County of Humboldt • Department of Public Works
1106 Second Street • Eureka • CA • 95501 • (707) 445-7377

SPECIAL PROVISIONS

NOTICE TO BIDDERS,
PROPOSAL AND CONTRACT

FOR

REDWAY TRANSFER STATION IMPROVEMENTS

CONTRACT NO.: 438005

160 WORKING DAYS

FOR USE WITH Standard Specifications dated 2024
Standard Plans dated 2024Prevailing Wage Rates,
Labor Surcharge and Equipment Rental Rates

BIDS OPEN: **October 7, 2025** AT 2:00 PM

County of Humboldt
Department of Public Works
1106 Second Street
Eureka, CA 95501

Note: To register as a plan-holder, prospective bidders must email a request to the Department of Public Works Contact Person. Failure to register as a plan-holder with the Department of Public Works may result in a nonresponsive bid.

SPECIAL PROVISIONS

NOTICE TO BIDDERS,
PROPOSAL AND CONTRACT

FOR

REDWAY TRANSFER STATION IMPROVEMENTS

CONTRACT NO.: 438005

Prepared by

County of Humboldt
Department of Public Works
1106 Second Street
Eureka, CA 95501

Approved:

Jason Hickey
RSE S5783, Expires 5/29/2026

8/20/2025
Date

Approved:

Tony R. Seghetti
RCE 63174, Expires 09/30/2026

8/20/25
Date

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COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

NOTICE TO BIDDERS

Sealed proposals will be received by (and all bids should be mailed or delivered to) the

Department of Public Works
SEALED BID for (Project Name)
County of Humboldt
1106 Second Street
Eureka, California, 95501

until 2:00 PM, **TUESDAY, October 7, 2025**, at which time they will be publicly opened by the Department of Public Works of the County of Humboldt at a public meeting located at the parking lot of the building on 1106 Second Street, Eureka CA, for performing work as follows:

REDWAY TRANSFER STATION IMPROVEMENTS
CONTRACT NO.: 438005

Bids are required for the entire work as described herein:

The work consists of replacing the existing 10-foot by 34-foot vehicle scale and portable bathroom with an 11-foot by 70-foot scale, a weigh station, an Americans with Disabilities Act (ADA)-compliant bathroom, signage, and a vehicle light system. The project also includes construction of a metal building for recycling, repairs and remodeling of the existing transfer building, ADA-compliant improvements to the walkway and parking areas, upgrades to the electrical, water, and wastewater systems, surface drainage improvements, and replacement of existing fencing with chain-link fencing and a sliding gate. Bidders are advised that the work must be completed within **160 working days**. The Engineer's Estimate for this work is: **$1,667,080**.

Plans, Special Provisions and Proposal Forms may be viewed at the Humboldt County Department of Public Works, 1106 Second Street, Eureka, California, 95501, at area plan centers and on the County's website at: http://humboldtgov.org/Bids.aspx.

To receive electronic bid documents and to **register as a plan-holder,** prospective bidders must email a request to the Department of Public Works at PWEngineering@co.humboldt.ca.us or call the Department of Public Works at (707) 445-7377. Failure to register as a plan-holder with the Department of Public Works may result in a nonresponsive bid.

Printed copies of the contract documents may be obtained by prospective Bidders upon ADVANCE payment of a non-refundable printing and service charge in the amount of $17.00. All checks shall be made payable to COUNTY OF HUMBOLDT and should be mailed along with the request for Plans to the Humboldt County Department of Public Works, 1106 Second Street, Eureka, California, 95501.

To submit questions regarding the plans and special provisions or request a copy of the latest plan holders list, email the request to PWEngineering@co.humboldt.ca.us or contact the Department of Public Works at (707) 445-7377.

Plans and Special Provisions reference the Caltrans Standard Specifications and Standard Plans dated 2024.

The successful Bidder shall furnish a Payment Bond and a Performance Bond.

The Contractor shall possess a **CLASS "B"** Contractors License at the time this contract is awarded.

A mandatory pre-bid meeting is scheduled for Tuesday, September 23, 2025, at 10:00 a.m. at the Redway Transfer Facility (Conservation Camp Road, Redway, CA 95560). Bidders who fail to attend the entire meeting or do not sign the sign-in sheet will be disqualified from bidding. Please note that the meeting will take place at an active waste transfer facility. All participants are required to wear hard hats and reflective safety vests. Vehicles should be parked at the pullouts located just before the facility's entry gate.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990. The County of Humboldt affirms that in any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprises, as defined in 49 CFR Part 26, will be afforded full opportunity to submit bids in response to this invitation.

Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at County of Humboldt, 1106 2nd Street, Eureka, CA. 95501 and available from the California Department of Industrial Relations' Internet web site at http://www.dir.ca.gov/DLSR/PWD. Addenda to modify the minimum wage rates, if necessary, will be issued to plan holders that have purchased bid documents from the Department of Public Works at 1106 Second Street, Eureka, California, 95501. Future effective general prevailing wage rates which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

The U.S. Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is (800) 424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

TRACY DAMICO
Clerk of the Board of Supervisors
County of Humboldt, State of California DATED:_____

COUNTY OF HUMBOLDT
DEPARTMENT OF PUBLIC WORKS

SPECIAL PROVISIONS
FOR

REDWAY TRANSFER STATION IMPROVEMENTS

CONTRACT NO.: 438005

DIVISION I GENERAL PROVISIONS

1 GENERAL

Add to section 1-1.01:

The work embraced herein shall be done in accordance with the **STANDARD SPECIFICATIONS dated 2024,** and the **STANDARD PLANS dated 2024**, and revisions thereto, of the State of California, Department of Transportation insofar as the same may apply and in accordance with the following special provisions. In case of conflict between the Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of such conflicting portions.

Replace the following definitions in section 1-1.07B with:

DEPARTMENT, DIRECTOR: Humboldt County Department of Public Works.

ENGINEER: The Director of Public Works of Humboldt County or his authorized agent working within the scope of his authority.

STATE: County of Humboldt, a political subdivision of the State of California.

Add to section 1-1.07B:

LABORATORY: Materials and Testing Laboratory of the Humboldt County Department of Public Works.

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2 BIDDING

Add to section 2-1.06A:

Plans, Special Provisions (not including documents included by reference) and Proposal Forms may be viewed by prospective Bidders at the Humboldt County Department of Public Works, 1106 Second Street, Eureka, California.

Plans, Special Provisions and Supplemental Project Information may be viewed on the County of Humboldt web site: http://humboldtgov.org/Bids.aspx. Current Standard Specifications are available for review at the Department of Public Works, 1106 Second Street, Eureka, California or on Caltrans web page of the Office Engineer/ Engineering. (https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications)

Note that Plans, Special Provisions, and Proposal Forms posted on the County's web site may be used to submit a bid, however prospective bidders must register as a plan-holder. Failure to register as a plan-holder with the Department of Public Works may result in a nonresponsive bid.

To **register as a plan-holder,** prospective bidder may email a request to the following project contact: Department of Public Works Office Assistant, PWEngineering@co.humboldt.ca.us or the engineering division (707) 445-7377.

Add between the 1st and 2nd paragraphs of section 2-1.06B:

The Department makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Available for inspection at the Public Works Office: 1106 2nd Street Eureka, CA 95501 Telephone No.: (707)445-7377 And available for inspection at: www.co.humboldt.ca.us.	• Geotech Report for Redway Transfer Station dated June 28, 2023, by Crawford and Associates. • OWTS DEH permit plans dated April 10, 2025. • Humboldt Community Services District - water and sewer standards • OWTS DEH Regulations and Technical Manual_2017 • Humboldt County Community Wildfire Protection Plan 2019 • Weigh Scale -Rice Lake Weighing Systems, INC - AMERICAN SCALE Quotation _August 13, 2025 • Tile 24 Energy Documentation dated January 12, 2024 • Structural Calculations -Redway Transfer Station_CALCS-1-9-25 • Ground Lease No. L-0534 dated March 8, 2010 • Security Window - READY ACCESS, INC. • 1975 As-builts Redway Transfer Station • 2014 As-builts Redway Transfer Station

Add to section 2-1.06C:

All bid proposals and materials submitted in response to this Notice to Bidders shall become the County's property and are subject to disclosure under the Public Records Act, California Government Code Sections

6250, et seq. All bid proposals submitted in response hereto, are considered public information, except for specifically identified trade secrets, which will be handled according to any and all applicable local, state and federal laws and regulations. Any portion of a bid proposal that is deemed to be a trade secret by the bidder shall be clearly marked "PROPRIETARY INFORMATION" at the top of the page in at least one-half inch (1/2") letters. Specifically identified proprietary information will not be released, if the bidder agrees to indemnify and defend the County in any action brought to disclose such information. By submitting a bid proposal in response to this Notice to Bidders, the bidder agrees that the County's failure to contact the bidder prior to the release of any proprietary information contained therein will not be a basis for liability by the County or any employee thereof. Items considered public information will be available for review after the bid opening.

Add to section 2-1.33A:

The following table lists the forms that are included in the Proposal Section of these special provisions:

Table of Forms

Form	Description
List of Subcontractors	Bidder's List of Subcontractors
DOT DES-OE-0102.14	In-Use Off-Road Diesel-Fueled Vehicle List

Add to section 2-1.33B:

The Proposal includes forms specific to the Contract. The deadlines for the submittal of the forms vary depending on the requirements of each Contract. Determine the requirements of the Contract and submit the forms based on the applicable schedule specified in section 2-1.33B.

Bid forms and information on the form that are due after the time of bid may be submitted at the time of bid.

2-1.33B(3)(c) Contracts without a DVBE Goal

2-1.33B(3)(c)(i) General
Section 2-1.33B(3)(c) applies if a DVBE goal is not shown on the *Notice to Bidders*.

2-1.33B(3)(c)(ii) Bid Form Submittal
Submit the bid forms according to the schedule shown in the following table:

Bid Form Submittal Schedule for a Non-Federal-Aid Contract without a DVBE Goal

Form	Submittal deadline
Bid to county Department of Public Works	Time of bid except for the public works contractor registration number for a joint-venture contract
For a joint-venture contract, copy of the Bid to the Department of Public Works as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid
In-Use Off-Road Diesel-Fueled Vehicle List	10 days after bid opening
Opt Out of Payment Adjustments for Price Index Fluctuations[a]	Time of bid
California Company Preference	Time of bid
Certified DVBE Summary[b]	No later than 4 p.m. on the 4th business day after bid opening
Request for Small Business Preference or Non–Small Business Preference[a]	Time of bid
Certified Small Business Listing for the Non–Small Business Preference[a]	No later than 4 p.m. on the 2nd business day after bid opening

[a]Submit only if you choose the option or preference.
[b]Submit only if you obtain DVBE participation or you are the apparent low bidder, 2nd low bidder, or 3rd low bidder and you choose to receive the specified incentive.

2-1.33B(3)(c)(iii) Reserved

2-1.33B(3)(d)–2-1.33B(3)(h) Reserved

2-1.33B(4)–2-1.33B(9) Reserved

Add to section 2-1.34:

BIDDER'S BOND

The form "Bidder's Bond" can be found following the signature page of the Proposal.

Add to section 2-1.43:

BID OPENING

The County publicly opens and reads bids at the time and place shown on the Notice to Bidders.

Add to section 2-1.50:

BID RIGGING

The U.S. Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is (800) 424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

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3 CONTRACT AWARD AND EXECUTION

Replace the 1st paragraph in section 3-1.04 with:

Bid Protest. Any bid protest must be in writing and must be received by the Department Director at 1106 Second Street, Eureka, CA, 95501 (Fax: (707) 445-7409), before 5:00 p.m. no later than three (3) working days following bid opening (the "Bid Protest Deadline") and must comply with the following requirements:

1. Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.

2. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address and telephone number of the person representing the protesting bidder if different from the protesting bidder.

3. A copy of the protest and all supporting documents must also be transmitted by fax or by e-mail, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.

4. The protested bidder may submit a written response to the protest, provided the response is received by the Department Director before 5:00 p.m., within two (2) working days after the Bid Protest Deadline or after receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must include all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address and telephone number of the person representing the protested bidder if different from the protested bidder.

5. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings. Any addenda or bulletins issued during the time of bidding, or forming a part of the documents issued to the Bidder for the preparation of his bid, shall be covered in the bid, and shall become a part of the Agreement.

Any addenda or bulletins issued during the time of bidding, or forming a part of the documents issued to the Bidder for the preparation of his bid, shall be covered in the bid, and shall become a part of the Agreement.

No person, firm or corporation shall be allowed to make or file, or be interested in, more than one bid for the same work, unless alternate bids are called for. A person, firm, or corporation who has submitted a subproposal to a Bidder, or who has quoted prices on materials to a Bidder, is not thereby disqualified from submitting a subproposal or quoting prices to other Bidders.

Replace the 2nd paragraph in section 3-1.04 with:

CONTRACT AWARD

If the County awards the contract, the award is made to the lowest responsible and responsive bidder.

Replace section 3-1.05:

The successful Bidder, simultaneously with the execution of the Agreement, will be required to furnish a **Payment Bond** in an amount equal to **one hundred (100%) percent** of the contract price, and a faithful **Performance Bond** in an amount equal to **one hundred (100%)** of the contract price; said Bonds shall be secured from a surety company satisfactory to the Humboldt County Board of Supervisors. The Payment Bond shall comply with Section 3248 of the Civil Code of the State of California. The Payment Bond and the faithful Performance Bond shall each be in a form which is satisfactory to the County Counsel of the County of Humboldt. A copy of an acceptable format is attached to the Agreement forms included in the proposal section of these specifications.

Replace section 3-1.06 with:

CONTRACTOR LICENSE

The Contractor must be properly licensed as a contractor from contract award through Contract acceptance (Public Contract Code § 10164).

Replace section 3-1.07 with:

I. THIS CONTRACT/AGREEMENT SHALL NOT BE EXECUTED BY COUNTY and the CONTRACTOR is not entitled to any rights, unless certificates of insurance, or other sufficient proof that the following provisions have been complied with, and such certificate(s) are filed with the Clerk of the Humboldt County Board of Supervisors.

II. Without limiting Contractor's indemnification provided herein, Contractor shall and shall require any of its subcontractors to take out and maintain, throughout the period of this Agreement, the following policies of insurance placed with insurers with a current A.M. Bests rating of no less than A:VII or its equivalent against injury/death to persons or damage to property which may arise from or in connection with the activities hereunder of Contractor, its agents, employees or subcontractors:

A. Comprehensive or Commercial General Liability Insurance at least as broad as Insurance Services Office Commercial General Liability coverage (occurrence from CG 0001), in an amount of $2,000,000 per occurrence. If work involves explosive, underground or collapse risks, XCU must be included. If a general aggregate limit is used, either the general aggregate limit shall apply separately to this project or the general aggregate shall be twice the required occurrence limit. Said policy shall contain, or be endorsed with, the following provisions:

(1) The County, its officers, employees and agents, are covered as additional insured for liability arising out of the operations performed by or on behalf of Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the County, its officers, agents, and employees.

(2) The policy shall not be canceled or materially reduced in coverage without thirty (30) days prior written notice (10 days for non-payment of the premium) to County by certified mail.

(3) The inclusion of more than one insured shall not operate to impair the rights of one insured against another insured, and the coverage afforded shall apply as though separate policies had

been issued to each insured, but the inclusion of more than one insured shall not operate to increase the limits of the insurer's liability.

(4) For claims related to this project, the Contractor's insurance is primary coverage to the County, and any insurance or self-insurance programs maintained by the County are excess to Contractor's insurance and will not be called upon to contribute with it.

(5) Any failure to comply with reporting or other provisions of the parties, including breach of warranties, shall not affect coverage provided to County, its officers, employees, and agents.

B. Automobile liability insurance with coverage at least as broad as Insurance Services Office form CA 0001 06092, Code 1 (any auto), for vehicles used in the performance of this Agreement with minimum coverage of not less than $1,000,000 per accident combined single limit (CSL). Such policy shall contain or be endorsed with the provision that coverage shall not be canceled or materially reduced in coverage without thirty (30) days prior written notice (10 days for non-payment of premium) to County by certified mail.

C. Workers' Compensation insurance meeting statutory limits of the California Labor Code which policy shall contain or be endorsed to contain a waiver of subrogation against County, its officers, agents, and employees and provide for thirty (30) days prior written notice in the event of cancellation.

D. Contractor shall furnish County with certificates and original endorsements effecting the required coverage prior to execution of this Agreement by County. The endorsements shall be on forms as approved by the County's Risk Manager or County Counsel. Any deductible or self-insured retention over $100,000 shall be disclosed to and approved by County. If Contractor does not keep all required policies in full force and effect, County may, in addition to other remedies under this Agreement, take out the necessary insurance, and Contractor agrees to pay the cost of said insurance.

The County may elect to treat a failure to maintain the requisite insurances as a breach of contract/agreement and terminate the contract/agreement as provided herein.

III. Contractor shall indemnify and hold harmless County and its Board, officers, officials, employees, and volunteers from and against all claims, damages, losses, and expenses including attorney fees arising out of the performance of the work described herein, caused in whole or in part by any negligent act or omission by the contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, except where caused by the active negligence, sole negligence, or willful misconduct of the County.

Replace the 2nd and 3rd paragraph in section 3-1.18 with:

The form of Agreement which the successful Bidder, as Contractor, will be required to execute, is included in the contract documents and should be carefully examined by the bidder. The agreement and bonds will be executed in duplicate. The signed agreements and bonds together with the required insurance certificates are to be returned by the successful bidder within **7 days**, not including Sundays and legal holidays, after the bidder has received the contract for execution.

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4 SCOPE OF WORK

Add to section 4-1.06:

CHANGED CONDITIONS

A. Differing Site Conditions

1. During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.
2. Upon written notification, the engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of the determination whether or not an adjustment of the contract is warranted.
3. No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.
4. No contract adjustment will be allowed under this clause for any effects caused on unchanged work.

B. Suspensions of Work Ordered by the Engineer

1. If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.
2. Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the engineer's determination whether or not an adjustment of the contract is warranted.
3. No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed.
4. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

C. Significant Changes in the Character of Work

1. The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.
2. If the alterations or changes in quantities significantly change the character of the work under the contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.
3. If the alterations or changes in quantities do not significantly change the character of the work to be performed under the contract, the altered work will be paid for as provided elsewhere in the contract.
4. The term "significant change" shall be construed to apply only to the following circumstances:
    - When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
    - When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

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5 CONTROL OF WORK

Add to section 5-1.13A:

The subcontractors listed on the "Subcontractor List," shall perform the work and supply the materials for which they are listed, unless the Contractor has received prior written authorization to perform the work with other forces or to obtain the materials from other sources.

The Contractor should notify the Engineer in writing of any changes to its anticipated subcontractor participation. This notice should be provided prior to the commencement of that portion of the work.

Replace section 5-1.13E with:

5-1.13E Prompt Payment

Section 5-1.13E applies to all contracts.

Pay your subcontractors within 7 days of receipt of each progress payment under Pub Cont Code §§ 10262 and 10262.5. Pay duly authorized motor carriers of property in dump trucks for transportation charges under Bus & Prof Code § 7108.6. Pay other entities, such as material suppliers, within 30 days of receipt of each progress payment.

Add to section 5-1.36C:

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the Contractor to protect the health, safety and welfare of workmen and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipelines greater than 150 mm (6 inches) in diameter or pipelines operating at pressures greater than 415 kPa (60 psi) gauge; underground electric supply system conductors or cables, with potential to ground of more than 300 volts, either directly buried or in duct or conduit which do not have concentric grounded conductors or other effectively grounded metal shields or sheaths.

Per Govt Code § 4216 et seq., the Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least 3 working days, but not more than 14 calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include but are not limited to the following:

Notification Center	**Telephone Number**
Underground Service Alert-Northern California (USA)	1-800-642-2444 1-800-227-2600
Underground Service Alert-Southern California (USA)	1-800-422-4133 1-800-227-2600

COORDINATION WITH W.A.S.P.O, Eel River Conservation Camp, attention is directed to Section 5-1.20 "Coordination with Other Entities", and 5-1.36C "Non-highway Facilities," of the Standard Specifications. The ***W.A.S.P.O, Eel River Conservation Camp*** must be contacted for community coordination and notified at a minimum of 10 calendar days in advance of any scheduled construction work within the project area. The Resident Engineer and/or the Contractor must schedule construction activities to coordinate with ***W.A.S.P.O, Eel River Conservation Camp***.

5-1.36C Nonhighway Facilities

5-1.36C(1) General

Before starting work that could damage or interfere with underground infrastructure, locate the infrastructure described in the Contract, including laterals and other appurtenances, and determine the presence of other underground infrastructure inferred from visible facilities, such as buildings, meters, and junction boxes. Underground infrastructure described in the Contract may be in different locations from those described, and additional infrastructure may exist.

Upon discovering an underground main or trunk line not described in the Contract, immediately notify the Engineer and the infrastructure owner. The Engineer orders the locating and protecting of the infrastructure. The locating and protecting is change order work. If ordered, repair infrastructure damage. If the damage is not due to your negligence, the repair is change order work.

Immediately notify the Engineer of a delay due to the presence of main-line underground infrastructure not described in the Contract or in a substantially different location.

Notify the Engineer if the infrastructure described in the Contract cannot be found. If after giving the notice, you find the infrastructure in a substantially different location from that described, finding the infrastructure is change order work.

1. Verified by a representative of the utility company
2. Allowing at least the time shown for the utility owner to complete its work

Utility Relocation and Contractor-Arranged Time for the Relocation

Utility	Utility Owner	Location	Working days
Water Valves (1)	W.A.S.P.O, Eel River Conservation Camp	"T"3+26.70, 30.59'RT	1
Backflow Preventer	W.A.S.P.O, Eel River Conservation Camp	"T"3+26.70, 30.59'RT	1
2" Water Line	W.A.S.P.O, Eel River Conservation Camp	PER PLAN	7

Utility Contact Information:	Phone Number
W.A.S.P.O, Eel River Conservation Camp – Kevin Farmer	(707) 932-0864

^^

6 CONTROL OF MATERIALS

Add to section 6-1.03:

6-1.03B Submittals

6-1.03B(1) General
Not Used

6-1.03B(2) Work Plan
For local material, such as rock, gravel, earth, structure backfill, pervious backfill, imported borrow, and culvert bedding, obtained from a (1) noncommercial source, or (2) source not regulated under California jurisdiction, submit a local material plan for each material at least 60 days before placing the material. The local material plan must include:

1. Certification signed by you and an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State stating:

   I am aware local material from a noncommercial source or a source not regulated under CA jurisdiction must be sampled and analyzed for pH and lead and may require sampling and analysis under section 6-1.03B(3) for other constituents of concern based on the land use history. I am aware that local material

sources must not contain ADL at concentrations greater than 80 mg/kg total lead or equal to or greater than 5 mg/L soluble lead as determined by the Waste Extraction Test (WET) Procedures, 22 CA Code of Regs § 66261.24(a)(2) App II. I am aware that a maximum quantity of material may be excavated at the site based on the minimum number of samples taken before excavating at the site under section 6-1.03B(3).

2. Land use history of the local material location and surrounding property
3. Sampling protocol
4. Number of samples per volume of local material
5. QA and QC requirements and procedures
6. Qualifications of sampling personnel
7. Stockpile history
8. Name and address of the analytical laboratory that will perform the chemical analyses
9. Analyses that will be performed for lead and pH
10. Other analyses that will be performed for possible hazardous constituents based on:

    10.1. Source property history
    10.2. Land use adjacent to source property
    10.3. Constituents of concern in the ground water basin where the job site is located

The plan must be sealed and signed by an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State.

If the plan requires revisions, the Engineer provides comments. Submit a revised plan within 7 days of receiving comments. Allow 7 days for the review.

6-1.03B(3) Analytical Test Results

At least 15 days before placing local material, submit analytical test results for each local material obtained from a noncommercial source or a source not regulated under CA jurisdiction. The analytical test results must include:

1. Certification signed by an engineer who is registered as a civil engineer in the State or a professional geologist licensed as a professional geologist by the State stating:

   The analytical testing described in the local material plan has been performed. I performed a statistical analysis of the test results using the US EPA's ProUCL software with the applicable 95 percent upper confidence limit. I certify that the material from the local material source is suitable for unrestricted use at the job site, it has a pH above 5.0, does not contain soluble lead in concentrations equal to or greater than 5mg/l as determined by the Waste Extraction Test (WET) Procedures, 22 CA Code of Regs § 66261.24(a)(2) App II, does not contain lead in concentrations above 80 mg/kg total lead, is free from all other contaminants identified in the local material plan, and will comply with the job site's basin plan and water quality objectives of the RWQCB.

2. Chain of custody of samples
3. Analytical results no older than 1 year
4. Statistical analysis of the data using US EPA’s ProUCL software with a 95 percent upper confidence limit
5. Comparison of sample results to hazardous waste concentration thresholds and the RWQCB's basin plan requirements and water quality objectives for the job site location

6-1.03B(4) Sample and Analysis

Sample and analyze local material from a (1) noncommercial source or (2) source not regulated under CA jurisdiction:

1. Before bringing the local material to the job site
2. As described in the local material plan
3. Under US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)

The sample collection must be designed to generate a data set representative of the entire volume of proposed local material.

Before excavating at the (1) noncommercial material source or (2) a source not regulated under CA jurisdiction, collect the minimum number of samples and perform the minimum number of analytical tests for the corresponding maximum volume of local material as shown in the following table:

Minimum Number of Samples and Analytical Tests for Local Material

Maximum volume of imported borrow (cu yd)	Minimum number of samples and analytical tests
< 5,000	8
5,000–10,000	12 for the first 5,000 cu yd plus 1 for each additional 1,000 cu yd or portion thereof
10,000–20,000	17 for the first 10,000 cu yd plus 1 for each additional 2,500 cu yd or portion thereof
20,000-40,000	21 for the first 20,000 cu yd plus 1 for each additional 5,000 cu yd or portion thereof
40,000–80,000	25 for the first 40,000 cu yd plus 1 for each additional 10,000 cu yd or portion thereof
> 80,000	29 for the first 80,000 cu yd plus 1 for each additional 20,000 cu yd or portion thereof

Do not collect composite samples or mix individual samples to form a composite sample.

Analyze the samples using the US EPA's ProUCL software with a 95 percent upper confidence limit. All chemical analysis must be performed by a laboratory certified by the SWRCB's Environmental Laboratory Accreditation Program (ELAP).

The analytical test results must demonstrate that the local material:

1. Is not a hazardous waste
2. Has a pH above 5.0
3. Has an average total lead concentration, based upon the 95 percent upper confidence limit, at or below 80 mg/kg
4. Is free of possible contaminants identified in the local material plan
5. Complies with the RWQCB's basin plan for the job site location
6 Complies with the RWQCB's water quality objectives for the job site location

6-1.03C Local Material Management

Do not place local material until authorized.

If the Engineer determines the appearance, odor, or texture of any delivered local material suggests possible contamination, sample and analyze the material. The sampling and analysis is change order work unless (1)

hazardous waste is discovered or (2) the analytical test results indicate the material does not comply with section 6-1.03B(3).

Dispose of noncompliant local material at an appropriately permitted CA Class I, CA Class II or CA Class III facility. You are the generator of noncompliant local material.

Replace the 4th paragraph in section 6-2.01 with:

QUALITY ASSURANCE

The County uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract.

The County may examine the records and reports of tests the prime contractor performs if they are available at the job site. Schedule work to allow time for QAP.

^^

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Add to section 7-1.02K(1):

7-1.02K(1) Labor Code 1725.5

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

Add to section 7-1.02K(2) paragraph 2:

The general prevailing wage rates determined by the Director of Industrial Relations, for the county or counties in which the work is to be done, are available at the Humboldt County Department of Public Works, 1106 Second Street, Eureka CA 95501. These wage rates are not included in the Special Provision, Notice to Bidder's, Proposal and Contract Book for the project. Changes, if any, to the general prevailing wage rates will be available at the same location.

Add to section 7-1.02L(1):

Public Contract Code, Sec. 7106 (Noncollusion)

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute signature of the Noncollusion Affidavit.

^^

8 PROSECUTION AND PROGRESS

Replace section 8-1.04B, paragraph 1&2:

BEGINNING OF WORK

The Contractor shall begin work within fifteen calendar days after the contract has been executed by the Board of Supervisors of the County of Humboldt, provided he has received a written "Notice to Proceed" from the Engineer in accordance with Section 4 of the contract Agreement.

Replace section 8-1.05, paragraph 3:

TIME OF COMPLETION

Said work shall be diligently prosecuted to completion before the expiration of:

160 WORKING DAYS

Tabulation of working days shall begin on the fifteenth calendar day after execution of the contract by the Board of Supervisors of the County of Humboldt. If said fifteenth calendar day falls on a Saturday, Sunday, or legal Holiday, then the first working day for beginning tabulation will be the first working day prior to said Saturday, Sunday or Holiday.

Replace section 8-1.10A, paragraph 1:

The County of Humboldt specifies liquidated damages (Pub. Cont. Code § 10226). Liquidated damages, if any, accrue starting on the 1st day after the expiration of the working days through the day of Contract acceptance.

Neither the Contract, nor any moneys due or to become due under the Contract, may be assigned by the Contractor without the prior consent of the Contractor's surety or sureties, unless such surety or sureties have waived their right to notice of assignment. The performance of the Contract may not be assigned without prior written consent of the County of Humboldt.

Add to section 8-1.10C:

LIQUIDATED DAMAGES

The Contractor shall pay to the County of Humboldt the sum of **$3,600** per day, for each and every calendar days' delay in finishing the work in excess of the number of working days prescribed above.

^^

9 PAYMENT

Replace section 9-1.16F with:

PROMPT PAYMENT FROM THE COUNTY TO THE CONTRACTORS

The County shall make any progress payment within 30 days after receipt of an undisputed and properly submitted payment request from a contractor on a construction contract. If the County fails to pay promptly, the County shall pay interest to the contractor, which accrues at the rate of 10 percent per annum on the principal amount of a money judgment remaining unsatisfied. Upon receipt of a payment request, the County shall act in accordance with both of the following:

1. Each payment request shall be reviewed by the County as soon as practicable after receipt for the purpose of determining that it is a proper payment request.

2. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the contractor as soon as practicable, but not later than seven (7) days, after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.

Replace sections 9-1.17(D) through 9-1.22, with the following:

FINAL PAYMENT AND CLAIMS

9-1.17D Final Payment and Claims

9-1.17D(1)
Sections 9-1.17D through 9-1.22 of the Standard Specifications shall be replaced with the following provisions as required by California Public Contract Code Section 9204 .

9-1.17D(2)
For purposes of this section:

1. "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

   1.1 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.

   1.2 Payment by the public entity of money or damages arising from work done by, or on behalf of, the 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.

   1.3 Payment of an amount that is disputed by the public entity.

2. "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the California Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

3. "Public entity" means, without limitation, except as provided herein, a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency. However, the term "public entity" shall not include any of the following:

3.1 The Department of Water Resources as to any project under the jurisdiction of that department.

3.2 The Department of Transportation as to any project under the jurisdiction of that department.

3.3 The Department of Parks and Recreation as to any project under the jurisdiction of that department.

3.4 The Department of Correction and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with section 7000) of Title 7 of Part 3 of the California Penal Code.

3.5 The Military Department as to any project under the jurisdiction of that department.

3.6 The Department of General Services as to all other projects.

3.7 The High-Speed Rail Authority.

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

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

9-1.17D(3)(a)
Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

9-1.17D(3)(b)
The claimant shall furnish reasonable documentation to support the claim.

9-1.17D(3)(c)
If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

9-1.17D(3)(d)
Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

9-1.17D(4)(a)
If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal

conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

9-1.17D(4)(b)
Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

9-1.17D(4)(c)
For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

9-1.17D(4)(d)
Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

9-1.17D(4)(e)
This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

9-1.17D(5)
Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

9-1.17D(6)
Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

9-1.17D(7)
If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The

subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

9-1.17D(8)
A waiver of the rights granted by this section 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) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the time frames and procedures set forth in this section.

9-1.18-9-1.22 RESERVED

^^

DIVISION II GENERAL CONSTRUCTION

12 TEMPORARY TRAFFIC CONTROL

12-1.01 GENERAL
Section 12-1 includes general specifications for providing temporary traffic control.
Temporary traffic control, including flagging, apparel, temporary traffic control devices, and equipment for flaggers, must comply with the *California MUTCD*, Part 6, "Temporary Traffic Control."

Contractor to provide one portable changeable message sign (PCMS), the approximate location shown on page 1 of the project plans. Comply with Section 12 -3.32.

Contractor to provide a traffic staging plan. The traffic staging plan must be approved by engineer and Recology.

Contractor to install one road work ahead sign and one end construction sign at the location shown on the plans or as directed by the engineer.

For closures longer than 15 minutes, contractor must provide a minimum of 14 days notice of complete road and/or facility closure to engineer.

12-1.02 MATERIALS
Not Used

12-1.03 CONSTRUCTION
Assign flaggers to:
1. Control traffic
2. Warn the public of any dangerous conditions resulting from the work activities

3. Provide for the passage of traffic through the work as specified for the passage of traffic for public convenience and public safety

Maintain flagging apparel, traffic control devices, and equipment for flaggers in good repair.

12-1.04 PAYMENT

Lump sum payment for the bid item Traffic Control System includes, but is not limited to, portable changeable message sign (PCMS), one road work ahead sign and one end construction sign.

Replace the last paragraph of section 12-4.01 with:

Notify the local authorities in writing of your intent to begin work at least 5 days before work is to start. Submit a copy of the notice and send it to the local authorities before commencement of construction. Cooperate with local authorities to handle traffic through the area and make arrangements to keep the working area clear of parked vehicles. The local authorities must consist of:

1. Humboldt County Sheriff Department - (707) 445-7251

If work vehicles or equipment are parked on the shoulder within 6 feet of a traffic lane, close the shoulder area with fluorescent-orange traffic cones or portable delineators. Place the cones or delineators on a taper in advance of the parked vehicles or equipment and along the edge of the traveled way at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. Use at least 9 cones or delineators for the taper. Place advance warning signs as specified in section 12-4.02C(8).

Keep a minimum of 1 traffic lane at least 10 feet wide open for traffic, except the full width of the traveled way must be open when construction operations are not active or an approved traffic control plan is in place.

Add to the end of section 12-4.02C(7)(b):

For a stationary one-way-reversing traffic-control lane closure, you may stop traffic in 1 direction for periods not to exceed 15 minutes. After each stoppage, all accumulated traffic for that direction must pass through the work zone before another stoppage is made.

^^

13 WATER POLLUTION CONTROL

Insert into section 13-1.01:

Preliminary calculations by the Engineer indicate that the project's disturbed soil area is 0.98 acres including stockpile and/or Contractor's staging area.

Manage work activities in a way that reduces the discharge of pollutants to surface waters, groundwater and separate municipal storm sewer systems.

Add to section 13-1.0B

Staging area shall be restored to pre-project conditions as directed by the Engineer.

^^

DIVISION III EARTHWORK

19 EARTHWORK

Replace the 2nd and 4th paragraphs of section 19-2.03B with:

Dispose of surplus material. Ensure enough material is available to complete the embankments before disposing of it.

If you cannot use surplus of material within the project's limits, then dispose it.

^^

DIVISION IV SUBBASES AND BASES

26 AGGREGATE BASES

Add to section 26-1.01A Summary:

The bid item Class 2 Aggregate Base applies only to walkways, ADA parking areas, valley gutter, apron, and beneath all hot mix asphalt pavement areas.

The bid item Class 2 Aggregate Base under this section does **not** apply to utility trench backfill, building foundation, or weigh scale foundations.

Add to section 26-1.04 Payment:

Aggregate Base used for utility trench backfill, building foundations, or weigh scale foundations is included in the lump sum payment for each respective bid item.

^^

DIVISION V SURFACINGS AND PAVEMENTS

39 ASPHALT CONCRETE

Replace Reserved in section 39-2.02B(3) with:

The grade of asphalt binder for Type A HMA must be PG 64-16.

The aggregate gradation for Type A HMA must be 1/2 inch.

For Type A HMA using RAP substitution of greater than 15 percent of the aggregate blend, the virgin binder grade must comply with the PG binder grade specified above with 6 degrees C reduction in the upper and lower temperature classification.

For Type A HMA using RAP substitution of 15 percent or less of the aggregate blend, the grade of the virgin binder must comply with the PG binder grade specified above.

Add to the beginning of section 39-2.02C:

Use a material transfer vehicle when placing Type A HMA if:

1. Quantity of HMA to be paved is greater than 1,000 tons.
2. Any of the following exists:
    - 2.1. Paving is allowed and the ambient air temperature is below 70 degrees F.
    - 2.2. Time from discharge to truck at the HMA plant until transfer to the paver's hopper is 90 minutes or greater.

Replace Table in Section 39-2.02B(2) with:

Type A HMA Mix Design Requirements

Quality characteristic	Test method	Requirement
Air voids content (%)	AASHTO T 269[a]	$N_{initial} > 8.0$ $N_{design} = 4.0$ (±2.0%) ($N_{design} = 5.0$ for 1-inch aggregate) $N_{max} > 2.0$
Gyration compaction (no. of gyrations)	AASHTO T 312	$N_{initial} = 8$ $N_{design} = 85.0$ $N_{max} = 130$
Voids in mineral aggregate (min, %)[b] Gradation: No. 4 3/8-inch 1/2-inch 3/4-inch 1-inch with NMAS = 1-inch with NMAS = 3/4-inch	MS-2 Asphalt Mixture Volumetrics	 16.5–19.5 15.5–18.5 14.5–17.5 13.5–16.5 13.5–16.5 14.5–17.5
Dust proportion	MS-2 Asphalt Mixture Volumetrics	0.6–1.3
Hamburg wheel track (min number of passes at 0.55-inch rut depth) Binder grade: PG 58 PG 64 PG 70 PG 76 or higher	AASHTO T 324 (Modified)[c]	 10,000 15,000 20,000 25,000

[a]Calculate the air voids content of each specimen using AASHTO T 275, Method A, to determine bulk specific gravity. Use AASHTO T 209, Method A, to determine theoretical maximum specific gravity. Use a digital manometer and pycnometer when performing AASHTO T 209.
[b]Measure bulk specific gravity using AASHTO T 275, Method A.
[c]Test plant-produced Type A HMA.

Replace Table in Section 39-2.02B(4)(a) with:

Aggregate Quality

Quality characteristic	Test method	Requirement
Percent of crushed particles: Coarse aggregate (min, %) One-fractured face Two-fractured faces Fine aggregate (min, %) (Passing No. 4 sieve and retained on No. 8 sieve.) One-fractured face	AASHTO T 335	 90 85 70
Los Angeles Rattler (max, %) Loss at 100 Rev. Loss at 500 Rev.	AASHTO T 96	 12 40
Sand equivalent (min)[a]	AASHTO T 176	47
Flat and elongated particles (max, % by weight at 5:1)	ASTM D4791	10
Fine aggregate angularity (min, %)[b]	AASHTO T 304, Method A	45

[a]The reported value must be the average of 3 tests from a single sample. Use of a sand reading indicator is required as shown in AASHTO T 176, Figure 1. Sections 4.7, "Manual Shaker," 7.1.2, "Alternate Method No. 2," and 8.4.3, "Hand Method," do not apply. Prepare the stock solution as specified in section 4.8.1, "Stock solution with formaldehyde," except omit the addition of formaldehyde.

[b]The Engineer waives this specification if the Type A HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate, except if your JMF fails verification. Manufactured sand is fine aggregate produced by crushing rock or gravel.

^^

DIVISION VI STRUCTURES

51 CONCRETE STRUCTURES

Add to the end of section 51-1.04 PAYMENT:

Payment for structural concrete is included in each lump sum bid item for the Recycling Building, Weigh Station Building, and Weigh Scale.

^^

DIVISION VIII MISCELLANEOUS CONSTRUCTION

77 LOCAL INFRASTRUCTURE

Add the following to Section 77 with:

77-1 WATERLINE SYSTEM

77-1.01 GENERAL

77-1.01A Summary

Section 77-1 includes specifications for constructing new waterline system as specified in the Humboldt Community Services District Water and Sewer Design and Construction Standards (District), American Water Works Association (AWWA) and these Special Provisions.

The work includes:

1. Install 2" Waterline
2. Install 2" Gate Valve
3. Install Backflow Device – Reduced Pressure Zone Device (RPZD)

77-1.01B Site Conditions

Connect the new water system to the existing pipeline as shown. Connections of the new pipeline to the existing pipeline must be completed within 8 hours of system shutdown unless otherwise approved by the Engineer. All equipment, materials, tools and labor necessary to complete the connections must be on-site before the shutdowns.

77-1.01C Submittals

77-1.01C(1) General

Submit a work plan describing equipment, labor, and material required to accomplish the work within the permitted time frame.

At least 20 days before the start of work, submit a complete list of materials with manufacturer and model number.

77-1.01C(2) Shop Drawings

Submit shop drawings, catalogs, and engineering data for the water system. Submit the manufacturer's certified working drawings covering the design, manufacture and fabrication of pipe, fittings, special fittings, joint details, restraint systems and lengths, and other information for the water system and accessories that show the items conform to the requirements herein.

Show pipeline stations on centerline of pipe. Include in the working drawings detailed engineering layout sheets showing by pipe marking number the order in which the various pieces of the pipe are to be assembled during construction and such other information as may be required by the Engineer to determine compliance with these special provisions.

77-1.01C(4) Certificates of Compliance

Furnish certificates of compliance for all materials, including pipe, coatings, and linings, where applicable, for the water system that show the items conforms to the District standards, including the Standard Specifications and the California Plumbing Code referenced.

77-1.01C(5) Notifications

Notify the Engineer at least 15 working days before the intended shutdowns. Keep the duration of shutdowns to a minimum and in no case must the shutdowns be more than 8 hours each. While the existing pipeline is shut down the connection work shall be performed without interruption. The signed authorization is required before each shutdown.

Notify the Engineer of any conflicts at least 10 working days before installation of the water main.

The new waterline shall be tested and disinfected before the connection to the existing facilities is made.

Notify the Engineer at least 72 hours before each of the dates proposed to make connections to existing facilities.

77-1.01D Quality Control and Assurance

77-1.01D(1) Chlorination and Flushing of Pipes

Disinfection/Chlorination and Flushing of Pipes must comply with Section 3, Part 32 of the District Standards. Chlorinated water is property of the Contractor.

77-1.01D(2) Hydrostatic Testing of Pipes

Hydrostatic Testing of Pipes must comply with the requirements in Section 3, Part 31 of the District Standards.

77-1.02 MATERIALS

77-1.02A Piping

All PVC piping and its appurtenance material must comply with the requirements in Section 3, Part 2 and 4 of the District Standards.

77-1.02B Fittings

All fitting for water pipe installation must comply with the requirements in Section 3, Part 6 of the District Standards.

77-1.03 CONSTRUCTION

77-1.03A Trench Excavation and Backfill

Trench Excavation and Backfill must comply with the requirements in Section 3, Part 26 of the District Standards.

77-1.03B Pipe Installation

Installation of pipe must comply with the requirements in Section 3, Part 25, 27, 28, 31, and 34 of the District Standards.

77-1.03C Chlorination of Pipeline

Chlorination and flushing of the pipe must comply with the requirements in Section 3, Part 32 of the District Standards. Following chlorination, all treated water becomes property of the Contractor and must be transported and disposed of in conformance with state and federal regulations and PLACs.

Install temporary blow-off valves at each end of the pipe line installation. Show locations on shop drawing submittal. Blow-off valve must comply with District Standard Drawing WS-115 or as approved by the Engineer.

77-1.03D Restraining Piping

Pipe restraints using mechanical restraints or thrust blocking must comply with the requirements in Section 3, Part 24, or Part 30 of the District Standards. Include restraint lengths and/or thrust blocking in the Shop Drawing Submittal.

77-1.03E Connections to Existing Pipe

Water tie ins must comply with the requirements in Section 3, Part 33 of the District Standards.

Expose existing piping to which connections are to be made with sufficient time to permit, where necessary, field adjustments in line, grade, or fittings.

Make connections to existing piping and valves after sections of new piping to be connected have been tested and found satisfactory.

Provide sleeves, flanges, nipples, couplings, adapters, and other fittings needed to install or attach new fittings to existing piping and to make connections to existing piping.

77-1.04 PAYMENT

Payment for the lump sum bid item Waterline System includes, but is not limited to, removal of existing water lines, fittings, valves, and any associated appurtenances and shall include labor, tools, equipment, and incidentals as necessary for the proper removal and disposal of water line, including excavation, as shown on the plans and as directed by the Engineer.

Payment for the lump sum bid item Waterline System includes, but is not limited to, full compensation for all the labor, tools, equipment, and incidentals as necessary for furnishing and installing 1" and 2" PVC waterline complete in place, including excavation and backfill, fittings, valves, mechanical restraints/anchor blocks, appurtenances, disinfection & testing, chlorination and flushing, connecting to the existing waterline as shown on the plans, as specified in these special provisions, and as directed by the Engineer.

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77-2 WASTEWATER SYSTEM

77-2.01 WASTEWATER SYSTEM

The specifications for wastewater system are divided into three parts

Part 1 - SEPTIC TANK AND STRUCTURES
Part 2 - GRAVITY AND FORCE MAIN SEWER PIPES AND APPURTANENCES
Part 3 - WISCONSIN MOUND

PART 1 - SEPTIC TANK AND STRUCTURES

1.01 GENERAL

1.01A SUMMARY

The work specified in this Section includes furnishing all labor, materials and equipment to install a sewer septic tank and pump tank to properly complete construction as described herein, as directed by the Engineer and as shown on the Contract Documents.

1.01B DESCRIPTION OF WORK

Section Includes:

A. Modular traffic rated precast concrete sanitary sewer septic tank and pump tank with tongue-and-groove joints with precast concrete grade rings to cover frame, covers, anchorage, and accessories. Installation of precast concrete sanitary sewer septic tank and pump tank shall comply with Humboldt County Services District standards similar to specification drawing SS-202 Precast Concrete Manhole.

B. Bedding and cover materials.

C. Adjusting existing structures to finished grade.

1.01C SUBMITTALS

A. Shop Drawings: Indicate septic tank and pump tank locations, elevations, piping, and sizes and elevations of penetrations.

B. Product Data: Submit cover and frame construction, features, configuration, and dimensions.

1.01D QUALITY ASSURANCE

A. Perform Work in accordance with California Plumbing Code.

B. Perform Sanitary Sewer Work in accordance with Humboldt County Onsite Wastewater Treatment System (OWTS) Regulations.

1.01E QUALIFICATIONS

A. Manufacturer must be a Company specializing in manufacturing products specified in this Section with minimum three years' experience.

1.01F DELIVERY, STORAGE AND HANDLING

A. Comply with precast concrete manufacturer's instructions for unloading, storing and moving precast manholes.

B. Store precast concrete structures to prevent damage to public or private property. Repair property damaged from materials storage.

C. Mark each precast structure by indentation or waterproof paint showing date of manufacture, manufacturer, and identifying labeling, "Sanitary Sewer".

1.02 PRODUCTS

1.02A SEPTIC TANK

A. Septic Tanks shall conform to Section 4.3 of the Humboldt County Onsite Wastewater Treatment System (OWTS) Regulations and Technical Manual.

B. Manhole walls, transition, conical sections, and base shall conform to the requirements of ASTM C478 for the depths indicated on the Contract Documents. Conical sections shall be designed to support cast iron frames and covers under an AASHTO HS-20 loading.

C. Covers: Heavy Duty, Non Rocking, Solid, Pressure Type, Bolt down cover, labeled "Sewer". Frames and covers shall be certified by the manufacturer for use under AASHTO HS-20 loading conditions as a minimum. Frames and covers shall be smooth, well-cleaned and give a bituminous coating which is tough and tenacious when hot and not tacky or brittle.

D. Base Pad: Cast-in-place concrete of type specified in Structural Cast-In-Place Concrete.

E. Shaft Construction: Concentric with eccentric cone top section; lipped male/female joints; sleeved to receive pipe sections.

F. Pipe Entry: Furnish openings as indicated on Drawings.

1.02B PUMP CHAMBER TANK

A. Pump Tanks shall conform to Section 4.5 of the Humboldt County Onsite Wastewater Treatment System (OWTS) Regulations and Technical Manual.

B. Pump Tank shall follow the same specifications shown above in Section 2.02A Septic Tank.

1.03 CONSTRUCTION

1.03A EXAMINATION

A. Verify items provided by other sections of Work are properly sized and located.

B. Verify built-in items are in proper location, and ready for roughing into Work.

C. Verify correct size of manhole excavation.

1.03B PREPRATION

A. Coordinate placement of inlet and outlet pipe or sleeves required by other sections.

B. Do not install structures where site conditions induce loads exceeding structural capacity of structures.

C. Inspect precast concrete structures immediately prior to placement in excavation to verify structures are internally clean and free from damage. Remove and replace damaged units.

D. Protect and adjust to finished grade all dry wells, drains, clean-outs, valve boxes, manholes etc.

1.03C PRECAST CONCRETE SEPTIC TANK & PUMP TANK INSTALLATION

A. Lift precast components at lifting points designated by manufacturer.

B. When lowering structures into excavations and joining pipe to units, take precautions to ensure interior of pipeline and structure remains clean.

C. Set precast structures bearing firmly and fully on crushed stone bedding, compacted as shown on drawings.

D. Assemble multi-section structures by lowering each section into excavation. Lower, set level, and firmly position base section before placing additional sections.

E. Remove foreign materials from joint surfaces and verify sealing materials are placed properly. Maintain alignment between sections by using guide devices affixed to lower section.

F. Joint sealing materials may be installed on site or at manufacturer's plant.

G. Verify manholes installed satisfy required alignment and grade.

H. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe. Install pipe boot as indicated on plan, KOR-N-SEAL, or equal.

I. Cut pipe to finish flush with interior of structure.

1.03D FRAME AND COVER INSTALLATION

A. Frames and covers shall be certified by the manufacturer for use under AASHO HS-20 loading conditions as a minimum. Comply with Humboldt County Services District standards similar to specification drawing SS-202 Precast Concrete Manhole.

B. Frames and covers shall be smooth, well-cleaned and have a bituminous coating which is tough and tenacious when hot and not tacky or brittle.

1.03E FIELD QUALITY CONTROL

A. Test in accordance with Part 4 of Humboldt County Onsite Wastewater Treatment System (OWTS) Regulations and Technical Manual.

1) When tests indicate Work does not meet specified requirements, remove work, replace to satisfaction of District's representatives and retest.

PART 2 - GRAVITY AND FORCE MAIN SEWER PIPES AND APPURTANENCES

2.01 GENERAL

2.01A SUMMARY

This Section covers the Work necessary to furnish, install, test, and complete the polyvinyl chloride (PVC) gravity pipe, fittings, and pressurized force main pipeline as shown on the plans and specified herein.

2.01B REFERENCES SPECIIFICATIONS, CODES, AND STANDARDS

A. The following references are part of this Section. In case of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail. The latest edition of the following references at the time of bid shall be used.

B. Plastic Pipe Materials Classification and Installation and Testing Procedure.

ANSI C115	Flanged Ductile-Iron Pipe
ASTM D1784	Rigid PVC Compounds and Chlorinated PVC Compounds
ASTM D1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2464	Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2466	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
ASTM D2564	Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
ASTM D2774	Underground Installation of Thermoplastic Pressure Piping
ASTM D3034	Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3139	Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals
ASTM D3212	Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM F402	Safe Handling of Solvent Cements and Primers Used for Joining Thermoplastic Pipe and Fittings
ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F656	Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
ASTM F679	Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
ASTM F913	Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe

2.01C SUBMITTALS

A. Submittals shall be provided to confirm that materials to be used comply with information specified herein.

B. Submit list of pipe and fittings to be used, which includes the following information, where applicable:

1) List of Pipe Fittings to be Used
2) Manufacturer
3) Model Number, if applicable
4) Size and Schedule
5) Material
6) Pressure Rating
7) Catalog Data

8) Drawings

C. Certificates and Compliance

Certificates of compliance shall be provided for all products and materials proposed to be used under this Section as specified in the referenced standards and the following supplemental requirements:

1) Hydrostatic proof test reports
2) Sustained pressure test reports
3) Burst strength test reports

D. All expenses incurred in making samples for certification of tests shall be borne by the CONTRACTOR.

2.01D QUALITY ASSURANCE

Tests

2) Except as modified herein, all materials used in the manufacture of the pipe shall be tested in accordance with the requirements of this Section, and as specified in the referenced standards, as applicable.
3) The CONTRACTOR shall have said material tests performed at no additional cost to the DISTRICT. The ENGINEER shall have the right to witness all testing provided that the CONTRACTOR's schedule is not delayed for the convenience of the ENGINEER.
4) In addition to those tests specifically required, the ENGINEER may request additional samples of any material for testing by the DISTRICT. The additional samples shall be furnished at no additional cost to the DISTRICT.

2.01E DELIVERY, STORAGE AND HANDLING

All plastic materials should be stored out of direct sunlight.

2.02 PRODUCTS

2.02A POLYVINYL CHLORIDE (PVC) PIPE

A. All PVC pipe and fitting shall be suitable for use with raw wastewater.

B. PVC pipe shall be SDR 26(for non-traffic areas) and C900 DR 18 (AWWA-rated)(for traffic-rated, paved areas), as shown on the plans, unless shown otherwise.

C. Pipe shall be joined using solvent cement in accordance with ASTM D2564 and ASTM D1784. Primers used on solvent cement joints shall be in accordance with ASTM F656, and handling of primers and solvent cements shall conform to ASTM F402. Solvent cements shall comply with the requirements for potable water use. Threaded and flanged joints shall be used where required. Manufacture and viscosity shall be as recommended by the pipe and fitting manufacturer to assure compatibility.

D. Gravity Sewer Pipe

1) Gravity sewer pipe shall conform to ASTM F679 with integral bell gasketed joints. Polyvinyl chloride (PVC) pipe shall be manufactured from rigid, un-plasticized polyvinyl chloride compound complying with ASTM D1784, Type 1, Grade 1 (Class 12454-B or 12364).

2) Joints. Unless otherwise indicated or shown on the Contract Drawings, PVC pipe and fittings shall have gasketed or solvent welded joints. Elastomeric gaskets shall conform to ASTM F477. All gaskets shall be suitable for corrosive air from the wet well and temperatures up to 200 degrees F. Where PVC pipe and fittings connect to valves, flexible connectors, or fans, and where shown on the Drawings, connections shall be made with flanges, unless shown otherwise. Adapter flanges may be used for connection.

E. Threaded Lubricant

1) Threaded lubricant shall be Teflon tape. Lubricant, if required, shall be suitable for lubricating the parts of the joints in the assembly. The lubricant shall have no deteriorating effects on the gasket and pipe material.

F. Solvent Cement

1) All connections to be joined by PVC (polyvinyl chloride) solvent cement shall be industrial grade and shall conform to ASTM D2564 and shall bear a dated stamp on the container indicating the date of manufacture. Manufacture and viscosity shall be as recommended by the pipe and fitting manufacturer to assure compatibility. PVC flanges shall be supplied with all necessary gaskets, bolts, and nuts. Gaskets shall be full face, 1/16-inch thick Viton. Primers used on solvent cement connections shall be in accordance with ASTM F656 and handling of primers and solvent cements shall conform to ASTM F402.

2.03 CONSTRUCTION

2.03A GENERAL

A. Upon completion of installation, piping systems shall be flushed and cleaned.

B. All rigid polyvinyl chloride (PVC) pipe shall be cut square, burrs removed, made up, and installed in accordance with the pipe manufacturer's recommendations, as approved. Offset shall be as recommended by the manufacturer for the maximum temperature variation between time of solvent welding and final use.

C. Pipe shall not be laid when the temperature is below 40 degrees F, nor above 120 degrees F when exposed to direct sunlight. Ends to be joined shall be shielded from direct sunlight prior to and during the laying operation.

D. Provide adequate ventilation when working with pipe joint solvent cement.

E. All wyes bends, service pipe and other appurtenances shall be provided as required for each connection. All joints shall be installed so as to provide watertight connection.

F. Wye joint shall be installed as directed, with the branch turned to the proper direction. Wye shall be firmly supported by methods and materials used for bedding of main line pipe. Branch of wyes shall be installed at an angle 45 degree to the springline unless grade requirement dictates otherwise.

2.03B TESTING

A. Conduct pressure and leaking tests on all newly installed pipelines. Furnish all necessary equipment, instrumentation, and material including temporary plugs and blind flanges and make all taps in the pipe, as required. The Engineer will monito the tests.

B. Where any section of pipe provided with concrete thrust blocking, do not make the pressure test until at least 5 days have elapsed after the thrust blocking is installed.

C. Conduct the tests on piping after the piping has been completely installed, including all thrust blocks and anchors.

D. All leaks shall be repaired and all leaking lines retested as approved by the ENGINEER.

E. The CONTRACTOR shall perform the deflection "mandrel" test for the sanitary sewer system as specified herein. If the amount of allowable pipe deflection is exceeded, the CONTRACTOR shall uncover the pipe and shall improve the quality of the pipe zone backfill material and/or compaction to the extent that the allowable pipe deflection is not exceeded.

F. All sanitary sewer systems shall be tested as specified. All sanitary sewer gravity lines shall be tested for leakage using a low-pressure air test. All sanitary sewer maintenance holes shall be tested for leakage as specified herein. Maintenance holes shall be tested prior to backfill placement, whereas all pipe shall be backfilled prior to testing. All leakage tests shall be completed and approved prior to placing of permanent surfacing. When leakage exceeds the amount allowed, the CONTRACTOR, at his expense, shall locate the leaks and make the necessary repairs or replacements to reduce the leakage to the specified limits, in accordance with the Specifications. Any individually detectable leaks shall be repaired regardless of the results of the tests.

G. During flushing of the sewer lines, the maintenance hole at the low end of the new line shall be plugged and incoming water pumped to a drain point approved by the DISTRICT. Before the plug can be removed, all sand, silt, gravel, and other foreign material shall be completely removed from the maintenance manhole.

H. Deflection. All PVC non-pressure pipe shall be tested for deflection obstructions and protruding laterals by passing a "mandrel" from the nearest downstream structure to the nearest upstream structure. The "deflection test" procedure shall be acceptable to the ENGINEER. The "mandrel" diameter shall be 95 percent of the pipe inside diameter.

I. Air Pressure Test. The CONTRACTOR shall furnish all materials, equipment, and labor for making an air test. Air test equipment shall be approved by the ENGINEER.

1) The CONTRACTOR may conduct an initial air test of the sewer main line after densification of the backfill but prior to installation of the laterals. Such tests will be considered to be for the CONTRACTOR'S convenience and need not to be performed in the presence of the ENGINEER.

2) Each section of the sewer shall be tested between successive maintenance manholes by plugging and bracing all openings in the main sewer line and the end of all laterals. Prior to any air pressure testing, all pipe plugs shall be checked with a soap solution to detect any air leakage. If any leaks are found, the air pressure shall be released, the leaks eliminated and the test procedure started over again.

3) The final leakage test of the sewer main line and laterals shall be conducted in the presence of the ENGINEER.

4) The test procedure shall be conducted by first increasing the pressure within the line to approximately 4 psi using a compressed air supply. After the air supply is turned off or disconnected, there shall be a two-minute waiting period to allow stabilization of air within the sewer line before the actual test begins. In no case shall the test pressure within the line be less than 3.5 psi when the test begins. The allowable air pressure loss shall not exceed 1 psi. After completion of the test, the air pressure shall be released slowly, and the test plugs shall not be removed until the air pressure is no longer measurable.

5) At the CONTRACTOR'S option, joints may be air tested individually, joint by joint, with the use of specialized equipment. The CONTRACTOR shall submit its joint testing procedure for the ENGINEER'S review prior to testing. Prior to each test, the pipe at the joint shall be wetted with water. The maximum test pressure shall be 3.0 psi. The minimum allowable pressure drop shall be 1.0 psi over a 30-second test period.

2.03C CLEANING

A. Following assembly and testing, but prior to final acceptance, all pipelines shall be flushed with high velocity water or flushed with a cleaning ball. All accumulated construction debris and other foreign matter shall be removed. Flushing velocities shall be a minimum of 2.5 feet per second. Accumulated debris shall be removed through drains 2-inches and larger or by dropping spools and valves.

B. All leaks shall be repaired, and all leaking lines retested as approved by the ENGINEER.

C. The CONTRACTOR shall perform the deflection "mandrel" test for the sanitary sewer system as specified herein. If the amount of allowable pipe deflection is exceeded, the CONTRACTOR shall uncover the pipe and shall improve the quality of the pipe zone backfill material and/or compaction to the extent that the allowable pipe deflection is not exceeded.

PART 3 - WISCONSIN MOUND

3.01 GENERAL

3.01A SUMMARY

This Section covers the Work necessary to furnish, install, test, and complete the Wisconsin Mound leach field septic system as shown on the drawings and specified herein. The Wisconsin Mound consists of piping, ball valves, cleanouts, geosynthetic filter fabric, sand, pea gravel and soil mound.

3.01B REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

Wisconsin Mound Soil Absorption System: Install disposal field specified by Humboldt County Department of Health and Human Services division of Environmental Health approved OWTS permit plans dated April 10, 2025.

3.01C FIELD MEASUREMENTS

Verify field measurements and elevations are as indicated.

3.01D QUALITY ASSURANCE

A. Per work in accordance with ACI301, California Plumbing Code.

B. Maintain one copy of latest construction documents on site; including design drawings, approved shop drawings and permit drawings, and special inspection and testing agreement.

3.02 PRODUCTS/MATERIALS

3.02A WISCONSIN MOUND

Comply with all requirements for mound system found in approved sewage disposal system from Humboldt County Department of Health and Human Services – division of Environmental Health dated April 10, 2025.

77-2.02 WASTEWATER PAYMENT

The contract lump price paid for the Wastewater System shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work, complete in place, as shown on the plans, as required by OWTS DEH permit plans, as specified in these special provisions, and as directed by the Engineer and no separate payment will be made thereof.

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80 FENCES

Replace Reserved in Section 80-11 with:

80-11 CANTILEVER GATES

80-11.01 CANTILEVER GATES

The specifications for Cantilever Gates are divided into three parts.

PART 1 – CANTILEVER GATES GENERAL

PART 2 – CANTILEVER GATES PRODUCTS

PART 3 – CANTILEVER GATES CONSTRUCTION

PART 1 – CANTILEVER GATES GENERAL

1.01 SECTION INCLUDES:

This section includes design, fabrication and installation criteria and detail for internal roller aluminum cantilever slide gates.

1.02 REFERENCES:

A. ASTM F 1184: Standard Specification for Industrial and Commercial Horizontal Slide Gates, Type 2, Class 2. (2.02).

B. ASTM A123: Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel. (2.02.D).

C. AWS D1.2: American Welding Society Structural Welding Code. (2.01.E).

D. ASTM F 2200: Standard Specification for Automated Vehicular Gate Construction (2.02.F).

E. U.L. 325: Safety Standards by Underwriter's Laboratory. (2.02.F).

1.03 SUBMITTALS:

A. Shop drawings of gates with all dimensions, details and finishes. Drawings must include post foundations.

B. Gate specifications, material certification and/or installation instructions for job-specific criteria (upon request).

C. AWS welding procedure specifications. See (2.01.E). (upon request).

PART 2 - CANTILEVER GATES PRODUCTS

2.01 MANUFACTURER:

A. Gate type shall be TrusTracII™ Series 3000 Double Track Aluminum Cantilever Slide Gate as manufactured by Master Halco - JAMIESON FENCE SUPPLY CO., 3010 Lyndon B Johnson Fwy, Suite 800, Dallas, TX 75234; PH: (800-883-8384) www.masterhalco.com.

B. Substitution of products from other manufacturers who possess documented industry experience in the manufacturing of internal roller aluminum cantilever slide gates will be considered as equal if they meet all specifications for fabrication, design, size and gauge of all component parts.

B. Submittal of an approved equal must be made to and approved by the Resident Engineer prior to construction.

C. Changes in specifications may not be made after the published date of bid.

D. Upon written notification prior to weldment that gates require construction in a fabricating plant certified to AWS D1.2, manufacturer's fabricating plant shall provide proof of certification that:

1. All weld processes conform to documented Welding Procedure Specification and Procedure Qualification Record to insure conformance to the AWS D1.2 welding code.

2. All welders employed for welding under this specification have successfully completed the qualification requirements using the procedures of the AWS D1.2 Code. Individual Certificates of Welder Qualification shall be provided upon request. (ref: 1.02.C and 1.03.C)

2.02 INTERNAL ROLLER ALUMINUM CANTILEVER SLIDE GATE

A. Gate Frame:

1) Materials to be in accordance with ASTM F 1184 Type II Class 2 (ref: 1.02.A).

Size/Material Grade/Weight:

Component	Tube dimensions	Aluminum Grade Spec.	Min. weight per linear ft (lbs)
Top Primary Members	2" x 5" □	6063-T52	2.02
	TrusTrac™ (x2) enclosed track	6061-T6	9.20
Bottom Horizontal Frame Member	5" x 2 ¾" x .320/.190 Channel	6061-T6	3.90
End Vertical Members	2" x 2" □	6061-T6	2.10
Primary Internal Vertical Members	2" x 2" □	6063-T52	1.12
Intermediate Vertical Members	1" x 2" □	6063-T52	0.82
Tension Bracing	2" x 2" □	6063-T52	1.12

Note: Gates with heights greater than 8 ft. tall and that exceed shipping constraints will include (2) horizontal splice rails with hardware for bolt together field splicing with structural materials as follows:

Horizontal Splice Rails	(2) 1" x 2" □	6063-T52	0.82 (x 2)

B. Construction:

1. No distinction of left-hand or right-hand is necessary in specifying or fabricating this gate.
2. Primary Vertical Members are to be equidistant and not to exceed 6 ft. spacing.
3. Intermediate Vertical members are to be equidistant between the Primary Vertical Members.
4. Horizontal tension bracing is provided at each end of the gate.
5. Gate frames that exceed shipping constraints (or requested to ship in shorter lengths) will be provided in (2) halves with splice provisions as follows:
    a. The splice location will be a minimum of one bay width (6 ft.) from adjacent gate posts when in the 'full open' and 'full closed' position.
    b. The Primary Vertical Member located at the splice joint will consist of (2) 1 in. x 2 in. 6061-T6511 solid rectangular aluminum bars weighing no less than 2.35 lbs./linear ft. Members are pre-drilled to mate at a minimum of 16 in. centers.
    c. A 3/8 in. thick predrilled aluminum splice plate will span the splice location on the bottom horizontal channel. It will be welded to one side with mating predrilled holes on the opposite side for field assembly at the job site.
    d. The TrusTrac™ splice location and the Top Primary Horizontal Member splice locations will not coincide within 6 ft. of each other. In the area of overlap, the track and gate frame will be predrilled for field assembly.
    e. All hardware, chain-link filler and barbed wire provided for field assembly
6. Counter-balance length shall be 50% of the leaf length extending over the gate opening. Filler material shall be installed in the counter-balance area.

7. Trussing:
    a. Each bay shall include four (4) ¼" thick aluminum gussets welded into each corner of the bay.
    b. Stainless steel wire rope is cross trussed diagonally between all Primary Vertical Members and attached to the gusset via galvanized turnbuckles between the wire rope and each bottom corner gusset to allow for adjustment. Size of wire and turnbuckles are dictated by the length of the gate as follows:

Gate Opening	Turnbuckle Size	Wire Size
< 30 '	3/8" x 6"	3/16"
30' +	1/2" x 6"	1/4"

    c. Wire rope shall be secured to the gusset with a single cable thimble and a crimped cable clamp. The overhang shall be braced exactly as the lead front end of the gate.

C. Track and Truck Assemblies:
1. A separate extruded one-piece aluminum enclosed track shall be attached to both sides of the top horizontal gate frame.
    a. The track is welded to the top horizontal member on both the top and bottom of the extrusion at no more than 3 ft. on center.
    b. The aluminum track shall be of 6061-T6 aluminum alloy weighing no less than 4.6 lb/linear ft.
    c. The aluminum track is to be rated as adequate for a 3000 lb. total load from each 10 in. truck assembly.
2. Four swivel type 10 in. steel truck assemblies are supplied (two for each track), each having (8) wheel bearings and (2) horizontal alignment wheels.
    a. Each wheel bearing to be 2 in. diameter by 9/16 in. wide with hardened and ground steel raceways encasing sealed cylindrical roller bearings. Each bearing to have a minimum capacity of 6,000 lbs. each.
    b. The front and rear of the truck shall include (2) matching side-rolling wheels to ensure truck alignment in the track during all normal operations of the gate.
    c. Each 8-wheel truck assembly to be tested at a 9,500 lb. peak load capacity.
    d. The trucks shall be mounted to post brackets by a galvanized steel 5/8 in. diameter shank.

D. Hardware:
1. All gate hardware; guide assemblies and hangers shall be manufactured from malleable iron, low carbon or pressed steel, galvanized as per ASTM A123 (ref: 1.02.B) after fabrication and furnished by the gate manufacturer.
2. Latches shall have a provision for locking devices.

E. Gate Frame Finish:
1. Choice of Natural Aluminum or Polymer Powder Coated to match fence color as specified and approved by the architect.

F. Filler: Gates (regardless of manual or automated operation) shall not have any opening that would allow a 2-¼ in. (or larger) sphere to pass through the body of the gate from grade level through 6 ft. height for the entire length of the gate frame, including the tail section (ref: 1.02.D and 1.02.E).

1. Chain Link Fence Fabric Filler:

    a. The chain link fabric filler shall be of the approved type and size as specified for the applicable fence project.

    b. The chain link fabric filler shall be stretched along the overall length of the gate including the counter-balanced area.

    c. Assembly:

        i. Attach the fabric to the gate frame by inserting a steel tension bar vertically through the last link of the fabric at both ends of the gate frame.

        ii. The tension bars are secured to the gate frame by attaching steel tension bands around frame and through the last link of fabric containing the tension bar.

        iii. A tension wire shall be stretched and attached along the top and bottom of the fabric filler and attached to the gate frame with tie wires looped through provided slots in each of the aluminum gussets in the corners of each bay. This ensures that the fabric filler is taut and secure, thus adding support to the entire gate frame. Use standard fence industry ties to secure fabric in middle to primary and intermediate verticals.

2. Ornamental Picket:

    a. All vertical filler pickets shall be constructed from 1 in. x 1 in. x 0.125 in. wall square aluminum tubing members, 6063-T52 alloy, weighing no less than 0.516 lbs/ft.

    b. Pickets are to be attached to rails by means of welding picket to top and bottom of each rail at point of contact.

2.03 POSTS:

A. Double post assemblies are required for supporting the gate/track on each side of the frame. Each gate post is a minimum of 4 in. O.D. schedule 40 weighing 9.11 lb/ft or as per architect specifications. All post shall be supported by concrete footings as specified. See 3.01.B

B. A minimum of 2 double gate posts are required for cantilevering the tail section of the gate. The latch past can be either a single gate post or double post assembly to match the cantilevering gate posts (total of 1 latch post and 2 double support posts minimum).

PART 3 - CANTILEVER GATES CONSTRUCTION

3.01 POST INSTALLATION:

A. Footing diameter and depth are functions of soil conditions, wind load, size of the gate and potentially other job-specific conditions. As such, the architect, engineer of record or other technically capable resource must determine the appropriate footing specifications.

- Note: *Unless otherwise specified by the architect or engineer of record*, excavate footings to a diameter a minimum of 4 times the diameter and 6 in. deeper than the bottom of the gate post. Posts should be set a minimum depth of 36 in. for all cantilever gates. Crown the finished concrete at the top of the grade to shed water.

B. Check each post for vertical and top alignment.

3.02 GATE INSTALLATION

A. Install gate per manufacturer's instructions. Gate should be set level and travel freely, without resistance or binding.

B. Ensure all safety devices and signs are installed and in proper working order.

C. Attach latch and make sure that gate is received by latch in a secure manner.

3.03 CLEANING

Clean up debris and remove from the site.

80-11.02 PAYMENT

The contract lump price paid for the Cantilever Gate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work, complete in place, as shown on the plans, as specified in these special provisions, and as directed by the Engineer and no separate payment will be made thereof.

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DIVISION X ELECTRICAL WORK

88 ELECTRICAL SYSTEMS

Add the following to Section 88:

88-1 BUILDING ELECTRICAL SYSTEM

88-1.01 BUILDING ELECTRICAL SYSTEM

The specifications for BUILDING ELECTRICAL SYSTEM are divided into three parts:

PART 1 – BUILDING ELECTRICAL SYSTEM GENERAL
PART 2 – BUILDING ELECTRICAL SYSTEM PRODUCTS
PART 3 – BUILDING ELECTRICAL SYSTEM CONSTRUCTION

PART 1 - BUILDING ELECTRICAL SYSTEM GENERAL

1.01 REQUIREMENTS

A. The requirements of Division 1 are a part of and apply to all work in this Section.

B. The intent of the drawings and specifications is to construct in accordance with Title 24, California Code of Regulations (CCR). Should any conditions develop not covered by the contract

documents wherein the finished work will not comply with said Title 24, California Code Of Regulations, a request for information detailing and specifying the required work shall be submitted to and approved by the Contractor before start of any work.

C. Contractor shall adhere to Redway Transfer Station Improvement plans.

1.02 DESCRIPTION

A. Provide all equipment and materials for a complete electrical system as described herein and as shown on the plans.

B. Provide the following electrical system upgrades:

1) Installation of new electrical panelboards and feeders.
2) Installation of new electrical conduit, outlets and wiring.
3) Electrical connections for equipment.
4) Adjustment and cleaning.
5) Testing and start-up.
6) Perform an operational test of the systems.

1.03 WORK INCLUDED

A. This Section describes the requirements for the electric work.

B. The drawings represent the graphic pictorial portions of the work. The work (meaning all materials, construction methods, and services necessary to complete the total construction project) shall be included in the contractor's bid. The work, including dimensions, quality and workmanship, shall be the responsibility of the contractor.

1.04 CODE COMPLIANCE

A. Perform all work in accordance with the latest adopted edition of the following codes:

1. California Electrical Code (CEC) and the California Code of Regulations, Title 24 State Building Standards, Part 3, Basic Electrical Regulations.
2. California Building Code (CBC) and the California Code of Regulations, Title 24, Part 2.
3. California Fire Code (CFC) and the California Code of Regulations Title 24, Part 9.
4. Title 19, California Code of Regulations, Public Safety, State Fire Marshal Regulations.
5. Occupational Safety and Health Act (OSHA).
6. State of California, Title 24, State Building Standards, Part 6, California Energy Code.
7. All applicable state local codes and regulations

1.05 PERMITS, FEES AND INSPECTIONS

A. Advise Engineer, one week prior to covering any work. This shall include backfilling underground conduit, patching or pouring slabs with embedded conduit, or applying skin to both sides of a wall or a hard ceiling.

1.06 STANDARDS

Comply with the current applicable standards of the listed agencies (e.g. Underwriters Laboratories, Inc. (UL)) for the electrical materials procured and installed. Ensure that the listing is applicable to the way the electrical material will be used. For example, if wire is solely UL listed as Machine Tool Wires and Cables per UL 1063 it shall not be used for wiring in a building.

A. Underwriters Laboratories, Inc. (UL): Provide a UL label or evidence of UL listing for all electrical material and equipment, unless the material is of a type for which a label or listing service is not provided.

B. National Electrical Manufacturer's Association (NEMA).

C. American National Standards Institute (ANSI).

D. American Society for Testing Materials (ASTM).

E. Insulated Power Cable Engineers Association.

F. Factory Mutual (FM) Requirements.

1.07 SUBMITTALS

A. Provide sufficient information to verify compliance with the contract documents for all material and equipment to be provided under this contract. This includes, but not limited to, the UL listing, manufacturer, model number, ratings (voltage, phase, ampacity, power consumption, short circuit interruption capacity, power, temperature, conductor temperature rating allowed to be terminated on equipment, etc.), structural support information (size, dimensions, weight, center of gravity), NEMA type, accessories, lay outs, installation requirements including clearances, features, usage, gauge, materials it is made from, wire range for terminations, photometrics, compliance statement with applicable codes and standards such as Title 24, California Energy Code, test reports, listings with California Fire Marshal, etc. The manufacturer shall provide documentation describing installation requirements, specifications, operation and maintenance instructions of proposed equipment or systems (e.g., equipment manuals).Submit manufacturer data, shop drawings, and Equipment Manuals for items listed below:

1. Manufacturers Data:
   a. Power Distribution Equipment (e.g., panelboards, transformers, disconnects)
   b. Electrical Basic Materials (e.g., conduit, boxes, receptacles, fittings, supports, anchors, firestop material)
   c. Lighting Fixtures including LED Drivers.
   d. Lighting Control Equipment including proof that it complies with the requirements of Title 24 of the California Energy Code.

1.08 MATERIALS AND SUBSTITUTIONS

A. Materials

1. All material and equipment shall be UL listed, labeled, or certified for intended use by a National Recognized Testing Laboratory (NRTL) as recognized by the U.S. Department of Labor, and

OSHA, if such listing is available for that type of material or equipment. Material and equipment shall bear the listing sticker in an accessible location.

2. Provide new material of the quality specified and satisfactory to the Engineer.
3. Provide major equipment from a manufacturer who has, for a period of not less than five years, been a successful manufacturer of similar equipment to that specified. The manufacturer shall provide documentation describing installation requirements, specifications, operation and maintenance instructions of proposed equipment or systems (e.g., equipment manuals).
4. Provide major equipment from a manufacturer who has, for a period of not less than five years, been in successful manufacture of similar equipment to that specified. The manufacturer shall provide documentation describing installation requirements, specifications, operation and maintenance instructions of proposed equipment or systems (e.g., equipment manuals).

B. Substitutions:

1. The equipment included in the Contract Documents is used to establish standards of quality, utility, and appearance. Equipment which in the opinion of the Engineer is equal in quality, utility, and appearance will be approved as substitutions to that specified.
2. Products that are specified by manufacturer, trade name or catalog number establish a standard of quality and do not prohibit the use of equal products of other manufacturers provided they are approved by the Engineer prior to bidding.
3. Where items are noted as "or equal", a product of equal design, construction and performance will be considered.
4. Any item proposed as a substitute shall be accompanied by drawings and/or data giving sizes, capacities, all pertinent test data, catalog cut sheets, product information, and all other necessary information required to substantiate that the product is equal or exceeds that specified.
5. Substitutions shall be equal, in the opinion of the Engineer, to the specified equipment. The burden of proof of such shall rest with the Contractor. When the Engineer in writing accepts a substitution, it is with the understanding that the Contractor guaranteed the substituted equipment to be equal to the one specified and dimensioned to fit within the construction. Approved substitutions shall not relieve the Contractor of responsibilities for the proper execution of the work, or from any provisions of the Plans or Specifications.
6. Only one substitution will be considered for each product specified.
7. The Contractor shall be responsible for all expenses in connection with the substitution materials, process, and equipment, including the effect of his/her substitution on him/her, his/her subcontractor's or other Contractor's work. No substitution shall be permitted without written authorization of the Engineer. Any assumptions on the acceptability of a proposed substitution prior to acceptance by the Engineer are at the sole risk of the Contractor.

1.09 DRAWINGS AND SPECIFICATIONS

A. Data given herein and on the plans are as exact as could be practically secured, but their absolute accuracy is not guaranteed. Plans and specifications are for the assistance and guidance of the Contractor and exact locations, distances, levels, obstructions, existing conditions and other data will be governed by the structures.

B. Clarification of plans and specifications for the purpose of facilitating construction, but not involving additional labor and materials, may be prepared during construction by the Engineer.

Said revised plans and specifications shall become a part of the contract. The Contractor shall conform to the revised plans and specifications at no additional cost to the Owner.

C. Layouts of equipment, accessories, and wiring systems are diagrammatic but shall be followed as closely as possible. Examine architectural, structural, mechanical and other drawings, noting all conditions that may affect this work. Report conflicting conditions to the Engineer for adjustment before proceeding with the work. Should the Contractor proceed with work without proper authorization or without reporting the matter, he does so, at his own risk. If the Engineer determines that corrections are needed because of the contractor's actions, they shall be made as directed by the Engineer at the Contractor's expense.

D. The right is reserved to make minor changes in locations of equipment and wiring systems shown, providing the change is ordered before conduit runs and/or work directly connected to same is installed and no extra materials are required.

1.10 SUPERVISION

Provide adequate and competent supervision. Maintain complete control of the project execution and complete liability for the materials and work until the project is completed and accepted by the Owner. Provide the project supervisor's name and project telephone number to the Engineer prior to starting work.

1.11 MANUFACTURER'S INSTRUCTION

A. Follow the manufacturer's instructions when specific installation or connection details are not indicated or specified on the contract documents.

B. Notify the Engineer of conflicts between the manufacturer's instructions and installation or connection details prior to the installation of materials.

1.12 WORKMANSHIP

A. Firmly and permanently secure in place all electrical equipment to the structure so that it is level, plumb, true with the structure and other equipment, and installed such that it will resist seismic movement. Perform all installations in accordance applicable codes, standards (e.g., UL standards), manufacturer's instructions, drawings and specifications and with the methods recommended by the National Electrical Contractors' Standard of Installation. Notify the Engineer of any conflicts between the drawings and specifications and the above prior to the installation of materials.

B. If an existing facility is within 2 feet of an excavation, determine the exact location of the facility by excavating with hand tools before using any power-operated or power-driven excavating or boring equipment. A vacuum excavator may be used if authorized.

C. Notify the Engineer immediately if an existing facility is damaged by your activities.

D. Cause as little interference or interruption of existing utilities and services as possible. Schedule any power or other utility shutdown with the construction coordinator. Shutdowns which may be required shall be presented to the Owner's Representative for approval two weeks prior to commencement of work. Shutdown work shall be performed on overtime hours if so directed by the Owner.

E. All UL listed, NRTL, or other listed equipment shall be installed as per listing or labeling (i.e., maximum fuse size means fuse protection required).

1.13 RECORD DRAWINGS

A. The contractor shall maintain at the job site office an up to date as-built drawing set showing actual installation of electrical systems and equipment. This set shall contain approved changes and shall be kept clean, up to date and in good condition.

B. Use this set of drawings for no other purpose.

C. Where any material, equipment, or system components are installed differently from that shown, indicate differences clearly and neatly using ink or indelible pencil.

D. At project completion, submit record set of full size drawings and four copies all marked to show final as-built conditions. These shall be turned over to the Owner's Representative upon completion.

1.14 PROTECTION

A. Protect all equipment and materials required for the performance of this work from damage by the elements, vandalism, or theft during construction.

B. Do not subject the work and materials of other trades to damage during execution of the work in this division of the specifications.

C. Before any cutting, burning, heating or other work that will emit smoke, dust or other products of combustion that may set off the fire alarm system, the contractor shall request a fire alarm system shutdown from the project Inspector and/or Owner's Representative. This request shall be made at least three days prior to the date the shutdown is required. If the contractor ignores this requirement and triggers the fire alarm system, the contractor(s) shall be responsible for all false alarm charges from the fire department. The prime contractor shall be responsible for instructing all contractors of this requirement before they are permitted on the job site. If the job site has a portable fire alarm system installed for the construction period the contractor shall be responsible for turning the system on and off each working day.

1.15 COORDINATION WITH OTHER TRADES

Coordinate with other trades and promptly transmit all information required by them. Coordinate the sequence of construction with other trades to ensure that all work proceeds with a minimum of interference and delay.

1.16 EXAMINATION OF SITE

Examine the site prior to bid to determine existing site conditions, which may affect the work. No allowance will be allowed for any extra work required due to a failure to recognize or negligence to discover conditions prior to bid.

1.17 STRUCTURAL REQUIREMENTS

A. Design and install all necessary support systems not shown on drawings to comply with the seismic design criteria in the California Building Code, Chapter 16A.

B. Secure all anchors for electrical equipment in a manner, which will not decrease the structural value of any structure to an unsafe level. Inform the Engineer of any proposed modifications to the structure, which involves cutting, or patching of concrete, masonry, steel, or wood in the project.

1.18 IDENTIFICATION

A. Install nameplates on electrical equipment including:

1. Circuit breakers, disconnect switches and starters whether provided under this Division or some other.
2. Panelboards and transformers.
3. Terminal cabinets and lighting control panels.
4. Light switches for which the control functions are not evident.
5. Where it is not obvious which piece of equipment is powered from a particular disconnect switch, provide nameplates for both disconnect switch and the powered equipment.

B. Describe item, control function or sequence of operation on each nameplate.

C. Fabricate nameplates of laminated phenolic plastic, black front and back with white core Bevel edges. Engrave through outer layer to produce white letters and numerals. For control pilot devices, engraved metallic plates, filled with enamel, are acceptable. Fasten nameplates to equipment with no. 4 Phillips, round head, cadmium steel, self tapping screws. Use 1/8-inch letters on circuit breakers, switches and other control devices, and 1/4-inch letters on panelboards, switchboards and other major electrical equipment. Submit label designations as part of corresponding equipment submittal. Also in all outdoor equipment and devices.

1. Equipment identification is to indicate the following:
   a. Equipment ID abbreviation.
   b. Voltage, phase and wires.
   c. Power source.

   Example:

   Panel ABC
   120/208V, 3 phase, 4 wire
   Fed by Panel XYZ-13,15

2. Provide Brother P-Touch labels on receptacles, light switches and junction boxes to indicate the following:

   Panel ID

   Circuit numbers

   Example:

   “Panel 1CRA-6”

1.19 TESTS

A. Take precaution during the testing period to insure the safety of personnel and equipment.

B. Component Tests:

1. Grounding systems, for resistance to earth. Provide additional grounding electrodes, if separately derived system ground resistance exceeds 5 ohms.
2. Insulation resistance at 500 V(dc) between the circuit and ground. A minimum insulation resistance of 100 MΩ on circuits must be attained.
3. Lighting circuits, for resistance to ground.
4. Power feeders, for resistance to ground.
5. Check the phase rotation. Verify it is consistent with the facility. Verify it is per the manufacturer's requirements (e.g., some uninterruptible power systems require ABC phase rotation) Verify it is the direction required for the proper machine rotational direction. Notify the Engineer of inconsistencies.
6. Check voltages ensuring that they are within specification for all equipment supplied as part of the scope of work.
7. Check circuit breakers for loose connections and proper operation. Adjust trip settings as required by Engineer.
8. Prior to energizing equipment, check the insulation resistance of conductors with a 500-volt dc "Megger". Minimum insulation resistance values shall not be less than 100 mega ohms.

C. Functional Tests:

1. Perform all tests suggested by the equipment manufacturers.
2. Verify that everything installed as part of the scope of work functions properly. Verify that any work performed did not adversely affect existing systems or equipment (e.g., that after removing a device from a branch circuit that the remaining existing branch circuit continuity was maintained).
3. Start the operational test of the system on any day except Friday or the day before a holiday. The operational test for signals must start from 9:00 a.m. to 2:00 p.m. Notify the Engineer 48 hours before starting the test.
4. An operational test consists of a minimum of 5 business days of continuous, satisfactory operation of the system. If the system fails, correct the problem and retest the system. A shutdown of the system caused by traffic, a power interruption, or unsatisfactory performance of Department-furnished materials does not constitute discontinuity of the test.

1.20 ARC FLASH

A. Perform an incident energy study in accordance with the IEEE 1584-2004a, "IEEE guide for performing arc flash hazard calculations" as referenced in NFPA 70E, "Standard for Electrical Safety in the Workplace", 2009 Revision, in order to quantify the hazard for selection of Personal Protective Equipment (PPE). Tables that assume fault current levels and clearing time for proper

PPE selection are not acceptable. Assist the owner in selecting appropriate combinations of PPE prior to the final analysis and preparation of equipment labels.

B. Labels

1. Based on the results of the incident energy study, provide and install a Warning label (orange <40 CAL/CM2) or Danger label (red > 40 CAL/CM2) for each piece of equipment in accordance with ANSI Z535.4-2002. The label must be readable in both indoor and outdoor environments for at least 3 years and contain the following information:
   a. Arc hazard boundary (inches)
   b. Working distance (inches)
      1) Arc flash incident energy at the working distance (calories/CM2), PPE category and description including the glove rating
         a) Voltage rating of the equipment
         b) Limited approach distance (inches)
         c) Restricted approach distance (inches)
         d) Prohibited approach distance (inches)
         e) Equipment/bus name
         f) Date prepared
         g) Supplier name and address

1.21 DEMONSTRATIONS

A. After testing and final inspection, demonstrate the proper operation of all equipment and systems installed as part of the scope of work to the Engineer and Owner.

B. Arrange a date for this demonstration with Owner.

C. Instruct Owner's personnel in operation, adjustment and maintenance of equipment and systems.

1.22 GUARANTEE

A. Guarantee the electrical work against defects in work or materials for one year after filing of Notice of Completion.

B. Undertake repairs within 24 hours after notice from the Owner.

C. If the operation of the electrical system fails to conform to Division 16 requirements or approved submittals, the Owner may operate the electrical system without liability to Owner. Repair or replace defective or unsatisfactory equipment or systems.

PART 2 - BUILDING ELECTRICAL SYSTEM PRODUCTS

1.23 RACEWAYS

A. Rigid Steel Conduit:

1. ANSI C80.1, minimum size 3/4 inch.
2. Threaded fittings, galvanized.
3. Locknuts, 3/4 inch to 1-1/2 inch, heavy nut steel.

4. Locknuts, 1-1/2 inch and larger, malleable iron.
5. Insulated bushings, malleable iron with plastic or nylon insert, OZ IBC threaded series, Raco 113x and 112x series, Appleton "GIB" series or equal.
6. Three piece conduit couplings, malleable iron, T & B Erickson, Appleton EC series, OZ 4 series, or equal.

B. Electrical Metallic Tubing (EMT):

1. Rolled steel ANSI C80.3.
2. Fittings, rain tight compression gland, steel, plated with zinc or cadmium for wet locations and set-screw steel for dry locations.
   a) Couplings:
      1) Compression type: OZ 6050S series, Raco 291x and 296x series, Appleton 6000SR series, or equal.
      2) Set-screw type: OZ 5050S series, Raco 202x and 215x series, Appleton 5000S series, or equal.
   b. Connectors, insulated throat:
      1) Compression type: OZ 7050ST series, Raco 291x and 296x series, Appleton 7000SRT series, or equal.
      2) Set-screw type: OZ 4050ST series, Raco 212x and 216x series, Appleton 4000ST series, or equal.
   c. Adapter, EMT to rigid steel, zinc or cadmium plated malleable iron, OZ, T & B, Efcor, or equal.
3. Maximum size, 2 inch, except for Telecommunications, 4 inch.

C. Flexible Metal Conduit:

1. Fabricate from galvanized steel strip, minimum size 1/2 inch.
2. Connectors, T & B "Tite Bite", with insulated throat, or equal.
3. Length, no greater than 18 inches except connections to light fixtures in suspended ceilings or conduit fished into existing walls may be a maximum of 6 feet. Allow slack for movement of connected equipment. Support as required.

D. Liquid-tight Flexible Metal Conduit:

1. Fabricate from galvanized steel strip, jacketed with PVC, minimum size 1/2 inch.
2. Straight connectors, cadmium plated steel or malleable iron, insulated throat and neoprene sealing ring, OZ "4Q T" series, T & B "5330" series, Raco 351x and 252x series, or equal.
3. Angle connectors, cadmium plated steel or malleable iron, insulated throat and neoprene sealing ring, OZ, T & B, Raco, or equal, comparable to straight connectors.
4. Hardware, cadmium plated steel.
5. Length, no greater than 18 inches. Allow slack for movement of connected equipment.

E. PVC Conduit:

1. Schedule 40, NEMA TC2, Type II underground installation.

2. Minimum size, 1 inch.
3. Elbows, Schedule 40, encased in concrete for sizes 2 inch and larger.
4. Extensions above grade, rigid steel (exposed), EMT (concealed indoors).
5. Adapters, PVC to rigid steel, threaded plastic.

1.24 SUPPORTING DEVICES

A. Conduit Supports:

1. Wet locations:
   a. One hole galvanzied malleable iron strap with galvanized malleable or cast iron clamp back, OZ/Gedney Type 14-G.
2. Dry locations:
   a. Galvanized steel straps, OZ/Gedney Type 5-S and 14-S, T & B, Appleton equivalent, or equal.
3. Plumbers perforated strap is not acceptable.
4. Hanger Rod, 3/8 inch, minimum galvanized all thread rod. (Slick rods not allowed).

B. Conduit Racks:

1. Framing Channel, steel, Kindorf, Unistrut, B-Line, or equal.
2. Channel and hardware shall be hot-dip or electro-galvanized, except that channel used indoors in dry locations may be painted.
3. Channels attached to building or structure surfaces, 14 gauge, 1-5/8 inch wide by 13/16 inch deep. Other channels, 12 gauge minimum, 1-5/8 inches wide by 1-5/8 inches deep, minimum.
4. Construct racks to limit deflection to 1/360 of span.
5. Load on trapeze, rod type hangers, concrete inserts and beam clamps, not to exceed 700 pounds per hanger. Provide rigid frames if load exceeds 700 pounds per hanger.

C. Anchor Methods:

1. Hollow masonry, toggle bolts or spider type expansion anchors.
2. Solid masonry, malleable iron expansion anchors or preset inserts.
3. Metal surfaces, machine screws, bolts or welded studs.
4. Wood surfaces, wood screws, lag bolts.
5. Concrete surfaces, self-drilling anchors or powder driven studs.
6. Raceway and fixtures shall not be supported solely from gypsum board ceilings.

1.25 OUTLET, PULL, AND JUNCTION BOXES

A. Construction: Deep drawn or fabricated interlocked flat pieces with welded tabs, electrogalvanized sheet steel with electrogalvanized hardware. Do not use sectional or gangable boxes.

B. Size: To accommodate the required number and sizes of conduits, wires, splices and devices but

not smaller than the size indicated or specified.

C. Plaster Ring: Provide flush with wall or ceiling finish, except where otherwise indicated or specified.

D. Device Boxes: For single switches and receptacles, provide boxes not less than 4 inches square by 1-1/2 inches deep. For 2 devices, provide boxes not less than 4-11/16 inches square by 1-1/2 inches deep.

E. Telecommunications Boxes: No less than 4-11/16 inches square by 2-1/8 inches deep.

F. Special Mounting: In cabinets, tile, concrete block, brick, stone, wood or similar material, provide rectangular boxes with square corners and straight sides. For single devices, provide boxes 4 inches high by 2-1/2 inches wide by 3-3/8 inches deep. For 2 or more devices, provide multi-gang, non-sectional box with tile or masonry ring.

G. Lighting Fixtures: 4 inches octagon by 2-1/8 inches deep, minimum. Fit boxes for surface or pendant mounted fixtures with 3/8 inch malleable iron fixture stud.

H. Cast Metal:
   1. Box: Malleable iron.
   2. Cover: Gasketed, weatherproof, malleable iron, with stainless steel screws.
   3. Hubs: Threaded.
   4. Lugs (Cast Mounting) Manufacturers:
      a. Crouse-Hinds; Type FS or FD.
      b. Appleton; Type FS or FD.
      c. Or equal.
      d. FS or FD.
      e. Or equal.

1.26 PULL AND JUNCTION BOXES OVER 300 CUBIC INCHES

A. General: For all pull and junction boxes over 300 cubic inches, provide code gauge, sheet steel boxes which meet NEMA 1 standards for panelboard and terminal cabinet box construction, with screw type covers.

B. Ground Lug: Weld, before finish is applied, a grounding pad drilled for two bolted grounding lugs or two ground studs on the box interior.

C. Finish: Apply rust inhibiting prime coat and 2 coats of baked enamel, standard factory grey.

D. Hardware: Cadmium plated steel screws.

1.27 PRECAST CONCRETE BOXES

A. Provide high-density reinforced concrete pull and junction boxes Cal trans Standard minimum, or H-20 traffic rating required. Boxes shall have end and side knockouts and be as manufactured by Christy, Forni, Brooks, or approved equal. Fabricated boxes with non-settling shoulders to facilitate maintaining grade during backfilling. Unless noted otherwise, provide galvanized steel checker plate covers with hold-down bolts, identified as follows:

System	Identification

Power – 100 Volts to 600 Volts	ELECTRICAL
Less than 100 Volts	TELEPHONE, CABLE, FIRE ALARM, etc. as applicable

1.28 WIRE AND CABLE

A. Conductor: Insulated copper, individual conductors, 98 percent conductivity.

1. Power conductors, #12 AWG, minimum to 750 MCM, stranded.
2. Control conductors #14 AWG, minimum to #10 AWG, stranded.

B. Insulation:

1. Rated 600 volts and 90 degree Celsius as follows:

Item	Size (AWG)	Insulation Type
Branch Circuits (dry and damp locations)	#12 to #4/0	THHN
Branch Circuits (wet)	#12 to #4/0	THWN-2 (Okonite for #12-10, or Equal
Fixture Taps (dry & damp	#12	THHN
Feeders (dry & damp)	#12 to #760 MCM	THHN
Feeders (wet)	#12 to #750 MCM	RHW-2, USE-2, THWN-2, XHHW-2
Controls (dry & damp)	#14 to #10	THHN
Controls (wet)	#14 to #10	THWN-2 (Okonite or Equal)

1.29 WIRE CONNECTIONS

A. Connect wire to binding post screw, stud, bolt or bus as follows:

1. #10 AWG and smaller conductors, compression type, nylon, self insulated grip spade lugs, T & B "Sta Kon", 3M Scotchlock MNG, Panduit "Pan Term", or equal.
2. #8 AWG to #750 MCM copper conductors, solderless copper lug type connectors, with hex head or allen type compression set screws with configuration to suit application, T & B "Locktite", Burndy "QA", OZ Type "XL" or "XLH", or equal. Use two screw lugs for wire #4/0 and larger.

B. Splice wire as follows:

1. #10 AWG and smaller conductors, twist on solderless, insulated spring connectors, 3M "Scotchloks", T & B "Piggys" or equal..

C. Size, install and tighten wire terminal and splice connectors in accordance with manufacturer's

recommendations.

1.30 TAPE

A. Wire Splices: Vinyl plastic electrical tape, 8.5 mil and 4.0 mil, Scotch 33.

B. Conduit Wrapping: 10 mil vinyl wrapping tape, Minnesota Mining and Manufacturing Company (3M) Scotchwrap 50, Plymoth 4611, or equal.

1.31 WIRING ACCESSORIES

A. Identify conductors with self adhesive vinyl cloth markers, sized to fit the conductor insulation, with machine printed black marking, W.H. Brady, Thomas and Betts, or equal.

B. Wire Ties:

1. Nylon, adjustable, and self-locking.

1.32 ALL PANELBOARDS

A. Provide products listed and labeled by Underwriters Laboratories Inc. as suitable for the purpose indicated.

B. Unless otherwise indicated, provide products suitable for continuous operation under the following service conditions:

1. Altitude: less than 6,600 feet.
2. Ambient temperature.

C. Short circuit current rating:

1. Provide panelboards with listed short circuit current rating not less than the available fault current at the installed location as indicated on the drawings.

D. Mains: configure for top or bottom incoming feed as indicated or as required for the installation.

E. Branch overcurrent protective devices: replaceable without disturbing adjacent devices.

F. Bussing: sized in accordance with UL 67 temperature rise requirements.

1. Provide solidly bonded equipment ground bus in each panelboard, with a suitable lug for each feeder and branch circuit equipment grounding conductor.

G. Conductor terminations: suitable for use with the conductors to be installed.

H. Enclosures: comply with NEMA 250, and list and label as complying with UL 50 and UL 50E.

1. Environment type per NEMA 250: unless otherwise indicated, as specified for the following installation locations:
2. Boxes: galvanized steel unless otherwise indicated.
3. Provide wiring gutters sized to accommodate the conductors to be installed.
4. Lockable doors: all locks keyed alike unless otherwise indicated.

I. Future provisions: prepare all unused spaces for future installation of devices including bussing, connectors, mounting hardware and all other required provisions.

1.33 BRANCH CIRCUIT PANELBOARDS

A. General: provide bussed, circuit breaker or fusible switch type panelboards with main lugs or circuit breaker in flush or surface mounted enclosures as indicated.

B. Construction:

1. Cabinets: code gauge steel cabinets, deadfront panels, and doors. Fasten deadfront panels to cabinets with concealed trim fasteners. Conceal front door hinges.
2. Dimensions: 20 inches wide by 6 inches deep.
3. Locks: flush door locks, keyed alike for all panelboards.
4. Access: hinged door-in-door (not EZ-trim) with double locks. Piano hinges preferred.
5. Standards: provide UL label where applicable and conform to no. 67 and 50 Underwriters Laboratories, Inc., and NEMA PB-1.

C. Bussing:

1. Phase bus: silver-plated copper, rated 1000 amperes per square inch cross sectional area maximum, braced for 100,000 RMS amperes minimum.
2. Neutral bus: copper with lugs for connection of neutral conductors.
3. Ground bus: copper with terminals for equipment grounding conductors.
4. Terminals: as specified in wire and cable section.

D. Finish: degrease, clean, phosphatize, prime, and finish cabinets, deadfront panels, and doors with baked enamel, color asa-61, or standard factory gray. Galvanized cabinets are acceptable for flush cabinets.

E. Nameplates:

1. Provide a nameplate identifying panelboard in accordance with identification section. Provide a manufacturer's nameplate on the deadfront interior panel indicating panelboard type, voltage rating, current rating and manufacturer's name.
2. Directory: provide a directory card which fits into slots in the back of the panelboard. Protect directory with non-yellowing clear plastic.

F. Manufacturer: Westinghouse (POW-R-Line 2), General Electric, Square D.

G. Circuit breakers:

1. Provide circuit breakers for miscellaneous branch circuits with frame sizes and ratings as shown on the plans.
2. Bolt-on, thermal magnetic, molded case, with inverse time current overload, and instantaneous magnetic trips, trip-free and trip-indicating all poles of multi-pole device shall operate simultaneously during open, close and trip operations. Provide circuit breakers indicated with the following ratings:

Panel	Circuit	Trip Rating	Voltage	Symmetrical AC
Type	Breaker Frame	(Amperes)	(AC Rating)	Interrupting Capacity
1	100/1 Pole	15-100	120	10,000 min
	100/2 and 3 Poles	15-100	240	10,000 min
	150/2 and 3 Poles	110-150	240	18,000 min
	225/3 Poles	125-225	240	22,000 min
2	100/1 Pole	15-100	277	14,000 min
	100/2 and 3 Poles	15-100	480	14,000 min
	100/2 and 3 Poles	110-150	480	25,000 min
	225/3 Poles	125-225	480	25,000 min

H. Manufacturer: Eaton Cutler-Hammer (POW-R-Line 2), General Electric, Square D.

1.34 WIRING DEVICES

A. Provide UL listed, industrial grade, wiring devices for the voltage and current ratings specified. Devices shall be UL listed as Fed. Spec. compliant and bear the UL Fed. Spec. logo , with means for back and side wiring, ivory, color selected by Engineer or color to match existing area. Provide grounding type receptacles unless otherwise noted.

B. Identify each device with panelboard and circuit number. i.e., “A-15” indicated panel “A” circuit breaker “15”. Provide clear P-Touch labels with black lettering for indoor wiring devices. Phenolic laminated engraved labels for all outdoors installations.

C. For outdoor wiring devices, provide lockable, hinged metal cover suitable for wet locations, while-in-use, Taymac #MX3200, or equal.

D. Provide 120 volt single and duplex receptacles which meet Federal Specification W-C-596 as listed and bear the UL Fed. Spec logo. In addition hospital grade receptacles shall be identified with a green dot on the face.

E. Provide receptacles other than 120 volt single and duplex as indicated.

F. Provide 20-amp AC quiet type switches with voltage ratings to suit branch circuit requirements indicated and as listed:

	HUBBELL	PASS & SEYMOUR	LEVITON
Single Pole	HBL 1221	PS20AC1	1221-2
Double Pole	HBL 1222	PS20AC2	1222-2
Three Pole	HBL 1223	PS20AC3	1223-2
Four Way	HBL 1224	PS20AC4	1224-2
SPST Momentary	HBL 1557	---	1257

G. Listed manufacturers establish a standard of quality. Substitutions will be considered in accordance with this specification.

H. Key Switches: Equivalent to listed switches, activated with removable key.

I. Switch with Pilot Light: Leviton #5226, Bryant #6405, G.E. #7945, or equal.

J. Wall Plates: Type 302 stainless steel, satin finish, minimum 0.040 inch thick single or multiple gang.

1.35 MOTOR STARTER/DISCONNECT UNITS – NOT USED

1.36 DISCONNECT SWITCHES, FUSED AND NON-FUSED

A. Where indicated, provide horsepower rated disconnect switches, pad-lockable in the open position. The current rating of non-fused switches shall be greater than or equal to the overcurrent protection upsteam of the switch. The horsepower rating shall be determined in accordance with the CEC.

B. Three Phase Switches:

1. Fused or non fused, as indicated, 600 VAC, heavy duty type safety switches, mounted in NEMA 1 general purpose enclosures in dry locations and NEMA 3R rain-tight enclosures in damp or wet locations, Cutler Hammer "DH", General Electric "TH", Square D "3110" or equal.
2. Clearly indicate on the switch enclosure the "on" and "off" positions.
3. Mechanisms, quick make, quick break. 100% load make and load break rated.
4. Door interlock, defeatable to facilitate access into the switch enclosure with the switch in the closed position.
5. Equip fusible switches with Class R fuse rejection clips.

C. Single Phase Switches:

1. Fused or non fused, as indicated, 250 VAC, general duty type safety switches, mounted in NEMA 1 general purpose enclosures in dry locations and NEMA 3R rain-tight enclosures in damp or wet locations, Cutler Hammer "DG", General Electric "Spec-Setter TG", Square D "Class 3130" or equal.
2. Clearly indicate on the switch enclosure the "on" and "off" positions.
3. Mechanisms, quick make, quick break.
4. Door interlock, defeatable to facilitate access into the switch enclosure with the switch in the closed position.
5. Equip fusible switches with Class R fuse rejection clips.

1.37 FUSES

A. General: Provide UL Class L or Class RK-1 current limiting, time delay, fuses where indicated, rated to 200,000 amperes symmetrical interrupting capacity.

B. Class L Fuses: Over 600 A, Ferraz-Shawmut "A4BY", or equal.

C. Class RK1 Fuses: Up to 600 A. Ferraz-Shawmut A2D or A6D depending on voltage, or equal.

1.38 CIRCUIT BREAKERS

Provide bolted-type thermal magnetic, molded case, with inverse time current overload, and instantaneous magnetic trips, trip-free and trip-indicating all poles of multi-pole device shall operate simultaneously during open, close and trip operations. Provide circuit breakers indicated with voltage and interrupting capacity not less than existing.

1.39 TERMINAL CABINETS

A. General: Provide terminal cabinets flush or surface mounted as indicated on plans.

B. Construction:

1. Cabinets: Code gauge steel cabinets, deadfront panels and doors. Fasten deadfront panels to cabinets with concealed trim fasteners and concealed front door hinges. Provide 1/2 inch plywood backboard, painted gray, covering entire back of cabinet. Provide all signal system terminal cabinets with terminal strips.
2. Locks: Flush door locks keyed to match panelboards.
3. Dimensions: As indicated on drawings. Mounting height same as panelboards.

C. Finish: Degrease, clean, phosphatize prime and finish cabinets, deadfront panels and doors with baked enamel, color ASA 61 or standard factory grey. Galvanized cabinets are acceptable for flush cabinets.

D. Nameplates:

1. Provide nameplate identifying terminal cabinet in accordance with Article 1.18 of this Section.
2. Provide a manufacturers nameplate on the deadfront interior panel.

E. Wire Markers:

1. Provide permanent fixed identification numbers of the printed wire marker type beside each terminal on the backboard. All wires shall have corresponding wire markers.

1.40 LIGHTING FIXTURES

A. General: Provide fixtures as indicated, factory wired, ready for field connection.

B. Equip pendant mounted fixtures with stems, ball aligners, canopies, swivel hamangers, safety cable and all mounting hardware required to conform to State of California seismic safety standards.

C. Equip chain suspended fixtures with chain hangers, safety cable and all mounting hardware required to conform to State of California seismic safety standards.

D. For surface mounted fixtures provide all blocking, mounting channels required and hardware for mounting.

E. Provide fixtures UL approved for installation against low density ceilings where applicable. Do not use spacers.

1.41 LAMPS – NOT USED

1.42 ELECTRONIC BALLASTS – NOT USED

1.43 LED LUMINAIRES:

A. Components: UL 8750 recognized or listed as applicable.

B. Tested in accordance with IES LM-79 and IES LM-80.

C. LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

D. 75CRI minimum outdoor lighting, 90 CRI minimum indoor.

E. Kelvin temperature as specified.

F. Submit sample of each fixture indicated on drawings.

1.44 EMERGENCY LIGHTING UNITS – NOT USED

1.45 EXIT SIGNS – NOT USED

1.46 LIGHTING CONTROL DEVICES

A. Provide lighting control devices (e.g., automatic time switch control device, motion sensor, occupant-sensor, photosensor, automatic daylighting control device) that meet the State of California, Title 24, State Building Standards, Part 6, California Energy Code, 2016 Edition and that have been certified to the commission.

B. Provide dimmers that are compatible with the provided LED drivers and ballasts.

PART 3 - BUILDING ELECTRICAL SYSTEM CONSTRUICTION

1.47 EXCAVATING AND BACKFILLING FOR ELECTRICAL SYSTEMS

A. General:

1. The installation of conduit includes installing caps, bushings, and pull tape and terminating the conduit in pull boxes, foundations, poles, or a structure.
2. Notify of Engineer at least 4 business days before starting horizontal directional drilling method or jack and drill activities.
3. Notify the Engineer at least 72 hours before starting excavation activities.
4. Dispose of surplus excavated material.
5. Limit the number of bends in a conduit run to no more than 360 degrees between pull points.
6. You may use a larger size conduit than specified for the entire length between termination point. Do not use a reducing coupling.

B. Trenching:

1. Dig a trench for the electrical conduits. Do not excavate until the installation of the conduit.

2. Place excavated material in a location that will not interfere with traffic or surface drainage.
3. After placing the conduit, backfill the trench with the excavated material.
4. Compact the backfill placed within the hinge points and in areas where pavement is to be constructed to a minimum relative compaction of 95 percent.
5. Restore the sidewalks, pavement, and landscaping at a location before starting excavation at another location.

3.02 UTILITY SERVICE

A. Install the service equipment early enough to allow the utility to complete its work before completion of the electrical work.

B. At least 15 days before permanent electrical and telecommunication service is required, request the service connections for permanent installations. The Department arranges with the utilities for completion of the connections and pays all costs and fees required by the utilities.

C. If service equipment is to be installed on a utility-owned pole, furnish and install the conduit, conductors, pull boxes, and other necessary material to complete the service installation. The service utility decides the position of the riser and equipment on the pole.

1.03 RACEWAY SYSTEMS

A. Install all wiring in raceways. Install raceway systems, including conduits, hangers and support channels parallel or perpendicular to structural members. Coordinate location of raceway systems with other Divisions prior to commencing installation.

B. Rigid Steel Conduit: Suitable for use in all locations. For underground installations tape wrap conduit completely with tape suitable for underground installations, double lap of Calpico 10 mil or equal.

C. Electrical Metallic Tubing: Suitable for use in concealed dry locations, not in concrete, masonry, or underground, or suitable exposed, minimum 8 feet above finished floor. Use 4 inch conduit sleeves to penetrate technology equipment room floors vertically projecting 6 inches above finished floor without a bend. Provide insulated bushings at both ends of conduit.

D. Flexible Metal Conduit: Suitable for connection of recessed lighting fixtures or other devices requiring flexible connections in dry locations.

E. Flexible Metal Conduit may be fished into existing walls as allowed by the CEC. Length shall not exceed 6’-0”.

F. Liquid Tight Flexible Metal Conduit: Suitable for connection of equipment in damp or wet locations.

G. PVC Conduit: Suitable for use underground, with a minimum of 18 inches of cover. Fabricate field bends with an approved thermal bender and jig. For underground emergency systems encase conduit in concrete, minimum of 2” all around. Maintain separation between conduits using plastic spacers specifically designed for the purpose.

H. Conduit Supports:

1. Support all conduits at intervals not to exceed 10 feet.
2. Support individual conduits with conduit hangers or clamp back and nest back, if required for entrance into the equipment.
3. Support multiple conduits, 2 or more in parallel, with framing channel and pipe clamps.
4. Spring steel fasteners may be used to fasten electrical metallic tubing to individual all threaded rod, not hanger wires, specifically used for hanging up to 1" conduit, nothing else.
5. Support all electrical equipment located in the ceiling space in accordance with CBC. Sections 1613A, and1614A. Firmly attach items weighing less than 20 pounds to main cross runners. Two 12-gauge support wires to the ceiling system hangers or structure shall be included for items from 20 and 56 pounds. Directly support items over 56 pounds from the structure above with approved hangers.
6. Fire stop penetrations of conduits, sleeves and cable trays, in walls requiring protected openings. Provide fire stop material which is a tested assembly approved by the California State Fire Marshal.
7. Cut ends of framing channel installed outdoors or in wet locations shall be painted with zinc rich paint.

I. Conduit Bends:

1. Electrical conduits: Provide no more than (3) 90 degree conduit bends or the equivalent number of smaller radius bends in any conduit run between boxes or equipment.
2. Telecommunications conduits: provide no more than (2) 90 degree bends or the equivalent number of smaller radius bend in any conduit run between boxes or stub, with radius 10 times the diameter of the conduit.
3. Length of run: 400 feet maximum, less 100 feet for each equivalent 90 degree bend.
4. Radius of Underground Bends: Minimum 8 times conduit radius. (power)
5. Fabricate bends and offsets with a hickey or conduit bender designed specifically for use with the type of conduit to be bent, or use factory made bend.

J. Conduit Installation:

1. Ream the ends of shop-cut and field-cut conduit to remove burrs and rough edges. Make the cuts square and true.
2. Cap the ends of conduit to prevent debris from entering before installing the conductors or cables.

K. Conduit Installation Underground:

1. Install conduit to a depth of:
    a. 14 inches for the trench-in-pavement method.
    b. 18 inches, minimum, under sidewalk and curbed paved median areas.
    c. 30 inches, minimum, everywhere else below grade.
2. Place a minimum of 2 inches of sand bedding in a trench before installing Type 2 or Type 3 conduit and 4 inches of sand bedding over the conduit before placing additional backfill material.

3. Notify the Engineer at least 4 business days before starting horizontal directional drilling method or jack and drill activities

1.04 BOXES AND CABINETS

A. Place outlet boxes in a location as close to that shown on the plans as possible. Coordinate location of boxes with other Divisions.

B. Install wall mounted outlet boxes so that the distance from the centerline of the box to finished floor is as listed or indicated on plan:

1. Receptacles, + 1 foot-6 inches (18")
2. Switches, + 3 feet-9 inches (45")

C. Install junction boxes with covers accessible after installation. Do not install junction boxes flush with finish walls or ceilings unless specifically approved by the Engineer.

D. Attach surface boxes with:

1. Steel or malleable iron expansion anchors in concrete or solid masonry.
2. Wood screws in wood.
3. Toggle bolts in hollow walls or masonry.
4. Machine screws, bolts or welded studs in steel.

E. Attach flush boxes with adjustable bar type hangers screw fastened to two studs and on both sides of the box.

F. For all surface mounted boxes or cabinets mounted-in wet or damp locations provide weatherproof enclosures and at least 1/4 inch air space between box and mounting surface, per CEC 312.2.

1.05 INSTALLTION OF PULL BOXES

A. You may install larger pull boxes than specified or shown and additional pull boxes to facilitate the work except in structures.

B. Install a pull box on a bed of crushed rock and grout it before installing conductors. The grout must be from 0.5 to 1 inch thick and sloped toward the drain hole. Place a layer of roofing paper between the grout and the crushed rock sump. Make a 1-inch drain hole through the grout at the center of the pull box.

C. Set the pull box such that the top is 1-1/4 inches above the surrounding grade in unpaved areas and leveled with the finished grade in sidewalks and other paved areas.

D. Place the cover on the box when not working in it.

E. Grout around conduits that are installed through the sides of the pull box.

F. Bond and ground the metallic conduit before installing conductors and cables in the conduit.

G. Bond metallic conduits in a nonmetallic pull box using bonding bushings and bonding jumpers.

H. Do not install pull boxes in concrete pads, curb ramps, or driveways.

1.06 INSULATED CONDUCTORS AND CABLE

A. Exercise extreme care when pulling conductors and cable into conduits to avoid kinking, twisting, nicking or scratching of the insulation or the placement of extreme stress on the conductors or cable. When required, utilize UL approved pulling compounds to assist in pulling conductors.

B. Color code conductors by phase sequence A-B-C when looking into the front of the equipment from left-to-right, top to bottom or front-to-back. Provide conductors with the appropriate phase color or mark conductors with a minimum of 6 inches of phase tape on ends connected to terminals. Phase code conductors as listed:

Voltage	Phase A	Phase B	Phase C	Neutral	Ground
120/208	Black	Red	Blue	White	Green
120/240	Black	Red	Orange	White	Green
277/480	Brown	Orange	Yellow	Grey	Green

C. Identify each conductor with its respective circuit number at each box or terminal.

D. Connections:

1. Utilize twist-on solderless connectors for splicing receptacle and lighting circuits #10 AWG wire size and smaller.
2. Splices and taps will not be permitted for other than receptacle and lighting circuits, or for wire larger than #10.
3. Terminate conductors at motors with bolted connections, insulated with plastic tape.

E. Clean the conduit and pull all conductors and cables as a unit.

F. Wrap conductors and secure cables to the end of the conduit in a pull box.

G. Seal the ends of conduits with a sealing compound after installing conductors or cables.

H. Neatly arrange conductors and cables inside pull boxes and cabinets. Tie the conductors and cables together with self-clinching nylon cable ties or enclose them in a plastic tubing or raceway.

I. Identify conductors and cables by direct labeling, tags, or bands fastened in such a way that they will not move. Use mechanical methods for labeling.

J. Provide band symbol identification on each conductor or each group of conductors comprising a signal phase in each pull box and near the end of terminated conductors.

K. Tape the ends of unused conductors and cables in pull boxes to form a watertight seal.

L. Manual Installation Method:

1. Use an inert lubricant for placing conductors and cables in conduit.
2. Pull the conductors.

1.07 BRANCH CIRCUIT PANELBOARDS

A. Mount panelboard so that the top is 6 feet-6 inches above the finished floor.

B. Neatly terminate conductors onto breaker, ground bus and neutral bus. Train conductors in an organized grouping with conductors fanning out at the circuit terminals, bundled in the wireways and laced with plastic ties.

C. Identify all conductors with a circuit number and phase color.

D. Type all panelboard directories.

E. Provide a minimum of three (3) 3/4 inch empty conduits into accessible ceiling space.

F. Provide insulated grounding bushings on all conduits which enter the cabinet and bond to ground bus.

G. Install conduits in a vertical line, perpendicular to the cabinet.

1.08 WIRING DEVICES

A. Connect wiring devices to circuits indicated using side or back wiring terminals.

B. Connect green grounding pigtail from receptacles to outlet box with screw.

C. Install wiring devices flush with the device plate fronts.

D. Align plates plumb with wall, and cover opening, without use of "jumbo" plates.

E. Install receptacles with grounding terminal up.

1.09 DISCONNECT SWITCHES

A. Install disconnect switches where indicated. Provide all mounting hardware and accessories.

B. Provide a flexible connection from the disconnect switch to the motor unless otherwise indicated.

C. Attach disconnect switches with specified anchors.

D. Phase tape and identify circuit numbers as specified.

E. Install fuses where indicated.

1.10 GROUNDING

A. Bond all metal components to form a continuous grounded system as specified in NEC.

B. Ground metallic equipment mounted less than 8 feet above the ground surface on a wood pole.

C. Permanently and effectively ground all raceway systems, supports, cabinets, switchboards, control equipment, motor frames, lighting fixtures and other utilization apparatus.

D. Provide a ground wire in each conduit carrying circuits operating at 100 Volts or higher bonded at each end to equipment. Size as shown on the drawings or per CEC.

1.11 ELECTRICAL WORK FOR EQUIPMENT

A. Provide all connections to equipment requiring electrical supply.

B. Review Division 23 requirements for additional work required.

1.12 LIGHTING FIXTURES

A. Install lighting fixtures complete with lamps, ready for operation.

B. Secure fixtures to the structure by means of brackets, flanges and other mounting hardware suited for the fixtures and type of installation.

C. Connect recessed fixtures with flexible metal conduit and fixture tap wire.

D. Secure surface mounted fixtures with a minimum of (2) 1/4 inch bolts into substantial structure (not just into a gypsum board ceiling), or as detailed.

E. Secure recessed troffer type fixtures with a minimum of (2) #12 AWG hanger wires, independent of ceiling hangers and secured to T-bar with suitable clips.

F. Clean lighting fixtures prior to final acceptance.

1.13 LIGHTING CONTROL DEVICES

A. Install in accordance with the manufacturer's instructions and the State of California, Title 24, State Building Standards, Part 6, California Energy Code, 2016 Edition.

B. Program system for proper operation and per Owner's representative schedule of operation, maintaining compliance with Title 24.

C. Instruct Owner's representative personnel in reprogramming and scheduling and maintenance of devices and lighting control panel.

88-1.02 BUILDING ELECTRICAL SYSTEM PAYMENT

The bid item Electrical and Lighting System shall be measured and paid for as a lump sum item, as listed in the Bid Schedule. The lump sum price shall include all labor, materials, equipment, submittals, permits, inspections, and all incidentals required to complete the work in accordance with the plans, specifications, and applicable codes. No additional compensation will be made unless authorized in writing by the Engineer.

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DIVISION XII BUILDING CONSTRUCTION

99 BUILDING CONSTRUCTION

Replace Section 99 reserved with:

99-1 METAL BUILDING

99-1.01 METAL BUILDING

The specifications for METAL BUILDING are divided into three parts:

PART 1 – METAL BUILDING GENERAL

PART 2 – METAL BUILDING PRODUCTS

PART 3 – METAL BUILDING CONSTRUCTION

PART 1 - METAL BUILDING GENERAL

1.01 SECTION INCLUDES:

A. Metal building systems including:
   1. Metal framing components.
   2. Metal wall panels and trim.
   3. Metal roof panels and trim.
   4. Metal building accessories.

1.02 RELATED SECTIONS:

A. Section [- Concrete Structures:] Concrete slabs and footings.

B. Section [- Steel Structures:] Metal wall and roof framing.

1.03 REFERENCES

A. American Institute of Steel Construction (AISC):
   1. AISC 360 - Specification for Structural Steel Buildings, June 22, 2010.
   2. AISC 341 - AISC Seismic Provisions for Structural Steel Buildings, June 22nd, 2010.
   3. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges, April 14th, 2010.

B. American Iron and Steel Institute (AISI) :
   1. AISI S100 - North American Specification for the Design of Cold-Formed Steel Structural Members, 2012 Edition.

C. American Welding Society (AWS)
   1. AWS D1.1/D1.1M - Structural Welding Code – Steel, 2010.
   2. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel, 2008

D. ASTM International (ASTM): Latest versions of:
   1. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel.
   2. ASTM A 475 - Standard Specification for Zinc-Coated Steel Wire Strand.
   3. ASTM A 500/A 500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
   4. ASTM A 529/A 529M - Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality.

5. ASTM A 563 - Standard Specification for Carbon and Alloy Steel Nuts.
6. ASTM A 572/A 572M - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
7. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
8. ASTM A 792/A 792M - Standard Specification for Steel Sheet, 55 Percent Aluminum-Zinc Alloy-Coated by Hot-Dip Process.
9. ASTM A 992/A 992M - Standard Specification for Structural Steel Shapes.
10. ASTM A 1011/A 1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength, Low-Alloy and High-Strength Low-Alloy with Improved Formability and Ultra-High Strength
11. ASTM A 1018/A 1018A - Standard Specification for Steel, Sheet and Strip, Heavy-Thickness Coils, Hot-Rolled, Carbon, Commercial, Drawing, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
12. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
13. ASTM C 1363 - Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus.
14. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
15. ASTM D 1003 - Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics.
16. ASTM D 1494 - Standard Test Method for Diffuse Light Transmission Factor of Reinforced Plastics Panels.
17. ASTM D 1929 - Standard Test Method for Determining Ignition Temperature of Plastics.
18. ASTM D 2240 - Standard Test Method for Rubber Property—Durometer Hardness.
19. ASTM D 2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
20. ASTM D 4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
21. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
22. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
23. ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Curtain Walls, and Doors under Specified Pressure Differences Across Specimen.
24. ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
25. ASTM E 1592 - Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.
26. ASTM E 1646 - Standard Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference.
27. ASTM E 1680 - Standard Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems.
28. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
29. ASTM F 436 - Standard Specification for Hardened Steel Washers
30. ASTM F 1941 - Standard Specification for Electrodeposited Coatings on Threaded Fasteners (Unified Inch Screw Threads (UN/UNR))
31. ASTM F 3125 - Standard Specification for High Strength Structural Bolts, Steel and Alloy Steel, Heat Treated, 120 ksi and 150 ksi Minimum Tensile Strength, Inch and Metric Dimensions.

E. Factory Mutual Approvals (FM Approvals):
1. FM 4471 - Approval Standard for Class 1 Panel Roofs.

2. FM 4880 - Approval Standard for Class 1 Fire Rating of Insulated Wall or Wall and Roof/Ceiling Panels, Interior Finish Materials or Coatings and Exterior Wall Systems.
3. FM 4881 - Approval Standard for Class 1 Exterior Wall Systems.

F. FM Global:
1. FM 1-28 – Property Loss Prevention Data Sheet 1-28, Wind Design, October 2015.

G. International Accreditation Service (IAS):
1. Accreditation Criteria 472 (AC472) - Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems, April 2017

H. International Standards Organization (ISO)
1. ISO 14044 - Environmental management -- Life Cycle Assessment -- Requirements and Guidelines, 2006
2. ISO 21930 - Sustainability in Building Construction -- Environmental Declaration of Building Products, 2007.

I. Metal Building Manufacturers Association (MBMA):
1. Metal Building Systems Manual, 2012 Edition.

J. National Fire Protection Association (NFPA):
1. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components, 2012 Edition.

K. Research Council on Structural Connections (RCSC):
1. Specification for Structural Joints Using High Strength Bolts, August 1, 2014.

L. Underwriters Laboratories (UL):
1. UL-580 - Tests for Uplift Resistance of Roof Assemblies.
2. UL-790 - Standard Test Methods for Fire Tests of Roof Coverings.
3. UL-2218 - Impact Resistance of Prepared Roof Covering Materials.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Prior to erection of framing, conduct pre-installation meeting at site attended by Owner, Architect, manufacturer's technical representative, inspection agency and related trade contractors.

1.05 DEFINITIONS

A. Traditional Metal Building System: Building system using either continuous or simple span "Z" purlins for support of roof covering material.
B. Long Bay System (LBS): Building system using simple span, cold-formed, open web purlins to support roof covering material.
C. Gable Symmetrical: Continuous frame building with ridge in center of building, consisting of tapered or straight columns and tapered or straight rafters. Sidewall girts may be continuous (by-passing columns) or simple span (flush in column line). Rafters may or may not have interior columns.
D. Gable Unsymmetrical: Continuous frame building with an off-center ridge, consisting of tapered or straight columns and tapered or straight rafters. Eave height and roof slope may differ on each side of ridge. Sidewall girts may be continuous (by-passing columns) or simple span (flush in column line). Rafters may or may not have interior columns.
E. Single Slope: Continuous frame building which does not contain ridge, but consists of one continuous slope from side to side. Building consists of straight or tapered columns and tapered or straight rafters.

Sidewall girts may be continuous (by-passing columns) or simple span (flush in column line). Rafters may or may not have interior columns.

F. Lean-to (LT): Building extension, which does not contain ridge, but consists of one continuous slope from side to side, usually with same roof slope and girt design as building to which attached.
G. Roof Slope: Pitch expressed as inches of rise for each 12 inches of horizontal run.
H. Acrylic-Coated Galvalume: Aluminum-Zinc coated steel with a thin clear acrylic finish coating eliminating the need for roll-forming oil and reducing incidence of field marking by handling or foot traffic.
I. Building Eave Height: Nominal dimension measured from finished floor to top flange of eave strut.
J. Building Width: Measured from outside to outside of side wall secondary structural member.
K. Building Length: Measured from outside to outside of end wall secondary structural member.
L. Auxiliary Loads: Dynamic loads induced by cranes, conveyors, or material handling systems.
M. Collateral Loads: Weight of any non-moving equipment or material, such as ceilings, electrical or mechanical equipment, sprinkler systems, plumbing, or ceilings.
N. Dead Load: Actual weight of building system as supplied by manufacturer supported by given member.
O. Floor Live Loads: Loads induced on floor system by building occupants and possessions including but not limited to furniture and equipment.
P. Roof Live Loads: Loads produced by maintenance activities, rain, erection activities, and or movable or moving loads but not including wind, snow, seismic, crane, or dead loads.
Q. Roof Snow Loads: Gravity load induced by weight of snow or ice on roof, assumed to act on horizontal projection of roof.
R. Seismic Loads: Loads acting in any direction on structural system due to action of an earthquake.
S. Wind Loads: Loads on structure induced by forces of wind blowing from any horizontal direction.

1.06 DESIGN REQUIREMENTS

A. Governing Design Code: Structural design for the metal building system shall be performed by the manufacturer of the metal building system in accordance with the latest edition of the California Bbuilding cCode provided in the contract documents.

B. Design Basis:
   1. Use standards, specifications, recommendations, findings, and interpretations of professionally recognized groups as basis for establishing design, drafting, fabrication, and quality criteria, practices, and tolerances, including the AISC Code of Standard Practice for Steel Buildings and Bridges.
   2. Design structures in accordance with MBMA Practices and Manual including fabrication and erection tolerances.
   3. Design structural mill sections and welded plate sections in accordance with AISC 360, ASD Method.
   4. Design the lateral force resisting systems and related components for seismic loads in accordance with AISC 341.
   5. Design cold-formed steel structural members and panels in accordance with AISI S-100.
   6. Design all bolted joints in accordance with RCSC Specification.

C. Design Loads:
   1. In accordance with Contract Documents and manufacturer's standard design practices.
   2. Design loads include dead loads, roof live loads, wind loads, seismic loads, collateral loads, auxiliary loads, floor live loads and applied or specified loads.

1.07 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings:
      a. Complete erection drawings with identification and assembly of building components.

b. Show anchor bolt settings, transverse cross-sections, sidewall, endwall, and roof framing, flashing and sheeting, and accessory installation details.
c. Bear seal and signature of Registered Professional Engineer responsible for metal building system design in accordance with California state law.

2. Manufacturer installation manual showing:
   a. Preparation instructions and recommendations.
   b. Storage and handling requirements and recommendations.
   c. Installation methods.

3. Structural Design Calculations: [3 sets] sealed and signed by a professional engineer licensed in accordance with applicable California state law.
4. Documentation [including test reports] supporting Thermal Transmission Coefficients (U-factors) and Solar Heat Gain Coefficients (SHGC; for non-opaque components only) of building envelope components specified in this section.

B. Samples:
1. Submit color chips showing manufacturer's full range of available colors and patterns for each finish product.
2. After color selection submit samples representing actual product, color, and patterns.

C. Quality Control Submittals:
1. IAS AC472 Certificate for each facility involved in the design and fabrication of the Metal Building System.
2. Certified Erector Certificate issued to the erector by the manufacturer.
3. Material Test Reports (MTR) for all steel material used in the manufacture of primary and secondary framing members, panels and bolts specified in this section and when required by ASTM A 6/A 6M

1.08 QUALITY ASSURANCE

A. Manufacturer and Fabricator Qualifications: Primary products furnished by single IAS AC472 accredited manufacturer/fabricator with minimum [5] years of experience.

B. Erector Qualifications:
1. Single installer with minimum [5] years of experience in installing products of same or similar type and scope.
2. Installer must be certified by the metal building manufacturer.

1.09 DELIVERY, STORAGE AND HANDLING

A. Store packaged products in original, unopened packaging until ready for installation.
B. Store and dispose of solvent-based materials and materials used with solvent-based materials in accordance with requirements of the authority having jurisdiction.
C. Protect steel products from weather as specified by manufacturer instructions.

1.10 PROJECT CONDITIONS

A. Do not install systems when temperature, humidity, or ventilation is outside of limits recommended by manufacturer.

1.11 WARRANTIES

A. Special Manufacturer’s Warranty: On manufacturer’s standard form, in which manufacturer agrees to repair or replace metal building system components that fail in materials and workmanship within one year from date of Substantial Completion.

B. Special Weathertightness Warranty: On manufacturer's standard form, in which manufacturer agrees to repair or replace metal building system components that fail to remain weathertight, including leaks, [without monetary limitation] [up to cost limitation of fourteen dollars ($14.00) per square foot of covered area] within [10] years from date of Substantial Completion.
C. Special Panel Finish Warranty: On Manufacturer's standard form, in which Manufacturer agrees to repair or replace metal panels that evidence deterioration of factory-applied finish within the specified number years from date of Substantial Completion, including:

1. Acrylic Coated Galvalume (Galvalume® Plus): Product will not rupture, fail structurally, or perforate within period of 20 years due to normal atmospheric corrosion.
2. Fluoropolymer Two-Coat System (PVDF):
   a. Color fading in excess of [10] Hunter units per ASTM D 2244 for [30] years.
   b. Chalking in excess of No. [6] rating per ASTM D 4214 for [30] years.
   c. Failure of adhesion, peeling, checking, or cracking for 40 years.

3. Metallic Fluropolymer Two-Coat System (Metallic PVDF):
   a. Chalking in excess of No. 6 rating per ASTM D 4214 for 25 years.
   b. Failure of adhesion, peeling, checking, or cracking for 25 years.

4. Modified Silicone-Polyester Two-Coat System (SMP):
   a. Color fading in excess of [7] Hunter units per ASTM D 2244, for vertical applications for [30] years.
   b. Color fading in excess of [10] Hunter units per ASTM D 2244, for non-vertical applications for [30] years.
   c. Chalking in excess of No. [7] rating per ASTM D 4214, for vertical applications for [30] years.
   d. Chalking in excess of No. [5] rating per ASTM D 4214, for non-vertical applications for [30] years.
   e. Failure of adhesion, peeling, checking, or cracking for 40 years.

PART 2 - METAL BUILDING PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Manufacturer: Metallic Building Company www.metallic.com. Other acceptable manufacturers include:

1. A&S Building Systems, subsidiary of NCI Building Systems, Inc. (www.a-s.com)
2. All-American Systems, subsidiary of NCI Building Systems, Inc. (www.allamericansys.com)
3. Ceco Building Systems, subsidiary of NCI Building Systems, Inc. (www.cecobuildings.com)
4. Garco Building Systems, a subsidiary of NCI Building Systems, Inc. (www.garcobuildings.com)
5. Mesco Building Solutions, subsidiary of NCI Buildings, Inc. (www.mescobuildingsolutions.com)
6. Mid-West Steel Building Company, subsidiary of NCI Building Systems, Inc.(www.midweststeel.com)
7. Robertson Buildings, subsidiary of NCI Building Systems, Inc.(www.robertsonbuildings.com)
8. Star Building Systems, subsidiary of NCI Building Systems, Inc. (www.starbuildings.com)

B. Substitutions: [Under provisions of Division 01].

2.02 MATERIALS

A. Primary Framing Steel:
1. Hot-rolled shapes: ASTM A 36 or ASTM A 992, minimum yield of 36 ksi or 50 ksi.
2. Built-up sections:

a. Webs:
   1. ASTM A 1011 or ASTM A1018, SS or HSLAS, Grade 55 for webs 3/16 inch thick and thinner.
   2. ASTM A 572 Grade 50 or ASTM A572 Grade 55 or ASTM A 529 Grade 55 for webs thicker than 3/16 inch.

b. Flanges: ASTM A 529 Grade 55 or ASTM A 572 Grade 50 or 55.

4. Square and rectangular tube: ASTM A 500, Grade B or C, minimum yield strength of 42 ksi.
5. Cold-formed C sections: ASTM A 1011, Grade 55, or ASTM A 653, Grade 55.
6. X-bracing: ASTM A 529 or A 572 for rod bracing 36 ksi or 50 ksi, ASTM A 36 for angle bracing or ASTM A 475 for cable bracing.

B. Secondary Framing Steel:
   1. Purlins, girts, and eave struts: ASTM A 1011 Grade 55, or ASTM A 653, Grade 55.
   2. Thickness:
      a. 16 gauge: 0.056 inch minimum uncoated thickness.
      b. 14 gauge: 0.067 inch minimum uncoated thickness.
      c. 13 gauge: 0.081 inch minimum uncoated thickness.
      d. 12 gauge: 0.100 inch minimum uncoated thickness.

   3. Finish: [Gray] Shop Coat. Shop coat only intended to provide temporary protection during transportation and erection.

C. Panels:
   1. Materials: ASTM A 792.
   2. Thickness and yield strength:
      a. 26 gauge: 0.0172 inch minimum uncoated thickness, 80 ksi yield strength.
      b. 24 gauge: 0.0212 inch minimum uncoated thickness, 50 ksi yield strength.
      c. 22 gauge: 0.0272 inch minimum uncoated thickness, 50 ksi yield strength.
   3. Finishes:
      a. Exterior Paint:
         1) Fluoropolymer Two-Coat System (PVDF): 0.2 – 0.3 mil primer with 0.7 - 0.8 mil 70 percent PVDF fluoropolymer color coat. Basis of Design: Signature 300.
      b. Interior Paint: 0.5 mil total dry film thickness consisting of primer coat and wash coat of manufacturer's standard light-colored acrylic or polyester backer finish.

   4. Fasteners:
      a. Through-fastened panels: Self-drilling with sealing washer.
      b. Standing seam panels: Long life self-drilling with sealing washer.
      c. Ridge: Long-life self-drilling with sealing washer.
      d. Clips to purlin or bar joists: Long-life self-drilling with hex washer head and washer.

   5. Clips:
      a. Low or high fixed clips: Use where moderate thermal expansion and contraction in roof panel is expected.
      b. Low or high sliding clips: Provide 2 to 4 inches of travel for panel thermal expansion and contraction.

   6. Sealants and closures:
      a. Side-laps: Factory applied, hot melt, foamable mastic.

b. End-laps, eave, ridge assembly, gable flashings: Field-applied non-skinning sealant as specified in Section 07 92 00.
c. Standing Seam Roof Closures:
   1) Outside closures: 24 gauge steel sheet.
   2) Inside closures: 18 gauge Galvalume or G-40 galvanized coated steel complying with ASTM A 653/A 653M.
d. Through-Fastened Roof Closures: Provide closed-cell polyethylene inside [and outside] foam closures.
   1) Bulk Density: 2 pounds per cubic foot.
   2) Service Temperature: -100 to 180 degrees Fahrenheit.
   3) Shore Hardness: 7 on AA scale or 51 on 00 scale when tested to ASTM D 2240.

2.03 PRIMARY FRAMING

A. Frame Design: [Gable Symmetrical].
B. Sidewall Column Profile: [Prismatic].
C. Frame Span: [Clear Span].
D. Bracing: [Standard X-Bracing or Portal Frames as allowed by accessories].

2.04 SECONDARY FRAMING

A. Roof Zee Purlins:
   1. Horizontal structural members which support roof coverings.
   2. Depth: As required by design.
   3. Thickness: As required by design.
   4. Finish: [Gray] shop coat. Shop coat only intended to provide temporary protection during transportation and erection.

B. Long Bay Purlins:
   1. Horizontal structural members that support roof systems, with virtual square shaped top and bottom chords and web members.
   2. Open Web Purlins for Long Bay applications.
   3. Finish: Gray shop coat. Shop coat only intended to provide temporary protection during transportation and erection.

C. Wall Zee Girts:
   1. Horizontal structural members that support vertical panels.
   2. Depth: As required by design.
   3. Gauge: As required by design.
   4. Finish: [Gray] shop coat. Shop coat only intended to provide temporary protection during transportation and erection.

D. Spandrel Beams: ASTM A 36/A 36M or ASTM A 992/A 992M wide flange shapes, minimum yield 50 ksi for support of wall systems provided by others, as required by design.

2.05 BOLTS

A. Rigid Frame Connections: Provide High Strength Bolts, Nuts and Washers:
   1. Bolts: ASTM F 3125 Grade A325 Heavy Hex Structural Type I.
   2. Washers: [ASTM F 436 Type 1 Hardened Steel].

3. Nuts: ASTM A 563 Grade C Heavy Hex. Nuts shall be wax coated by emulsion such that the torque required to complete a Rotational Capacity (RC) test shall be reduced by 40% from the un-waxed state.
4. Coating: [Hot-Dipped Galvanized].

B. Other Connections: Provide High Strength or Machine Bolts as required by manufacturer design:
1. High Strength Bolts and Nuts:
   a. Bolts: ASTM F 3125 Grade A325 Heavy Hex Structural Type I.
   b. Nuts: ASTM A 563 Grade C Heavy Hex.
   c. Coating: ASTM F 1941 Electrodeposited Yellow Zinc.

2. Machine Bolts:
   a. Bolts: ASTM A 307 Grade Carbon Steel.
   b. Nuts: ASTM A 563 Grade A Hex Nut.
   c. Coating: ASTM F 1941 Electrodeposited Clear Zinc.

2.06 ROOF SYSTEMS

A. Assembly Performance Requirements: Provide roof products and assemblies meeting the following requirements:
1. Class 90 rated and listed in accordance with UL-580 for Wind Uplift.
2. Class A rated and listed in accordance with UL-790 for External Fire.
3. Class 4 rated and listed in accordance with UL-2218 for Impact Resistance.

B. Through-Fastened Panels:
1. Type: Single skin ribbed panels with exposed fasteners.
2. Strength: Determine and certify allowable panel strengths in accordance with AISI S100.
3. Panel profile(s): PBR; 1-1/4 inch ribs at 12 inch centers, 1/2:12 minimum roof slope.
   a. Thickness: [22 gauge]
   b. Finish:[PVDF]
   c. Color: [Selected from manufacturer standard colors].
   d. Air Infiltration: Maximum air infiltration of 0.04 cubic feet per minute per square foot of specimen area when tested to ASTM E 1680 at a pressure differential of +/- 1.57 psf.
   e. Water Infiltration: No uncontrollable water leakage when tested to ASTM E 1646 at a 20 psf pressure differential when sprayed with 5 gallons of water per hour per square foot of specimen area.
4. Panel Profile(s): [PBU; 3/4 inch ribs at 6 inch centers, 1:12 minimum roof slope.]
   a. Thickness: [22 gauge]
   b. Finish:[Galvalume® Plus]
   c. Color: [Selected from manufacturer standard colors].

5. Panel fasteners: [Long-life finish.].
6. Sidelap mastic: [1 inch x 3/32 inch].

C. Standing Seam Panels:
1. Type: Single skin panels with concealed clips.
2. Panel Strength: Determine and certify panel strength as follows:
   a. Positive Loading (Toward Panel Supports): Determine in accordance with AISI S100.
   b. Negative Loading (Away from Panel Supports): Determine in accordance with ASTM E 1592.

3. Panel profile: Double-Lok:

a. Panel Type: Trapezoidal machine seamed, 1/4:12 minimum roof slope.
b. Panel width: [24 inches wide x 3 inches .
d. Finish: [PVDF].
e. Color: [Selected from manufacturer standard colors].
f. Air Infiltration: Maximum air infiltration of 0.04 cubic feet per minute per square foot of specimen area when tested to ASTM E 1680 at a pressure differential of +/- 1.57 psf.
g. Water Infiltration: No uncontrollable water leakage when tested to ASTM E 1646 at a 20 psf pressure differential when sprayed with 5 gallons of water per hour per square foot of specimen area.

4. Panel profile: Ultra-Dek:
   a. Panel Type: Trapezoidal snap lock, 1/4:12 minimum roof slope.
   b. Panel width: [24 inches wide x 3 inches high .
   c. Thickness: [22 gauge].
   d. Finish: [PVDF].
   e. Color: [Selected from manufacturer standard colors].

5. Panel profile: SuperLok; vertical leg architectural SSR machine seamed, 1/2:12 minimum roof slope.
   a. Panel width: [16 inches wide x 2 inches high.
   b. Seaming Type: Machine seamed.
   c. Thickness: [22 gauge].
   d. Finish: [PVDF].
   e. Color: [Selected from manufacturer standard colors].
   f. Air Infiltration: Maximum air infiltration of 0.04 cubic feet per minute per square foot of specimen area when tested to ASTM E 1680 at a pressure differential of +/- 1.57 psf.
   g. Water Infiltration: No uncontrollable water leakage when tested to ASTM E 1646 at a 12 psf pressure differential when sprayed with 5 gallons of water per hour per square foot of specimen area.

6. Panel profile: BattenLok HS; vertical leg architectural SSR machine seamed, 1/2:12 minimum roof slope.
   a. Panel width: [16 inches wide x 2 inches high.
   b. Seaming Type: Machine seamed.
   c. Thickness: [22 gauge].
   d. Finish: [PVDF].
   e. Color: [Selected from manufacturer standard colors].
   f. Air Infiltration: Maximum air infiltration of 0.04 cubic feet per minute per square foot of specimen area when tested to ASTM E 1680 at a pressure differential of +/- 1.57 psf.
   g. Water Infiltration: No uncontrollable water leakage when tested to ASTM E 1646 at a 12 psf pressure differential when sprayed with 5 gallons of water per hour per square foot of specimen area.

7. Panel clips: [As required by design and insulation requirements].

8. Thermal spacers: As Required for insulation system and panel clip.

2.07 FABRICATION

A. General:
   1. Shop-fabricate framing members for field bolted assembly.
   2. Surfaces of bolted connections: Smooth and free from burrs and distortions.

3. Shop connections to conform to manufacturer's standard design practices.
4. Mark framing members with identifying mark.
5. Welding to conform to AWS D1.1 and AWS D1.3 as applicable.

B. Primary Framing:
   1. Plates, stiffeners, and related members: Factory welded base plates, splice plates, cap plates, and stiffeners into place on structural members.
   2. Bolt holes and related machining: Shop fabricate base plates, splices and flanges to include bolt connection holes. Shop-fabricate webs to include bracing holes.
   3. Secondary structural connections (purlins and girts): Ordinary (not pretensioned) bolted connections with welded clips.
   4. Welding inspection: Per IAS AC472 Part A.

C. Long Bay Purlins:
   1. Fabricate purlins from cold-formed open web long bay system assemblies with stiffened chords.
   2. Install connection bolts through purlin seats.
   3. Pre-punch assemblies to allow for attachment of frame flange brace angles, compression strut extensions, and diagonal X-bridging at centerline.
   4. Furnish bridging as light-gauge cold-formed angles secured using self-drilling fasteners.
   5. Manufacture sections in IAS AC472 Part A and B Accredited facility.
   6. Top and bottom chords: Nominal 4 inch width formed so that top surface is continuous and flat to facilitate easy assembly of roof system.
   7. Fabricate all elements of minimum 16 gauge steel.
   8. Subject finished assemblies to periodic testing to loads equal to 110 percent of design loads.

D. Zee Purlins:
   1. Fabricate purlins from cold-formed Z-shaped sections with stiffened flanges.
   2. Size flange stiffeners to comply with requirements of AISI S100.
   3. Purlin flanges unequal in width for easier nesting during erection.
   4. Purlins pre-punched at factory to provide for field bolting to rigid frame clips.

E. Eave Struts:
   1. Fabricate eave struts from cold-formed unsymmetrical C-shaped sections with stiffened flanges.
   2. Size flange stiffeners to comply with requirements of AISI S100.
   3. No welded splices permitted.
   4. Eave Struts pre-punched at factory to provide for field bolting to rigid frame clips.

F. Girts: Simple or continuous span as required by design. Connection bolts will install through webs not flanges.

G. Bracing:
   1. Diagonal Bracing:
      a. Diagonal bracing in roof and sidewalls may be used to resist longitudinal loads in structure when panel diaphragm cannot be used.
      b. Furnish to length and equipped with hillside washers and nuts at each end.
      c. Bracing may consist of rods threaded at each end or galvanized cable with suitable threaded end anchors.
      d. If load requirements dictate, bracing may be of structural angle or pipe, bolted in place.

   2. Special Bracing:

a. When diagonal bracing is not permitted in sidewall use rigid frame type portal or fixed base column.
b. Shear walls may be used where adequate to resist applied wind or seismic forces.

3. Flange Braces: Brace compression flange of primary framing laterally with angles connecting to purlin or girt webs so that flange compressive stress is within allowable limits for any combination of loading.

4. Bridging:
   a. Laterally brace top chord of long bay purlins with horizontal bridging if roof system being used will not supply adequate lateral support to top chord.

5. Horizontally bridge bottom chord for lateral bracing. One row of bolted diagonal bridging required for long span purlins 40 feet long and longer.

H. Standing Seam Panels:
1. Provide factory fabricated and finished metal panels and accessories meeting performance requirements, indicated profiles and structural requirements.
2. Fabricate metal joints configured to accept applied sealant providing weathertight seal and preventing metal to metal contact and minimizing noise resulting from thermal movement.
3. Fabricate panels in continuous lengths for full length of detailed runs, except where otherwise indicated on drawings.
4. Sheet Metal Flashing and Trim: Fabricate or install flashing and trim to comply with manufacturer's written instructions and construction drawings.
5. Configure Ultra-Dek and Double-Lok panels with interlocking edges with factory applied hot-melt mastic inside female seam. Female side snaps over male side (Ultra-Dek) and when seamed (Double-Lok) creates continuous lock, forming 360 degree Pittsburgh seam.
6. Notch Ultra-Dek and Double-Lok panels at factory at both ends so that field installation can commence or terminate from either end of building.
7. Maximum panel length: 45 feet unless otherwise indicated.

I. End Laps:
1. Fabricate with 16 gauge backup plates and eight end lap joint fasteners installed in six pre-punched holes in flat and in dimples in trapezoidal legs.
2. Apply mastic between panels and secure with self-drilling fasteners through panels and backup plate.
3. Through roof fasteners may be used only at end laps and eaves.

PART 3 - METAL BUILDING CONSTRUCTION

3.01 PREPARATION
A. Clean surfaces prior to installation.
B. Prepare surfaces using methods recommended by manufacturer for best result for substrate.

3.02 INSTALLATION
A. Install system in accordance with manufacturer's instructions and approved Shop Drawings.
B. Fit members square against abutting components.
C. Position members plumb, square, and level.
D. Temporarily brace members until permanently fastened.
E. Do not splice load bearing members.
F. Align and adjust various members forming parts of a complete frame or structure after assembly but before fastening.

G. Welding to conform to AWS D1.1.
H. Fasten panels to supports.
I. Install trim to maintain visual continuity of system.
J. Install joint sealant and gaskets to prevent water penetration.
K. Flash penetrations through roofing with metal trim to match panels

3.03 PROTECTION
A. Protect installed products until completion of project.

3.04 ADJUSTMENT
A. Touch up, repair, or replace damaged products before Substantial Completion.

99-1.02 METAL BUILDING PAYMENT

Metal building construction shall be measured and paid for as a lump sum item, as listed in the Bid Schedule. The lump sum price shall include all labor, materials, equipment, submittals, inspections, and all incidentals required to complete the work in accordance with the plans, specifications, and applicable codes. **No** additional compensation will be made unless authorized in writing by the Engineer.

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99-2 WOOD STICK FRAME BUILDING

99-2.01 GENERAL

99-2.01A Summary

The work shall consist of furnishing all labor, materials, equipment, and incidentals necessary to construct a wood-framed building as shown on the project plans. Work shall include site preparation, foundation, framing, siding, roofing, doors, windows, utilities, and all associated architectural, structural, electrical, plumbing, and mechanical elements required to complete the structure in accordance with the Contract Documents.

99-2.01B CODES AND STANDARDS

All work shall conform to the latest adopted editions of the following codes and standards:

- California Building Code (CBC)
- California Electrical Code (CEC)
- California Plumbing Code (CPC)
- California Mechanical Code (CMC)
- California Energy Code (Title 24, Part 6)
- California Green Building Standards Code (CALGreen)
- California Fire Code, including Wildland Urban Interface (WUI) requirements where applicable
- National Design Specification (NDS) for Wood Construction – American Wood Council
- All applicable local ordinances and state laws enforced by the Authority Having Jurisdiction (AHJ)

In the event of a conflict between codes, the most stringent requirement shall govern.

99-2.01C INSPECTIONS

The Contractor shall coordinate all inspections as necessary with the Resident Engineer.

1. Soils and excavation inspections shall be reviewed and approved by the Resident Engineer prior to the installation of any concrete foundation. This includes verification of subgrade compaction, moisture content, and conformance with geotechnical recommendations.
2. Prior to construction, the Contractor shall submit the following to the Structural Engineer, Atlas Engineering, for review and approval:
    - Provide Concrete batch plant "Recipe"/Mix design for review prior to placement, , as shown on the structural plans.
    - Provide Certificate of Compliance for all materials used for seismic resistance for review and approval prior to construction, as shown on the structural plans.

No construction may begin until all required submittals are reviewed and accepted by the Engineer.

99-2.01E TEMPORARY PROTECTION
The Contractor shall protect the work in progress from damage due to weather or construction activities. This includes covering exposed wood framing, securing loose materials, and preventing stormwater or debris from affecting adjacent facilities.

99-2.02 WOOD STICK FRAME BUILDING PAYMENT
Wood-framed building construction shall be measured and paid for as a lump sum item, as listed in the Bid Schedule. The lump sum price shall include all labor, materials, equipment, submittals, inspections, and all incidentals required to complete the work in accordance with the plans, specifications, and applicable codes.

No additional compensation will be made unless authorized in writing by the Engineer.

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99-3 WEIGH SCALE (RICE LAKE-SURVIVOR OTR)

99-3.01 DESCRIPTION
This work shall consist of furnishing and installing one (1) fully electronic, in-ground, steel deck truck scale, sole-source specified as *Rice Lake Weighing Systems Survivor OTR EZ70110-ST*, in accordance with the plans and these special provisions.

99-3.02 MATERIALS
The truck scale shall be procured and installed exclusively by **American Scale** as the authorized provider. The awarded contractor shall coordinate directly with American Scale for delivery, installation, and calibration of the scale.

American Scale Company, INC.
P.O. Box 911340
Commerce, CA 90091-1340
www.americanscale.com

Northern CA Office: Tracy, CA
Larry A. Gallina / Territory Mgr.
(C) 510-246-6966
(E) larry@americanscale.com

99-3.03 CONSTRUCTION
The awarded contractor shall be responsible for construction of the foundation components necessary to support the truck scale, including:

1. Excavation
2. Concrete foundation work
3. Backfill
4. Rough-in electrical as shown on the plans and as required for the installation

All work shall be performed in accordance with the contract plans, applicable codes, and the manufacturer's requirements. The contractor shall coordinate construction activities and schedule with American Scale to ensure proper installation and calibration of the truck scale.

99-3.04 MEASUREMENT AND PAYMENT
The contract lump sum price paid for "WEIGH SCALE (RICE LAKE-SURVIVOR OTR" shall include full compensation as specified in the Standard Specifications and these special provisions, and as directed by the Engineer for:

1. All foundation component construction by the contractor.
2. Furnishing of the specified truck scale by American Scale.
3. Complete installation and calibration of the truck scale by American Scale.
4. Excavation, backfill, concrete, rebar, and electrical rough-in.

No additional or separate payment will be made for any work, materials, coordination, or incidentals necessary to provide a complete and operational installation.

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99-4 REMOVE SCALE FACILITIES, DEMOLITION, REPAIR, REPLACE DOORS EXISTING BUILDING (TRANSFER)

99-4.01 GENERAL
Section 99-4 includes specifications for removing existing guard shelter, guard shelter foundation, 11ft by 34ft scale and scale foundation; demolition of interior walls and other building components of the existing transfer building; relocation of the 8ft by 20ft metal container; and, installing new 24ft width by 20ft height roll-up door and ADA door on the existing transfer building.

99-4.02 MATERIALS
Roll-up door shall be 24 feet width by 20 feet height and be heavy duty rolling steel service door, 20 gauge, gray curved slats, 3 piece heavy duty guides and right hand motor operation.

Contractor to verify existing transfer facility opening for roll-up door dimensions prior to ordering.

Information regarding a R&S Rolling Steel Door, or approved equal, may be obtained from:

www.rsdoorproducts.com
R&S Manufacturing, Inc.
33955 7th St,
Union City, CA 94587

The right hand motor operator, or approved equal, shall be similar to LiftMaster Commercial Operator Model GH103L5, Gearhead 1Hp 3PH, right hand front of hood mount operator with commercial safety eyes and includes chain hoist option in the event of power loss.

Information regarding the Lift master Commercial Operator, or approved equal, may be obtained from:

www.liftmaster.com
R&S Automation of San Leandro
2041 West Ave. 140th
San Leandro CA 94577
(800) 543-6001

99-4.02 CONSTRUCTION
Remove the guard shelter, guard shelter foundation, scale, scale foundation, and backfill with material complying with Section 19, "Earthwork". Abandon underground utilities to the existing guard shelter and truck scale.

Contractor's attention is directed to Section 14-9.02 NESHAP procedures and Section 14-11 for encountering hazardous waste and contamination during demolition.

Remove existing bollards, metal poles, and water tank and hose bib as shown on the plans and as directed by the Engineer.

Install roll-up door per manufacturer's specifications

99-4.03 PAYMENT
The contract lump sum price paid for the bid item Remove Scale Facilities and Demolition, Repair, Replace Doors Existing Building (Transfer) includes furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in removing, storing, maintaining, moving to new locations, replacing, placing, and disposing of the components of the steel truck scale, existing scale facilities, and components on the existing transfer building as shown in the plans, specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Removing bollards, metal poles, and water tank and hose bib is included in the lump sum price paid for Remove Scale Facilities and Demolition, Repair, Replace Doors Existing Building (Transfer)

^^

PROPOSAL

TO
THE COUNTY OF HUMBOLDT
FOR

REDWAY TRANSFER STATION IMPROVEMENTS
CONTRACT NO.: 438005

Name of Bidder: _____
(Name must be exactly as it appears [or will appear] on Contractor's license)

Business Address: _____

_____

Telephone No.: _____

Place of Residence: _____

The work for which this proposal is submitted is for construction in accordance with the special provisions (including the payment of not less than the State general prevailing wage rates or Federal minimum wage rates), the project plans described above, including any addenda thereto, the contract annexed hereto and also in accordance with the California Department of Transportation Standard Plans dated 2024 the Standard Specifications dated 2024, and the Labor Surcharge and Equipment Rental Rates in effect at the time the work is performed.

Bids are to be submitted for the entire work. The amount of the bid for comparison purposes will be the total of all items of the base bid.

The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

(a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;

(b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentagewise the unit price or item total in the County of Humboldt's Final Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined in the discretion of the County of Humboldt, and that discretion will be exercised in the manner deemed by the County of Humboldt to best protect the public interest in the prompt and economical completion of the work. The decision of the County of Humboldt respecting the amount of a bid, or the existence or treatment of an irregularity in a bid, shall be final.

All bid proposals and materials submitted in response to this Notice to Bidders shall become the County of Humboldt's property and are subject to disclosure under the Public Records Act, California Government Code Sections 6250, et seq. All bid proposals submitted in response hereto, are considered public information, except for specifically identified trade secrets, which will be handled according to any and all applicable local, state and federal laws and regulations. Any portion of a bid proposal that is deemed to be a trade secret by the bidder shall be clearly marked "PROPRIETARY INFORMATION" at the top of the page in at least one-half inch (1/2") letters. Specifically identified proprietary information will not be released, if the bidder agrees to indemnify and defend the County of Humboldt in any action brought to disclose such information. By submitting a bid proposal in response to this Notice to Bidders, the bidder agrees that the County of Humboldt's failure to contact the bidder prior to the release of any proprietary information contained therein will not be a basis for liability by the County of Humboldt or any employee thereof. Items considered public information will be available for review after the bid opening.

If this proposal shall be accepted and the undersigned shall fail to enter into the contract and furnish the 2 bonds in the sums required by the State Contract Act, with surety satisfactory to the County of Humboldt, within 8 days, not including Saturdays, Sundays and legal holidays, after the bidder has received notice from the County of Humboldt that the contract has been awarded, the County of Humboldt may, at its option, determine that the bidder has abandoned the contract, and thereupon this proposal and the acceptance thereof shall be null and void and the forfeiture of the security accompanying this proposal shall operate and the same shall be the property of the County of Humboldt.

The undersigned, as bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm, or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to; and he proposes, and agrees if this proposal is accepted, that he will contract with the County of Humboldt, in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefor the following prices, to wit:

BID FORM (EXHIBIT A)
PAGE 1 OF 2
REDWAY TRANSFER STATION IMPROVEMENTS
CONTRACT NO.: 438005

ITEM NO.	ITEM CODE		ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL
1	120100		TRAFFIC CONTROL SYSTEM	LS	1		
2	130100		JOB SITE MANAGEMENT	LS	1		
3	130201		WATER POLLUTION CONTROL PROGRAM	LS	1		
4	130620		TEMPORARY DRAINAGE INLET PROTECTION	EA	3		
5	130640		TEMPORARY FIBER ROLL	LF	50		
6	130680		TEMPORARY SILT FENCE	LF	320		
7	130900		TEMPORARY CONCRETE WASHOUT	LS	1		
8	153250		REMOVE GUARD SHELTER, SCALE, AND SCALE FOUNDATION	LS	1		
9	170103		CLEARING AND GRUBBING	LS	1		
10	190101		ROADWAY EXCAVATION	CY	1,227		
11	210212		DRY SEED	SQFT	3,150		
12	210420		STRAW	SQFT	3,150		
13	260203		CLASS 2 AGGREGATE BASE	CY	1,517		
14	390132		HOT MIX ASPHALT (TYPE A)	TON	608		
15	394073		PLACE HOT MIX ASPHALT DIKE (TYPE A)	LF	688		
16	398100		REMOVE ASPHALT CONCRETE DIKE	LF	742		
17	568064		4" SCH 80 STEEL PROTECTIVE BOLLARD	EA	20		
18	723095		ROCK SLOPE PROTECTION (20 LB, CLASS I, METHOD B) (CY)	CY	1		
19	731512		MINOR CONCRETE (PARKING, SIDEWALK, LANDING)	CY	36		
20	731513		MINOR CONCRETE (VALLEY GUTTER)	CY	5		
21	770100		WATERLINE SYSTEM	LS	1		
22	770200		WASTE WATER SYSTEM	LS	1		
23	780500		PARKING BUMPER (PRECAST CONCRETE)	EA	9		
24	800001		FENCE (TYPE BW, METAL POST)	LF	215		
25	800363		CHAIN LINK FENCE (TYPE CL-6 W/BW, EXTENSION ARM)	LF	684		

BID FORM (EXHIBIT A)

PAGE 2 OF 2
REDWAY TRANSFER STATION IMPROVEMENTS
CONTRACT NO.: 438005

26	802675		36' SECURITY METAL SLIDING GATE	EA	1		
27	803030		REMOVE FENCE (TYPE CL W/BW)	LF	438		
28	803035		REMOVE FENCE (TYPE BW WOOD POST AND METAL T-POST)	LF	755		
29	820001		INSTALL SIGNS (STANDARD AND CUSTOM)	LS	1		
30	840501		THERMOPLASTIC TRAFFIC STRIPE	LF	1,836		
31	840515		THERMOPLASTIC PAVEMENT MARKING	SF	260		
32	840651		PAINTED ADA PAVEMENT MARKINGS (ADA PARKING)	SF	93		
33	840665		PAINT ADA PARKING LINES (1-COAT) (ADA PARKING)(RED CAUTION LINE)	SF	161		
34	870100		ELECTRICAL AND LIGHTING SYSTEM	LS	1		
35	990100		FURNISH AND INSTALL 2400 SF METAL BUILDING (RECYCLING)	LS	1		
36	990200		FURNISH AND INSTALL 218 SF STICK FRAME BUILDING (WEIGH STATION)	LS	1		
37	990300		WEIGH SCALE (RICE LAKE - SURVIVOR OTR)	LS	1		
38	990400		REMOVE SCALE FACILITIES AND DEMOLITION, REPAIR, REPLACE DOORS EXISTING BUILDING (TRANSFER)	LS	1		
39	991000		FURNISH AND INSTALL PLUMBING FOR BUILDINGS	LS	1		
40	999990		MOBILIZATION	LS	1		

NOTE: ITEM CODE LETTER DESIGNATION; F= FINAL PAY QUANTITY

BID TOTAL _____

_____

(*Bidder's Signature)*

_____

(*Title)*

PROPOSAL SIGNATURE PAGE

Accompanying this proposal is _____

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

in the amount of at least **TEN PERCENT (10%)** of the total bid.

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

_____

_____

(NOTE: If a Bidder or other interested person is a Corporation, state the legal name of the corporation, also names of the president, secretary, treasurer, and manager thereof; if a Co-partnership, state the true name of the firm, also state the names of all individual copartners composing the firm; if the Bidder or other interested person is an Individual, state the first and last names in full.)

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

LICENSE NO._____ Classification(s)_____

Note: It is optional to provide your contractor's license number at this time. You are not required to provide your contractor's license number until the time that the contract is to be awarded.

ADDENDA

This Proposal is submitted with respect to the changes to the contract included in addenda number/s

_____

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

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

Date: _____

Sign Here

_____

_____

_____

Signature and Title of Bidder

Bidder's Business Address _____

Place of Business _____

Place of Residence _____

BIDDER'S BOND

COUNTY OF HUMBOLDT, DEPARTMENT OF PUBLIC WORKS

REDWAY TRANSFER STATION IMPROVEMENTS
CONTRACT NO.: 438005

for which bids are to be opened on **TUESDAY, October 7, 2025**, at 2:00 PM, at the Department of Public Works, 1106 Second Street, Eureka 95501, California.

Know all men by these presents: That we _____
_____, as

PRINCIPAL, and _____,

as **SURETY**, are held and firmly bound unto the County of Humboldt in the penal sum of **TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID** of the PRINCIPAL named above, submitted by said PRINCIPAL to the County of Humboldt for the work described above, for the payment of which sum is lawful money of the United States, well and truly to be made, to the Director of the Department to which said bid was submitted, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the SURETY hereunder exceed the sum of:

$_____

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the PRINCIPAL has submitted the above mentioned bid to the County of Humboldt, as aforesaid, for the construction as specifically described above,

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

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this

_____day of_____, 20____.

_____(seal)

_____(seal)
PRINCIPAL

_____(seal)

_____(seal)
SURETY

Address:_____

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

CONTRACTOR'S CERTIFICATE REGARDING WORKER'S COMPENSATION

Labor Code Section 3700.

"Every employer except the State and all political subdivisions or institutions thereof, shall secure the payment of compensation in one or more of the foregoing ways:

A. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this State.

B. By securing from the Director of Industrial Relations a certificate of consent of 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 requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and that I will comply with such provisions before commencing the performance of the work of this contract.

_____

_____

_____

(In accordance with Article 5 [commencing at Section 1860] , Chapter 1 , Part 7 , Division 2 , of the Labor Code, the above certificate must be signed and filed with the awarding body prior to commencing any work under this contract.)

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has ___ , has not ___ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

YES ☐ NO ☐

If the answer is yes, explain the circumstances in the following space.

PUBLIC CONTRACT CODE SECTION 10232 STATEMENT

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgement rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions.
The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL)

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder_____, proposed subcontractor _____, hereby certifies that he has ____ , has not ____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filling requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of $10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

NONCOLLUSION AFFIDAVIT

(Title 23 United States Code Section 112 and
Public Contract Code Section 7106)

To the COUNTY OF HUMBOLDT, DEPARTMENT OF PUBLIC WORKS:

In conformance with Title 23 United States Code Section 112 and Public Contract Code 7106 the bidder declares 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 that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Noncollusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

LIST OF SUBCONTRACTORS
REDWAY TRANSFER STATION IMPROVEMENTS
CONTRACT NO.: 438005

The Bidder must list the name and address, Contractor license number; and description of portion of work subcontracted to each subcontractor to whom the Bidder proposes to subcontract portions of the work, as required by the provisions of the Standard Specifications and the Special Provisions.

Business Name and Location	California Contractor License Number	Contractor Division of Industrial Relations Registration Number	Description of Portion of Work	Bid Items Numbers	Percentage of Bid Item Subcontracted

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL CONSTITUTES AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL)

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

IN-USE OFF-ROAD DIESEL-FUELED VEHICLE LIST

DOT DES-OE-0102.14 (NEW 09/2023)

CONTRACT NO.	BIDDING FIRM

Under 13 CCR § 2449 et seq., list the fleet name and Off-Road Diesel Fleet Identification (DOORS ID) number for every fleet used by you or your subcontractor to perform the work below.

☐ Check here if all fleets used to perform work are not subject to 13 CCR § 2449 *et seq*. Submit the blank form as part of the bid.

Fleet Name	DOORS ID Number

AGREEMENT

This is an AGREEMENT made and entered into this_____day

of_____, 20_____, by and between the County of Humboldt, a

political subdivision of the State of California (hereinafter referred to as COUNTY)

and _____,

a corporation organized and existing under the laws of the State of_____;

a partnership consisting of _____

_____;

an individual doing business as _____

_____ in the State of California,

hereinafter referred to as "CONTRACTOR".

Section 1 - SCOPE OF WORK

Contractor shall furnish all Labor, Tools and Materials and perform all the work for the:

REDWAY TRANSFER STATION IMPROVEMENTS
CONTRACT NO.: 438005

in accordance with the contract documents referred to in Section 3 of this Agreement.

Section 2 - CONTRACT PRICE

County shall pay, and Contractor shall accept Contractor's Bid Prices, as shown on EXHIBIT "A" attached hereto and made a part hereof, as full compensation for furnishing all materials and for doing all the work contemplated and embraced in this Agreement; also for all loss or damage, arising out of the work aforesaid, or from the actions of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by County, and for all risks of every description connected with the work; also for all expenses incurred by or in consequence of the suspension or discontinuance of the work and for well and faithfully completing the work, and the whole thereof, in the manner and according to the Plans and Specifications, and the requirements of the Engineer.

Section 3 - CONTRACT DOCUMENTS

The complete contract between the parties hereto shall consist of the following, hereinafter referred to as the CONTRACT DOCUMENTS:

- Notice to Bidders
- Plans and Drawings
- Bid Form
- Bidder's Bond
- Supplemental Project Information
- Performance Bond
- Payment Bond
- This Agreement
- Special Provisions
- Supplemental Project Information

And, as published by the Department of Transportation, State of California, except as modified by the Special Provisions:

- Standard Plans – dated 2024
- Standard Specifications - dated 2024
- Equipment Rental Rates in effect at the time the work is performed

And, as published by the California Department of Industrial Relations, and the California Business, Transportation and Housing Agency:

- General Prevailing Wage Rates
- Labor and Surcharge Rates

And any addenda to any of the above documents, all of which are on file in the office of the Director of Public Works of the County of Humboldt. Each of said CONTRACT DOCUMENTS is incorporated and made a part of this Agreement by the reference contained in this Section.

All rights and obligations of the County and the Contractor are fully set forth and described in the Contract Documents. All of the above named documents are intended to be complimentary, so that any work called for in one, and mentioned in the other is to be performed and executed the same as if mentioned in all said documents.

Section 4 - BEGINNING OF WORK

Following receipt and full execution and approval of the Contract Documents, and posting of the requisite Bonds as called for therein, the COUNTY will issue a "Notice to Proceed". Under no circumstances shall the CONTRACTOR enter upon the site of work until receipt of the "Notice to Proceed", or unless so authorized in writing by the COUNTY.

Section 5 - TIME OF COMPLETION

The work called for in this Agreement shall be commenced within fifteen (15) days of receipt of Notice to Proceed by COUNTY and shall be fully completed within a period of **160** working days beginning on the fifteenth calendar day after the date of said approval of contract.

Section 6 - PREVAILING WAGE

Copies of the prevailing wage rates of per diem wages are on file in the Humboldt County Public Works office at 1106 Second Street, Eureka, California and are available to any interested person on request.

Section 7 - WORKERS' COMPENSATION

By my signature hereunder, as CONTRACTOR, I certify that I am aware of the provisions of Section 3700 of the Labor Code which requires 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.

Section 8 - COMPLIANCE WITH LAWS

The Contractor agrees to comply with all local, state, and federal laws and regulations, including but not limited to the Americans With Disabilities Act. The Contractor further agrees to comply with any applicable federal, state or local licensing standards, any applicable accrediting standards, and any other applicable standards or criteria established locally or by the state or federal governments.

This agreement shall be governed by and construed in accordance with the laws of the State of California.

Section 9 - NOTICES

All notices shall be in writing and delivered in person or transmitted by mail. Notices required to be given to the COUNTY shall be addressed as follows:

Humboldt County Department of Public Works
1106 Second Street, Eureka, California, 95501

Notices required to be given to CONTRACTOR shall be addressed as follows:

_____

_____

_____

_____

IN WITNESS WHEREOF, The parties hereto have entered into this Agreement as of the date first above set forth.

COUNTY OF HUMBOLDT

BY_____
(SEAL) Chair, Board of Supervisors
of the County of Humboldt,
State of California

ATTEST:

TRACY DAMICO
Clerk of the Board of Supervisors
of the County of Humboldt,
State of California

BY_____
Clerk of the Board

CONTRACTOR

BY_____

TITLE_____

BY_____

TITLE_____

(Two Signatures Required For Corporation)

APPROVED AS TO FORM:

BY_____
Deputy County Counsel

INSURANCE CERTIFICATES REVIEWED
AND APPROVED:

BY_____
Risk Manager

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the County of Humboldt, by its order made _____, 20___, has awarded to_____ hereinafter designated as the "Principal," a contract for the work described as follows:

REDWAY TRANSFER STATION IMPROVEMENTS

NOW, THEREFORE, we the Principal and _____ _____, Surety, are held and firmly bound unto the County of Humboldt in the penal sum of _____ Dollars ($ _____) , lawful money of the United States of America for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay any of the persons named in Section 3181 of the Civil Code, or amounts due under the Unemployment Insurance Code, with respect to work or labor performed by claimant, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Contractor and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code with respect to such work and labor as required by Sections 3247 et seq. of the Civil Code of California, then said Surety will pay for the same, in or to an amount not exceeding the amount hereinafter set forth, and also will pay in case suit is brought upon this bond, such reasonable attorney's fees, as shall be fixed by the court, awarded and taxed as in the above-mentioned statutes provided.

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

IN WITNESS WHEREOF, this instrument has been duly executed by Principal and Surety above named, on the _____ day of _____, 20 _____.

_____
PRINCIPAL
BY _____

_____
SURETY
BY _____
Attorney-in-fact

PERFORMANCE BOND

COUNTY OF HUMBOLDT, DEPARTMENT OF PUBLIC WORKS

Bond No._____

WHEREAS, the County of Humboldt, acting by and through the Department of Public Works, has awarded to Contractor_____, hereafter designated as the "Contractor", a contract for the work described as follows:

REDWAY TRANSFER STATION IMPROVEMENTS

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

NOW, THEREFORE, we the undersigned Contractor and Surety are held firmly bound to the County of Humboldt in the sum of $_____ dollars ($_____), to be paid to said County or its certain attorney, its successors and assigns: for which payment, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH,

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

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

Correspondence or claim relating to this bond should be sent to the surety at the following address:

_____

_____

_____

_____

_____

_____

_____

_____
Contractor

_____
Name of Surety **(SEAL)**

_____
By: Attorney-in-Fact

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

CERTIFICATE OF ACKNOWLEDGEMENT

State of California, City / County of _____ SS

On this _____ day of _____ in the year 20____ before me _____, a Notary public in and for the City / County of _____, personally appeared _____, known to me to be the person whose name is subscribed to this
Attorney-in-fact
instrument and known to me to be the attorney-in-fact of _____ and acknowledge to me that he/she subscribed the name of the said company thereto as surety, and his/her own name as attorney-in-fact.

_____

(SEAL) **NOTARY PUBLIC**