface improvements, pass a test roller of size and weight as approved by the Owner over the subgrade to establish the extent of soft or spongy areas requiring repairs.
- H. Utilize equipment which will not disturb or damage existing utilities and other improvements.

3.05 FINE GRADING

- A. Fine grade all finished surfaces to the lines, grades and cross-sections shown on the plans, and to blend to hard surface improvements.
- B. Rake and smooth all finished surfaces not to receive hard surface improvements.
- C. Use suitable stockpiled topsoil for the top 12-inches of areas to receive landscape improvements. Stockpiled topsoil may also be used in the top 12-inches of areas which will not receive surface improvements or structures.
- D. Topsoil may not be used in areas requiring engineered fill.

3.06 TOLERANCES

- A. Top surface of Subgrade for Non-Vegetative Surface Improvements or Layers thereof: Plus or minus 0.02 foot from planned elevation.
- B. Top surface of Subgrade for Vegetative Surface Improvements or for Bare Ground - Plus or minus 0.05 foot of planned elevation, or as required for finish surface to match adjacent improvements or ground.

3.07 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of General Conditions and/or Division 1, General Requirements.
- B. Compaction testing will be performed in accordance with ANSI/ASTM D1557.
- C. If tests indicate work does not meet specified requirements, recompact, or remove and replace, and retest.
- D. All retesting required as a result of failure of initial test will be performed by Owner's testing agency, at the expense of the Contractor.
- E. Provide an as-graded survey of the work area, prepared by a licensed surveyor, prior to planting. The as-graded survey shall be provided to the Engineer for review and approval, and shall include grades of all concrete surface improvements, drain inlet grate elevations, storm drain pipe flowline grades, and all grade points specified on the plans. Any areas where grades do not meet specified tolerances must be corrected and re-surveyed prior to planting
- F. Where graded surfaces are not within the tolerances of this section, correct out of tolerance areas and resurvey prior to submitting final as-graded survey.

3.08 PROTECTION

- A. Protect graded areas from traffic, freezing, erosion, and all other sources of damage. Keep free of debris and trash.
- B. Repair and re-establish grades to specified tolerances where completed or partially completed work becomes eroded, rutted, settled, or where it is damaged by subsequent construction operations or weather.
- C. Where settlement occurs prior to acceptance of the work, remove and replace surface improvements, excavate, replace, and re-compact in accordance with these specifications, and restore the surface improvements.

3.09 CLEANING

- A. Remove all surplus or unsatisfactory soil material, trash, and debris, and legally dispose of off of the Owner's property.

END OF SECTION 31 20 00