CITY OF GRIDLEY

BUTTE COUNTY, CALIFORNIA

FORMAL BID DOCUMENTS

FOR

The Gridley Sports Complex Phase 1

Rural Recreation and Tourism Grant (#TX-04-002)
Project Number 24-02
Contract Number 2024-02

Prepared by
City of Gridley, California

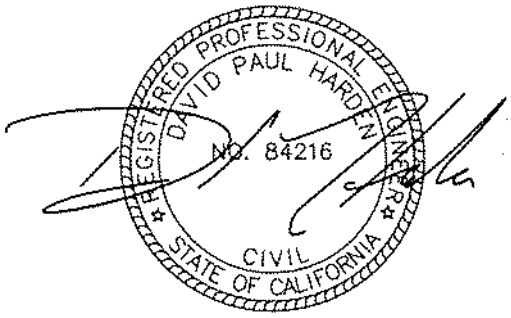
October 2024

The Gridley Sports Complex Phase 1

Rural Recreation and Tourism Grant (#TX-04-002)
Project Number 24-02
Contract Number 2024-02

The Contract Documents have been prepared by me or under my direction for the City of Gridley.

_____
David P. Harden, PE 84216



Approved by:

_____

Elisa Arteaga
City Administrator
City of Gridley

NOTICE INVITING BIDS: Sealed proposals will be received at the City Hall of the City of Gridley, 685 Kentucky St., Gridley, California, 95948 until 2:00 pm, December 5th, 2024. At that time, all bids will be publicly opened, examined and declared for construction of:

The Gridley Sports Complex Phase 1

The work shall consist of the following: Grading multi-use sports fields and concrete plaza, installing sports lighting, educational signage, drainage system. irrigation system, and planting throughout the park in the City of Gridley.

The City of Gridley will issue a Notice of Award within thirty (30) calendar days after the opening of Proposals. Work shall be completed within one hundred and forty (140) calendar days after issuance of the Notice to Proceed by the City. Start date will be negotiated with the contractor and may depend on site conditions.

The contractor is to carefully examine the site of the proposed work and is to make his or her own determination of the scope of the work to be performed, and he or she is to carefully examine all of the Contract Documents.

BID SUBMITTAL REQUIREMENTS: No proposal will be accepted unless it is made on a Proposal forms furnished by the City of Gridley within these Specifications. **To ensure consideration, the Proposal must be enclosed in a sealed envelope, clearly marked BID PROPOSAL which also bears the name of the project and the date and time set for opening of Proposals:**

BID PROPOSAL
The Gridley Sports Complex Phase 1
December 5th, 2024 2:00 pm

No Proposal will be accepted from a contractor who is not currently licensed in accordance with the provisions of Chapter 9, Division III of the Business and Professions Code. Subcontractors shall also be licensed as required by said code.

Contractor shall obtain a Business License from the City of Gridley prior to commencing any work within the City Limits of the City of Gridley.

Please direct all project questions **no later than November 18th, 2024 5:00pm** to the contacts specified below:

To: Dave Harden, dharden@ben-en.com

CC: Ali Holladay, aholladay@ben-en.com

PREVAILING WAGES: Pursuant to Section 1770, and following, of the California Labor Code, the successful bidder shall pay not less than the applicable prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. The successful bidder shall post a copy of such determination at the job site.

The Director of Industrial Relations has determined the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute the Contract which will be awarded to the successful bidder, copies of which are on file and will be made available to any interested party online at http://www.dir.ca.gov/dlsr. A copy of these rates shall be posted by the successful bidder at the job site. The successful bidder and all subcontractor(s) under him, shall comply with all applicable Labor Code provisions, which include, but are not limited to the payment of not less than the required prevailing rates to all workers employed by them in the execution of the Contract, the employment of apprentices, the hours of labor and the debarment of contractors and subcontractors.

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted, nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project.

This Project will be subject to compliance monitoring and enforcement by the Department of Industrial Relations. In bidding on this project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this contract and applicable law in its bid.

Each bidder shall be a licensed contractor pursuant to the Business and Professions Code and shall be licensed in the following appropriate classification(s) of contractor's license(s), for the work bid upon, and must maintain the license(s) throughout the duration of the Contract: Class A license or a combination of license classes required for all work at the time this contract is awarded.

This Project is subject to labor compliance oversight by the Department of Industrial Relations, Division of Labor Standards Enforcement, Compliance Monitoring Unit (CMU). The successful bidder must comply with the CMU requirements under subchapter 4.5 of chapter 8 of title 8 of the California Code of Regulations. In bidding on this project, it shall be the bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this contract and applicable law in its bid.

APPRENTICESHIP STANDARDS: In accordance with the provisions of Part 7, Chapter 1, Article 2, Section 1777.5 of the Labor Code of the State of California, the prime contractor shall be responsible for fully complying with the provisions of this Section, as well as any regulations adopted by the Director of Industrial Relations, for all apprentice crafts or trades, and shall also assure compliance by his or her sub-contractors with respect to such apprentice crafts or trades.

BIDDER'S INFORMATION: Formal Bid Documents, including Plans and Specifications, are available for inspection and may be obtained at the City Hall of the City of Gridley, 685 Kentucky St., Gridley, California or on the City website, (http://gridley.ca.us/our-community/public-notices/). There is no charge for the viewing of Formal Bid Documents in-person or online. The Formal Bid Documents can also be viewed at the Valley Contractors Exchange website, https://vceonline.com/ , charges may apply.

NOTICE OF AWARD: A Notice of Award, if issued, will be issued to the lowest responsible bidder as determined by the City. The City reserves the right, in its sole discretion, to reject any and all bids for any reason whatsoever, or to waive minor irregularities in any bid, and to accept any bid.

INSURANCE AND BONDS REQUIRED: The successful bidder to whom the Contract is awarded will be required to furnish appropriate insurance certificates as required by the General Conditions and the Special Conditions. He or she shall also furnish a Payment Bond in an amount equal to one hundred percent (100%) of the total Contract amount and a Faithful Performance Bond in the amount equal to one hundred percent (100%) of the total Contract amount, with a corporate surety approved by the City of Gridley.

PAYMENT OF RETENTION AND SUBSTITUTION OF SECURITIES: Five percent (5%) will be withheld from each progress payment made to the Contractor for work performed and will be held until completion of the work, its acceptance and the expiration of the period provided by law for filing of liens by laborers or materialmen. In accordance with the provisions of Public Contract Code Section 22300, securities may be substituted for any monies which the City may withhold pursuant to the terms of the Contract to insure performance.

A. INTRODUCTION

Each Proposal shall be in accordance with the Formal Bid Documents prepared by the **City of Gridley, 685 Kentucky Street, Gridley, CA 95948**. Formal Bid Documents are available as specified in the Notice to Bidders.

B. DEFINITION OF TERMS

1. **FORMAL BID DOCUMENTS:** The Formal Bid Documents consist of the Notice to Contractors, Instructions to Bidders, Proposal, General Conditions, Special Conditions, Technical Specifications, Plans, and any Addenda.

2. **CONTRACT:** If the Owner accepts a formal bid, the contract will be executed and a Notice to Proceed will be issued.

3. **OWNER, CONTRACTOR AND ENGINEER:** The Owner, the Contractor and the Engineer are those mentioned as such in the Special Conditions. They are treated throughout the Formal Bid Documents as if each were of the singular number and the masculine gender.

4. **BIDDER:** Any individual, firm, partnership, or corporation submitting a Proposal for the work contemplated, acting directly or through a duly authorized representative.

5. **PROPOSAL:** The offer of a Bidder for the work when made out and submitted on the prescribed Proposal form, properly signed and guaranteed.

6. **PROPOSAL GUARANTEE:** A Proposal Guarantee, also known as a Bid Bod is required.

7. **START OF CALENDAR DAYS FOR CONSTRUCTION:** The date on which the Owner issues a Notice to Proceed.

8. **DAYS:** Unless otherwise specifically stated, the term "days" will be understood to mean calendar days.

9. **WORK:** The term "work" means all the work specified, indicated, shown or contemplated in the Formal Bid Documents, including all alterations, amendments or extensions thereto made by Change Order or other written orders by the City.

10. **SPECIFICATIONS:** The term "specifications" refers to the terms, provisions and requirements contained herein and referred to as General Conditions, Special Conditions and Technical Specifications. Where Standard Specifications such as those of Caltrans, ASTM, AASHTO, etc., have been referred to, the applicable portions of such Standard Specifications shall become a part of these Formal Bid Documents.

11. **PLANS:** The term "Plans" refers to the official Plans, profiles, cross sections, elevations, details and other working drawings and supplementary drawings, or reproductions thereof, signed by the Engineer, which show the location, character, dimensions, and details of the work to be performed. Plans may either be bound in the same book as the balance of the Formal Bid Documents or bound in separate sets and are a part of the Formal Bid Documents regardless of the method of binding.

12. **CITY STANDARD DETAILS:** The term "City Standard Details" refers to the City Standard Details posted on the City website. Standard Details provided as part of the Plans shall take precedence over the City Standard Details posted on the City Website. If there is ambiguity over the detail which shall take precedent the City Engineer shall be consulted.

C. PREPARATION AND SUBMISSION OF PROPOSALS

Proposals must be submitted on the forms bound in the Formal Bid Documents and must be wet signed by the Bidder or their authorized representative. Any corrections to the entries made on the Proposal forms must be initialed by the person signing the Proposal.

Bidders must bid on all items appearing on the Proposal form, unless specific directions allow for partial bids. If bids on all items are not required, Bidders shall insert the words "No Bid" where appropriate. Alternate bids will not be considered unless specifically called for in the Proposal.

Proposals or modifications shall be submitted to the city by the date and time specified by hardcopy. No electronic or fax submittals will be accepted. Modifications to Proposals already submitted will be allowed if received in writing prior to the time fixed in the Notice to Contractors for opening of Proposals. Modifications shall be submitted as such and shall not reveal the total amount of either the original or revised. The sealed envelope containing the Proposal shall be directed to and filed at

Carmen Santana
City of Gridley
685 Kentucky Street
Gridley, CA 95948

Proposals received after the time indicated will be returned unopened.

D. WITHDRAWAL OF PROPOSALS

Any bidder may withdraw their Proposal, either personally or by email or written request at any time prior to the scheduled closing time for receipt of bids. Negligence on the part of the bidder in preparing his bid shall not constitute a right to withdraw his bid subsequent to the bid opening.

E. ADDENDA AND EXPLANATIONS TO BIDDERS

Any request for explanation or interpretation of the Formal Bid Documents must be made in writing no later than November 18th, 2024, 5:00pm. Any explanation or interpretation will be made in the form of Addenda to the Formal Bid Documents and shall be furnished to all Bidders. Bidders shall submit signed copies of all Addenda with their Proposals. Oral explanations and interpretations will not be binding.

F. DISCREPANCIES

In case of discrepancies between unit prices and totals, unit prices will prevail. In case of discrepancy between words and figures, words will prevail.

G. ACCEPTANCE OR REJECTION OF PROPOSALS

The Owner reserves the right to reject any or all Proposals and to waive any informality in any Proposal.

The issuance of a Notice of Award will be for the Proposal that complies with the requirements of the Formal Bid Documents within thirty (30) calendar days after the opening of Proposals. It is expected the contractor will be able to procure the required insurance certificates quickly.

H. BONDS

All Contract Proposals shall be accompanied by a cashier's or certified check payable to the order of the City of Gridley, amounting to ten percent (10%) of the bid, or by a Bid Bond in said amount, on the form included within the Contract Proposal . Said check shall be forfeited, or said bond shall become payable, in case the Bidder depositing same does not complete the requirements as defined in the CONTRACT DOCUMENTS in the time set forth herein below.

I. BID SUBMITTAL DOCUMENT LIST

Contractor shall be responsible for reading the construction documents (Specifications and Drawings), and for a site condition review. Contractor shall fill out completely, sign and date the entire list of forms and shall include them with the submitted bid.

Item	Title	Pages
1	Proposal	P-1,P-2,P-3,P-4
2	List of Subcontractors	LSC-1
3	Public Contract Code (Sec. 10285.1, 10162, 10232, Non-collusion Affidavit -7106, Debarment and Suspension Certification, Certification of Labor Code Sec. 1861, Equal Employment Opportunity Certification	PCC-1,PCC-2,PCC-3, PCC-4, PCC-5
4	All Addenda (if applicable)	
5	Copies of all required Certifications, References, and Proof of Knowledge and Ability to Perform, for all of the work herein prescribed.	

Bid Proposal shall be submitted in a sealed envelope, clearly marked "BID PROPOSAL" and shall also bear the name of the project and date and time set for opening of Bid, refer to Notice to Bidders page NTB-1 and NTB-2.

Note: It is not necessary to submit the entire set of specifications, only the ones listed above. Please keep the remainder of set for your information.

THE GRIDLEY SPORTS COMPLEX PH 1

BASE BID #1			
This work shall consist of the following: Mobilization and Demobilization, regrading of the existing pond, installation of drainage and irrigation piping, installation of utilities and site finishings and paving in the City of Gridley, and all other work as shown on the Plans and Specifications for a complete and total job.			
Item	**Description**	**Unit**	**Quantity**
Site Preparation			
1	Mobilization and Demobilization	LS	1
2	Clearing and Grubbing	LS	1
3	Demolition of Existing Curb, Gutter & Pavement	SF	26,610
4	Excavation	CY	18,980
5	Remove Existing Signage	EA	6
6	Remove Existing Sanitary Sewer Manhole	EA	2
7	Remove Existing Sanitary Sewer Pipe	LF	870
8	Repurpose Existing Water Pipe as Irrigation Pipe	LS	1
9	Remove Existing Fire Hydrant Assembly	EA	2
10	Sawcut	LF	720
11	Abandon Existing Sanitary Sewer Pipe	LS	1
12	Lower Irrigation Main	LF	65
Site Construction			
13	SWPPP Measures, Maintenance and Reporting	LS	1
14	Class 2 Aggregate Base	CY	860
15	Hot Mix Asphalt	TON	210
16	Vehicular Concrete	SF	1,560
17	Concrete	SF	12,420

18	Install A1-6 Curb	LF	100
19	Install A2-6 Curb	LF	140
20	Curb, Gutter, and Sidewalk	SF	350
21	Commercial Driveway	SF	210
22	ADA Curb Ramps	SF	270
23	Striping, Curb Painting, and ADA Markings	LS	1
24	Mowband	LF	75
25	Install Rolled Curb Transition	LF	24
Site Furnishings			
26	Install Flagpole	LS	1
27	ADA Parking Signage	LS	1
28	Seat Wall	EA	1
Wet Utilities			
29	Tie Water Main into Irrigation System	LS	1
30	Install 1” PVC Water Service	LF	100
31	Domestic Water Meter	EA	1
32	Irrigation Water Meter Assembly	EA	1
33	Install Backflow Prevention Device	EA	1
34	Adjust Existing Water Valves to Grade	EA	3
35	Install Drop Sanitary Sewer Manhole Connection	EA	1
36	Install 6” Sanitary Sewer Cleanout	EA	2
37	Install 6” PVC Sanitary Sewer Pipe	LF	150
38	Install 48” Precast Drainage Inlet	EA	1
39	Install Sump Pump	LS	1
40	Install 2-6” Ribbon Drain	LF	2,630
Electrical			
41	Install Sports Lighting	LS	1
42	Install Pre-Cast Lighting Bases	LS	1
43	Electrical Distribution	LS	1

Irrigation			
44	Install 6” Pipe from Water Main to Backflow Preventor	LF	50
45	Irrigation System	LS	1
Planting			
46	Planting Package	LS	1
47	Landscape Maintenance - 90 Day	SF	355,981
Alternative Bid #1 – Vehicle Deterrents			
48	Place Wheel Stops (Railroad Ties)	EA	18
49	Install Bollards (Permanent)	EA	16
50	Install Collapsible Bollards	EA	15
51	Install Post and Cable Fencing	LF	1,810

TO: CITY OF GRIDLEY

The undersigned declares that they have carefully examined the location of the proposed work and that they have examined the Formal Bid Documents entitled:

The Gridley Sports Complex Phase 1

The Contractor proposes to furnish all labor, materials, tools, and equipment and to perform all the work necessary to construct the improvements complete in place in accordance with the Formal Bid Documents, plans and specifications and that they will take in full payment therefor the following prices, to wit:

BASE BID

This work shall consist of the following: Mobilization and Demobilization, regrading of the existing pond, installation of drainage and irrigation piping, installation of utilities and site finishings and paving in the City of Gridley, and all other work as shown on the Plans and Specifications for a complete and total job.

Item	Description	Unit	Quantity	Unit Cost	Total Cost
1	Mobilization and Demobilization	LS	1	$.	$.
2	Clearing and Grubbing	LS	1	$.	$.
3	Demolition of Existing Curb, Gutter & Pavement	SF	26,610	$.	$.
4	Excavation	CY	18,980	$.	$.
5	Remove Existing Signage	EA	6	$.	$.
6	Remove Existing Sanitary Sewer Manhole	EA	2	$.	$.
7	Remove Existing Sanitary Sewer Pipe	LF	870	$.	$.
8	Repurpose Existing Water Pipe as Irrigation Pipe	LS	1	$.	$.
9	Remove Existing Fire Hydrant Assembly	EA	2	$.	$.
10	Sawcut	LF	720	$.	$.
11	Abandon Existing Sanitary Sewer Pipe	LS	1	$.	$.
12	Lower Irrigation Main	LF	65	$.	$.

Site Construction					
13	SWPPP Measures, Maintenance and Reporting	LS	1	$.	$.
14	Class 2 Aggregate Base	CY	860	$.	$.
15	Hot Mix Asphalt	TON	210	$.	$.
16	Vehicular Concrete	SF	1,560	$.	$.
17	Concrete	SF	12,420	$.	$.
18	Install A1-6 Curb	LF	100	$.	$.
19	Install A2-6 Curb	LF	140	$.	$.
20	Curb, Gutter, and Sidewalk	SF	350	$.	$.
21	Commercial Driveway	SF	210	$.	$.
22	ADA Curb Ramps	SF	270	$.	$.
23	Striping, Curb Painting, and ADA Markings	LS	1	$.	$.
24	Mowband	LF	75	$.	$.
25	Install Rolled Curb Transition	LF	24	$.	$.
Site Furnishings					
26	Install Flagpole	LS	1	$.	$.
27	ADA Parking Signage	LS	1	$.	$.
28	Seat Wall	EA	1	$.	$.
Wet Utilities					
29	Tie Water Main into Irrigation System	LS	1	$.	$.
30	Install 1” PVC Water Service	LF	100	$.	$.
31	Domestic Water Meter	EA	1	$.	$.
32	Irrigation Water Meter Assembly	EA	1	$.	$.
33	Install Backflow Prevention Device	EA	1	$.	$.
34	Adjust Existing Water Valves to Grade	EA	3	$.	$.
35	Install Drop Sanitary Sewer Manhole Connection	EA	1	$.	$.

36	Install 6” Sanitary Sewer Cleanout	EA	2	$.	$.
37	Install 6” PVC Sanitary Sewer Pipe	LF	150	$.	$.
38	Install 48” Precast Drainage Inlet	EA	1	$.	$.
39	Install Sump Pump	LS	1	$.	$.
40	Install 2-6” Ribbon Drain	LF	2,630	$.	$.
Electrical					
41	Install Sports Lighting	LS	1	$.	$.
42	Install Pre-Cast Lighting Bases	LS	1	$.	$.
43	Electrical Distribution Costs	LS	1	$.	$.
Irrigation					
44	Install 6” Pipe from Water Main to Backflow Preventor	LF	50	$.	$.
45	Irrigation System	LS	1	$.	$.
Planting					
46	Planting Package	LS	1	$.	$.
47	Landscape Maintenance - 90 Day	SF	355,981	$.	$.
TOTAL BASE BID AMOUNT				**$**	

TOTAL BASE BID AMOUNT (IN WORDS):

_____

Alternative Bid #1 – Vehicle Deterrents					
Item	**Description**	**Unit**	**Quantity**	**Unit Cost**	**Total Cost**
48	Place Wheel Stops (Railroad Ties)	EA	18	$.	$.
49	Install Bollards (Permanent)	EA	16	$.	$.
50	Install Collapsible Bollards	EA	15	$.	$.
51	Install Post and Cable Fencing	LF	1,810	$.	$.
TOTAL BASE BID AMOUNT				**$**	

TOTAL BASE BID AMOUNT (IN WORDS):

_____

The undersigned further declares, under the penalty of perjury under the laws of the State of California, that in making the foregoing bid, the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; 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 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 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.

The undersigned further declares that they are a licensed Contractor in the State of California, and that the license which they hold is of the class required to perform the specified work.

Contractor's License Number:_____

Signature of Bidder:_____

Bidder's Name:_____

Business Address: _____

_____

Bidder's Telephone:_____

Dated:_____

Note: *If Bidder is a corporation, the legal name of the corporation shall be set forth above, together with the signature of the officer or officers authorized to sign Contracts on behalf of the corporation. If Bidder is a co-partnership, the true name of the firm shall be set forth above, together with the signature of the partners authorized to sign Contracts in behalf of the co-partnership; and if Bidder is an individual, his signature shall be placed above. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the Owner prior to opening of Proposals or submitted with the Proposal; otherwise, the Proposal will be disregarded as irregular and unauthorized.*

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.

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.

Public Contract Code 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.

Non-collusion Affidavit

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

To the CITY of GRIDLEY

In accordance with Title 23 United States Code Section 112 and Public Contract Code 7106, the bidder declares under penalty of perjury 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 Non-collusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Non-collusion Affidavit. 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 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 a federal agency within the past 3 years;

• does not have a proposed debarment pending; and

• has not been indicted, convicted, or had a civil judgment 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.

Exception 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.

CERTIFICATION
[CALIFORNIA LABOR CODE SECTION: 1861]

STATE OF CALIFORNIA)
) ss
COUNTY OF BUTTE)

I, the undersigned, do hereby certify:

That I am aware of the provision of Section 3700 of the Labor Code of the State of California, which requires every employer to be insured against liability for Workers Compensation or to undertake self-insurance in accordance with the provisions of that section, and I will comply with such provision before commencing the performance of the work of this Contract.

Executed at _____

on the _____ day of _____ 20 _____

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

_____
Signature of Contractor-Employer

_____
Print name signed above

_____
Title

_____
Company Name

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

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

The bidder _____,

proposed subcontractor_____, hereby

certifies that he has _____, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, 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 filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.07(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 of 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.

LIST OF SUBCONTRACTORS

Each Bidder shall list below the Name and Business Address of each Subcontractor who will perform work under this Contract in excess of one-half of one percent of the total amount shown in the Proposal and shall also list the portion of the work which will be done by said Subcontractor.

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project, unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. Contractors MUST be a registered "public works contractor" with the DIR AT THE TIME OF BID. Contractor must include in the bid package a list of all subcontractors who will perform work on the job site, including the portion of work, subcontractor name, location of business, California State Contractor's License Number, and DIR Registration number.

Portion of Work	Subcontractor	Location of Business	CSLB License Number	DIR Registration Number

NOTES:

1. Contractor shall attach additional copies as needed.

THIS AGREEMENT, made and entered into on the date below written, by and between, **CITY OF GRIDLEY, CALIFORNIA, A MUNICIPAL CORPORATION,**

685 Kentucky Street, Gridley, California, 95948, hereinafter called the **"OWNER"** or **"CITY",**

and _____,

hereinafter called the **"CONTRACTOR"** or **"PRINCIPAL".**

WITNESSETH, that, for the considerations hereinafter mentioned, the Owner and Contractor agree as follows:

ARTICLE I. The Contractor agrees to furnish all labor, materials, tools, and equipment and to perform all the work required to construct and complete in a good and workmanlike manner, and in strict accordance with the Contract Documents entitled:

THE GRIDLEY SPORTS COMPLEX PHASE 1

The Contract Documents have been prepared by the **City of Gridley** and are hereby incorporated in and made a part of this Contract.

ARTICLE II. The Owner agrees to pay the Contractor for the performance of the Contract, subject to additions and deductions provided therein, the following prices, and the Contractor agrees to receive and accept said following prices as full compensation for furnishing all materials and for doing all the work contemplated and embraced in this agreement, and for all loss or damage arising out of the nature of the aforesaid work or from the action of the elements and from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by the Owner, and for all risks of every description connected with the work, and 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 Contract Documents and the requirements of the City under it, to wit:

As shown on the Bid attached hereto and incorporated herein.

ARTICLE III. The Owner shall make payments on the account of the Contractor as specified in the General Conditions.

ARTICLE IV. The Contractor shall commence work within seven (7) calendar days from receipt of the Notice to Proceed and shall diligently prosecute the same to completion within one hundred and forty (140) calendar days from receipt of the Notice to Proceed.

ARTICLE V. The Contractor shall guarantee all of their work against defective material or faulty workmanship for a period of one (1) year after the date of acceptance of the work by the Owner or as otherwise stated in the specifications.

The Contractor shall repair or replace to the satisfaction of the City any or all such work that may prove defective in workmanship or materials within that period, ordinary wear and tear and unusual abuse or neglect excepted, together with any other work which may be damaged or displaced in so doing.

In the event of failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, the Owner is authorized to have the defects repaired and made good at the expense of the Contractor who will pay the cost and charges therefore immediately upon demand.

The signing of the Contract by the Contractor shall constitute execution of the above guarantees.

ARTICLE VI. The Contractor specifically obligates himself and hereby agrees to protect, hold free and harmless, defend and indemnify the Owner, the City and their consultants, and each of their officers, employees and agents, from any and all liability, penalties, costs, losses, damages, expenses, causes of actions, claims or judgments, including attorney's fees, which arise out of or are in any way connected with the Contractor's performance of their work under this Contract. To the extent legally permissible, this indemnity and hold harmless agreement by the Contractor shall apply to any acts or omissions, whether active or passive, on the part of the Contractor or their agents, employees, representatives, or subcontractors, or their subcontractor's agents, employees and representatives, resulting in liability irrespective of whether or not any acts or omissions of the parties to be indemnified hereunder may have also been a contributing factor to the liability.

As a further precaution toward this end, the Contractor shall procure and maintain, in full force and effect during the performance of the work contemplated hereunder, insurance in their favor and also in favor of the Owner, with an insurance carrier approved by the Owner, as specified in the General Conditions and in the Technical Specifications.

ARTICLE VII. Contractor acknowledges that State Labor Law requires the payment of prevailing wages and the maintenance of certain payroll records and other requirements as specified in the General Conditions and the Labor Code. Contractor agrees that these requirements shall be incorporated into all of their subcontracts.

ARTICLE VIII. Neither party of the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any monies due, or to

become due to him hereunder, nor utilize any subcontractors, other than those set forth in the List of Subcontractors, without the previous written consent of the Owner.

ARTICLE IX. Contractor is an independent contractor in the performance of this contract and is not an employee or agent of the Owner. The Owner has no direct obligation to any officers, agents, employees or subcontractors of the Contractor and such individuals shall not be entitled to claim direct payment of salaries nor seek employment benefits from the Owner.

ARTICLE X. Contractor warrants that they is duly and properly licensed to perform and provide the services contemplated by this Contract. Contractor shall possess all required licenses, including a local business license and shall require subcontractors and suppliers to be similarly licensed with regard to performance under this Contract.

ARTICLE XI. The Contractor shall maintain records relating to their performance of this Contract which shall be available for audit and/or inspection for a period of three (3) years after Contractor completes performance of the Contract or the Contract is otherwise terminated.

ARTICLE XII. Any Notices given pursuant to this Contract must be in writing and given either by personal delivery or by United States Mail, postage prepaid, addressed as follows:

OWNER:	**CONTRACTOR**:
City of Gridley **Attn: Elisa Arteaga** **City Administrator** **685 Kentucky Street** **Gridley, CA 95948**	Company Name Attn/Title Address City/State/Zip

ARTICLE XIII. The Owner may terminate this Contract, without cause, upon giving of five (5) days written notice to Contractor. In the event of termination without cause, Contractor shall be compensated for services performed and materials furnished on an equitable basis through the date of termination.

ARTICLE XIV. California Law governs the interpretation and enforcement of this Contract.

ARTICLE XV. This Contract embodies the entire agreement between the parties. There are no oral agreements. No amendment to this Contract shall be valid unless in writing, executed by both parties to this Contract. The language of this Contract governs against any conflicting language or terms contained in any attachment, exhibit or scope of work.

ARTICLE XVI. Neither the acceptance of work nor payment for that work shall constitute a waiver of any provisions of this Contract. A waiver of any breach shall not constitute a waiver of any other provision or subsequent breach.

IN WITNESS WHEREOF, the parties to these presents have hereunto set their hands on the date below written.

CITY OF GRIDLEY

Date	Elisa Arteaga City Administrator City of Gridley
	Anthony E Galyean, Esq. City of Gridley

CONTRACTOR

Date	Principal
	Signature
	Print or type name signed above
	Title

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, The City Council of the City of Gridley, State of California, and

_____(hereinafter designated as "**PRINCIPAL**") have entered into an agreement whereby principal agrees to install and complete certain designated public improvements, which said agreement, dated_____, 2024, and identified as project

THE GRIDLEY SPORTS COMPLEX PHASE 1

Is hereby referred to and made a part hereof; and,

Whereas, said principal is required under the terms of said agreement to furnish a bond for the faithful performance of said agreement.

Now, therefore, we, the principal and _____as surety, are held and firmly bound unto the City of Gridley (hereinafter called "**CITY**"), in the penal sum of _____ dollars ($_____) (which amount is not less than one hundred percent (100%) of the Contract price) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors, and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above bounded principal, their or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said agreement and any alteration thereof made as therein provided, on their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless, its officers, agents and employees, as therein stipulated, then this obligation shalt become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the City in successfully enforcing such obligation, all to be taxed as costs and included in

any judgment rendered.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise 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 agreement or to the work or to the specifications.

The surety's obligations to the City arise immediately upon the default of the principal, without demand or notice.

In the event the principal defaults in the performance of its obligations, the surety may elect, either directly or through appropriate contractors to perform in the place of the principal. If the surety elects to proceed in this fashion, it shall provide written notice of such election to the City within thirty (30) days after surety becomes aware of the principal's default. If the surety elects to complete the obligations of the principal (as opposed to paying money damages *to* the City occasioned by such breach) the surety shall cause the obligations of the principal to the performed as soon as is reasonably possible, but in no event later than nine (9) months following knowledge of the breach by the principal. In the event the surety elects to perform the principal's obligations, the City shall be entitled to compel the surety, by way of specific performance, to perform such obligations.

If the surety does not elect to perform the principals' obligations, the surety shall deposit with the City a sum equal to the cost of the uncompleted portion of the work which comprises the principal's obligation. The City shall determine the estimated cost of the uncompleted portion of the work and the surety shall make such deposit with the City within five (5) days of receipt of the City's estimate. The City shall not be required to expend any of its own funds to complete the work nor to incur "out-of-pocket" damages inasmuch as the City's damages are measured by the value of its unfulfilled right, namely the cost of completing the obligations of the principal by installing the bargained-for improvements. Upon deposit of the estimated cost of completion with the City, the City may proceed to bid the remainder of the work as a public project pursuant to the Public Contracts Code and the surety shall be obligated to continue to deposit such additional sums as may be necessary from time-to-time until the improvements are complete and accepted by the City or until the surety has exhausted the penal sum of the bond. Should the surety deposit more funds than are necessary to satisfy the principal's obligation, then the City shall refund any balance remaining upon final acceptance of the improvements. No interest shall be paid on any deposits made with the City.

Underwriting assumptions and cost estimates of the Surety shall not have any bearing, whatsoever, on the Surety's liability under this bond. By way of example, if, when making underwriting decisions regarding issuing this bond, a cost estimate was prepared regarding the principal's obligations to the City, the fact that an item was omitted from the cost estimate (which item was an obligation of the

principal to the City), shall in no way defeat or diminish the Surety's obligation to the City with respect to this omitted item. By way of further example, if the underwriting decision to issue this bond included a cost estimate of items and a particular item was estimated at a cost significantly less than the amount actually required to perform such item, this fact shall in no way defeat or diminish the Surety's obligation to the City. Namely, the Surety shall be obligated, to the full amount of the penal sum of the bond, with respect to all matters which are the principal's obligation to the City, whether such items are actually included in any cost estimate (or it so included, are estimated at a cost far less than the actual cost to perform such items).

Likewise, the adequacy and amount of any premium (and whether or not such premium was sufficient for the risk assumed by Surety) shall have no bearing on Surety's absolute and unconditional obligation to the City upon the principal's default of its obligations under this bond.

IN WITNESS WHEREOF, the instrument of this **PERFORMANCE BOND** has been duly executed by the principal and surety above named, on

Signed and sealed this _____ day of _____ 20 ___

ATTEST:

_____
Principal

_____ By _____
(Principal Secretary)

_____ _____
(Witness as to Principal) (Address)

_____ _____
(Address)

ATTEST:

_____
Surety

_____ By _____
(Surety Secretary) Attorney-in-Fact

_____ _____
(Witness as to Surety) (Address)

NOTES:

1. If Contractor is a Partnership, all partners should execute the bond.
2. Bidder must attach Power of Attorney and Certificate of Authority for Surety and a Notary Acknowledgment for all Surety's signatures. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, The City Council of the City of Gridley, State of California, and

_____(hereinafter designated as "**PRINCIPAL**") have entered into an agreement whereby principal agrees to install and complete certain designated public improvements, which said agreement, dated_____, 2024, and identified as project

THE GRIDLEY SPORTS COMPLEX PHASE 1

is hereby referred to and made a part hereof; and,

Whereas, Under the terms of the agreement, the principal is required before entering upon the performance of the work, to file a good and sufficient Payment Bond with the City of Gridley to secure the claims to which reference is made in Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code.

Now, therefore, the principal and the undersigned as corporate surety, are held firmly bound unto the City of Gridley and all contractors, subcontractors, laborers, material suppliers, and other persons employed in the performance of the agreement and referred to in Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code in the penal sum of _____ dollars ($_____) (which amount is not less than one hundred percent (100%) of the Contract price) lawful money of the United States, for materials furnished or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to this work or labor, that the surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by county (or city) in successfully enforcing this obligation, to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein *rendered*, we bind ourselves, our heirs, successors,

executors and administrators, jointly and severally, firmly by these presents.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

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

The surety hereby stipulates and agrees that no change, extension of time, alteration, or addition *to* the terms of the agreement or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, the instrument of this **PAYMENT BOND** has been duly executed by the principal and surety above named, on

Signed and sealed this _____ day of _____ 20 ___

ATTEST:

_____
Principal

_____ By _____
(Principal Secretary)

_____ _____
(Witness as to Principal) (Address)

_____ _____
(Address)

ATTEST:

_____
Surety

_____ By _____
(Surety Secretary) Attorney-in-Fact

_____ _____
(Witness as to Surety) (Address)

NOTES:

1. If Contractor is a Partnership, all partners should execute the bond.
2. Bidder must attach Power of Attorney and Certificate of Authority for Surety and a Notary Acknowledgment for all Surety's signatures. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, _____ _____

(hereinafter designated as "PRINCIPAL") and _____

(hereinafter designated as "SURETY") are held and firmly bound unto the City of Gridley, State of California, (hereinafter called "City") in the sum of ten percent (10%) of the total aggregate amount of the bid of the Principal above named, submitted by said Principal to City for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents. In no case shall the liability of the Surety hereunder exceed the sum of _____ DOLLARS ($_____).

The condition of this obligation is such that a bid to City for construction of the project as follows, for which bids are to be opened on _____, 2024, has been submitted by Principal to City:

THE GRIDLEY SPORTS COMPLEX PHASE 1

NOW, THEREFORE, if the aforesaid Principal shall not withdraw said bid within the period specified therein after the opening of the same, or, if no period be specified, within sixty (60) days after said opening, and shall within the period specified therefore, or, if no period be specified, within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with City, in the prescribed to him for signature, in accordance with the bid as accepted, and file the two bonds with Owner, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by the Contract Documents, then this obligation shall be null and void; otherwise, it shall be and remain in full force, virtue, and effect. And the said Surety, for value received, hereby stipulates and agrees that no change,

extension of time, alteration, or addition to the terms of said contract or to the work to be performed hereunder or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

In the event suit is brought upon said bond by City and judgment is recovered, the Surety shall pay all costs incurred by City in such suit, including a reasonable attorneys' fee to be fixed by the Court. Death of the Principal shall not relieve Surety of its obligations hereunder.

IN WITNESS WHEREOF, the instrument of this **BID BOND** has been duly executed by the principal and surety above named, on

Signed and sealed this _____ day of _____ 20 ___

ATTEST:

_____
Principal

_____ By _____
(Principal Secretary)

_____ _____
(Witness as to Principal) (Address)

_____ _____
(Address)

ATTEST:

_____
Surety

_____ By _____
(Surety Secretary) Attorney-in-Fact

_____ _____
(Witness as to Surety) (Address)

NOTES:

1. Sureties must be authorized to do business in and have an agent for service of process in California and be on the accredited list of the United States Treasury Department, and their bonds will be limited to such amounts as would be acceptable to the Treasury Department. The name, address, and phone number of the Company as well as the Agent shall be attached hereto.
2. Signatures of those executing for Surety must be properly acknowledged, and a power of attorney attached.
3. No substitution or revision to this bond form will be accepted.

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A. SCOPE OF THE WORK

A.1 INTENT: The intent of the Plans and Specifications is to prescribe the details for the construction and completion of the work which the Contractor undertakes to perform in accordance with the terms of the Formal Bid Documents. Where the Plans or Specifications describe portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals, and do all the work involved in executing the project in a satisfactory and workmanlike manner.

A.2 CHANGES IN THE WORK: The City reserves the right to make changes in the work, including alterations, additions, deductions and omissions, and to require extra work, all as may be deemed necessary by the City. All such changes will be done under Change Order which shall set forth the work to be done or the changes to be made, the value of the work or the method by which it will be determined and the change, if any, in the time of completion of the work.

The value of any such extra work or change shall be determined in one or more of the following ways:

(a) By unit prices named in the Proposal or subsequently agreed upon.
(b) By estimate and acceptance in an agreed upon lump sum.
(c) By Force Account as provided for in Article F.4.

If none of the above methods is agreed on, or if the work is to be done by Force Account, the Contractor shall keep and present in the form prescribed in Article F.5 a correct account of the net cost of the labor and materials actually incorporated in the work.

Upon receipt of a Change Order, the Contractor shall proceed with the ordered work. If ordered in writing by the City, the Contractor shall proceed with the work so ordered prior to actual receipt of a Change Order. A Change Order executed by the Contractor and approved by the City is an executed Change Order as that term is used in Articles A.3 through A.5.

A Change Order may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in a Change Order which they have not executed, he shall submit a written protest to the City within five (5) calendar days after the receipt of such Change Order. The protest shall state the points of disagreement, Specification references, and, if possible, the quantities and cost involved. If a written protest is not submitted, payment will be made as set forth in the Change Order and such payment shall constitute full compensation for all work included therein or required thereby. Such un-protested Change Orders will be considered as executed Change Orders as that term is used in Articles A.3 through A.5.

Where the protest concerning a Change Order relates to compensation, the compensation payable for all work specified or required by said Change Order to which such protest relates will be determined as provided in Articles A.3 through A.5. The Contractor shall keep full and complete records of the cost of such work and shall permit the City to have access thereto as may be necessary to assist in the determination of the compensation payable for such work.

Where the protest concerning a Change Order relates to the adjustment of time of completion of the work, the time to be allowed therefore will be determined as provided in Article B.3.

A.3 INCREASED OR DECREASED QUANTITIES: Increases or decreases in the quantity of a Proposal item of work will be determined by comparing the total pay quantity of such item of work with the quantity shown in the Proposal for the same item of work.

If the total pay quantity of any item of work required varies from the Proposal quantity therefore by twenty five percent (25%) or less, payment will be made for the quantity of work performed at the Proposal unit price, unless eligible for adjustment pursuant to Article A.4.

If the total pay quantity of any item of work varies from the Proposal quantity therefore by more than twenty five percent (25%), in the absence of an executed Change Order specifying the compensation to be paid, the compensation payable to the Contractor will be determined in accordance with Articles A.3.a., A.3.b., or A.3.c. herein, as the case may be.

A.3.a. Increase of more than twenty five percent (25%): Should the total pay quantity of any item of work exceed the Proposal quantity by more than twenty five percent (25%), the work in excess of one hundred and twenty five percent (125%) of the Proposal quantity (if not covered by an executed Change Order specifying the compensation) will be paid for by adjusting the Proposal unit price, or at the option of the City, payment for the work involved in such excess will be made on the basis of Force Account as provided in Article F.4.

The Contractor's fixed costs which have been distributed over the Proposal quantity will be deemed to have been recovered by the Contractor from the payments made for one hundred and twenty five percent (125%) of the Proposal quantity and will be excluded from the adjusted unit price.

A.3.b. Decrease of more than twenty five percent (25%): Should the total pay quantity of any item of work be less than seventy five percent (75%) of the Proposal quantity, the quantity performed (unless covered by an executed Change Order specifying the compensation) will be paid for by adjusting the Proposal unit price, or at the option of the City, payment for the quantity of the work of such item performed will be made on the basis of Force Account as provided in Article F.4.

The Contractor's fixed costs which have been distributed over the Proposal quantity will be redistributed over the pay quantity in determining the adjusted unit price.

The total payment for the final quantity of such item of work will in no case exceed the payment which would be made for the performance of seventy five percent (75%) of the Proposal quantity at the original Proposal unit price.

A.3.c. Deleted items: Should any item of work be deleted in its entirety (in the absence of an executed Change Order covering the deletion), payment will be made to the Contractor for actual and direct costs, excluding overhead and profit, incurred prior to the date of notification in writing by the City of the deletion, except as provided for costs of handling materials.

If acceptable material is ordered by the Contractor for the deleted item prior to the date of notification of the deletion by the City, and if orders for such material cannot be canceled, it will be paid for at the actual cost to the Contractor, excluding overhead and profit. In such case, the material paid for shall

become the property of the City and the cost of any further handling will be paid for as extra work as provided in Article A.5. If the material is returnable to the vendor and if the City so directs, the material shall be returned and the Contractor will be paid for charges made by the vendor for returning the material, excluding any markup for overhead and profit to the Contractor. The cost of handling returned material will be paid for as extra work as provided in Article A.5.

A.4 CHANGES IN CHARACTER OF WORK: If an ordered change in the Plans or Specifications materially changes the character of the work of a Proposal item from that on which the Contractor based his Proposal price and increases or decreases the actual unit cost of the changed item, an adjustment in compensation therefore will be made. Any such adjustment will apply only to the portion of the work of said item actually changed in character. At the option of the City, the work of said item or portion of said item which is changed in character will be paid for by Force Account as provided in Article F.4.

Failure of the City to recognize a change in character of the work at the time the Change Order is issued shall in no way be construed as relieving the Contractor of his duty and responsibility of filing a written protest within the five (5) day limit.

A.5 HAZARDOUS MATERIALS: Projects which include excavations deeper than four feet are subject to the provisions of Public Contracts Code Section 7104, which addresses the discovery of hazardous materials in connection with any excavation which may be required. That section provides:

(a) That the Contractor shall promptly, and before the following conditions are disturbed, notify the City, in writing, of any:

(1) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

(2) Subsurface or latent physical conditions at the site differing from those indicated.

(3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the project.

(b) That the City shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractors cost of, or the time required for, performance of any part of the work shall issue a Change Order under the procedures described in the General Conditions.

(c) That, in the event that a dispute arises between the City and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractors cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Formal Bid Documents, but shall proceed with all work to be performed. The Contractor shall retain any and all rights provided by law which pertain to the resolution of disputes and protests between the parties.

A.6 EXTRA WORK: New and unforeseen work will be classed as extra work when determined by the City that such work is not covered by any of the various items for which there is a Proposal price or by combinations of such items. In the event portions of such work are determined by the City to be covered by some of the various items for which there is a Proposal price or combination of such items,

the remaining portion of such work will be classed as extra work. Extra work also includes work specifically designated as extra work in the Plans or Specifications.

The Contractor shall do such extra work and furnish material and equipment therefore upon receipt of a Change Order or other written order from the City, and without a Change Order or other written order of the City, he shall not be entitled to payment for such extra work. Where such extra work is ordered by a written order other than a Change Order, the City will, as soon as practicable, issue a Change Order. The provisions in Article A.2 shall be fully applicable to the subsequently issued Change Order. Payment for extra work required to be performed pursuant to the provisions of this section, in the absence of an executed Change Order, will be made by Force Account as provided in Article F.4, or as agreed to by the Contractor and the City.

A.7 GUARANTEE: The Contractor shall guarantee all of his work against defective material or faulty workmanship for a period of one (1) year after the date of formal acceptance of the work by the City, unless otherwise stated in the specifications.

The Contractor shall repair or replace to the satisfaction of the City any or all such work that may prove defective in workmanship or materials within that period, ordinary wear and tear and unusual abuse or neglect excepted, together with any other work which may be damaged or displaced in so doing.

In the event of failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, the City is authorized to have the defects repaired and made good at the expense of the Contractor who will pay the cost and charges therefore immediately upon demand.

The acceptance of a Notice to Proceed by the Contractor shall constitute execution of the above guarantees.

B. PROGRESS AND COMPLETION OF THE WORK

B.1 PROGRESS OF THE WORK AND TIME OF COMPLETION: The Contractor shall begin work within seven (7) calendar days after receipt of a Notice to Proceed. The Contractor shall diligently prosecute the same to completion within the number of days set forth in the Form of Contract.

B.2 LIQUIDATED DAMAGES: It is agreed by the parties that in case all work called for in the Formal Bid Documents is not completed within the number of days specified in the Special Conditions, damage will be sustained by the City; and it is further agreed that it is, and will be, impractical and extremely difficult to ascertain and determine the actual damage which the City will sustain by the delay. It is therefore agreed that the Contractor will pay to the City the sum of one thousand and five hundred dollars (**$1500.00**) per calendar day for each and every calendar day delay in finishing the work. The Contractor agrees to pay said liquidated damages and further agrees that the City may deduct the amount thereof from the monies due or to become due the Contractor for this project.

It is further agreed that if the work called for in the Formal Bid Documents is not completed within the number of days specified in the Special Conditions, the City shall have the right to increase the number of days or not, as the City decides will best serve the City's interest. If the City decides to increase the number of calendar days, the City shall further have the right to charge the Contractor,

his heirs, assigns, or sureties, and to deduct from the final payment for the work, all or any part, as the City may deem proper, of the actual cost of inspection, superintendence, and other overhead expenses which are directly chargeable to the Project and which accrue during the period of such extension, except that the cost of final surveys and preparation of the final estimate shall not be included in such charges.

B.3 DELAYS AND EXTENSIONS OF TIME: The Contractor will be granted an extension of time and will not be assessed with liquidated damages or the cost of engineering, inspection, superintendence and other overhead expenses during any delay beyond the time named for the completion of the work caused by an act of God or by the public enemy, acts of the City, fire, floods, epidemics, quarantine restrictions, strikes, unusual shortage of materials and freight embargoes. In the event of such delay, the Contractor shall notify the City in writing of the causes of delay within five (5) calendar days from the beginning of such delay, and findings thereon shall be final.

B.4 PROGRESS SCHEDULE AND ORDER OF COMPLETION: Within seven (7) calendar days after receipt of a Notice to Proceed, the Contractor shall submit to the City a progress schedule showing a breakdown of the work into at least all of its major items, and showing the proposed dates of starting and completing these items of work per time specified in the General Conditions and Special Conditions. This schedule shall also conform to the requirements for completion of portions of the work as may be specified in the General and Special Conditions. The Contractor shall review and, if necessary, revise the progress schedule at least once a month and in any event shall submit a current schedule to the City at his request at any time during the project construction. The schedule shall be updated and revised within five (5) working days of the Engineer's written request at any other time. The schedule shall show the order of work by task and the "critical path", or the series of tasks, which control the project completion, date, with respect to equipment, material, or labor. Delays and other changes to the schedule, which have no impact on the critical path, shall not be considered for contract time extensions. The Contractor shall make no claim for damages resulting from the delay of an "early" completion schedule.

C. CONTROL OF THE WORK

C.1 ASSIGNMENT: Neither party shall assign the work or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any monies due, or to become due to him hereunder, without the previous written consent of the City.

C.2 ANTITRUST CLAIMS ASSIGNMENT: To the extent this project constitutes a contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the City all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment is made and becomes effective at the time the City tenders final payment to the Contractor, without further acknowledgment by the parties.

C.3 RIGHTS OF VARIOUS INTERESTS: Wherever work being done by the City's forces or by other contractors is contiguous to work covered by the Formal Bid Documents, the respective rights

of the various interests involved shall be established by the City, to secure the completion of the various portions of the work in general harmony.

C.4 SEPARATE CONTRACTS: The City reserves the right to let contracts and/or authorize other work in connection with this work. The Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate his work with theirs.
If any part of the Contractor's work depends upon the work of any other contractor, the Contractor shall inspect and promptly report to the City any defects in such work that render it unsuitable. His failure to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his work except as to defects which may later develop in the other contractor's work. In addition, the Contractor shall measure work already in place and shall immediately report to the City any discrepancy between the executed work and that shown on the Plans.

C.5 SUBCONTRACTS: No subcontractor will be recognized as such, and all persons engaged in the work will be considered as employees of the Contractor and he will be held responsible for their work, which shall be subject to the provisions of the Formal Bid Documents. Nothing contained in the Formal Bid Documents shall create any contractual relation between any subcontractor and the City.

C.6 FORMAL BID DOCUMENTS: The various parts of the Formal Bid Documents, as defined in the Instructions to Bidders, are complementary and a requirement stated in one is as binding as though stated in all. They are intended to be cooperative and to describe and provide for a complete work.

In the event of conflict between the Instructions to Bidders and the Special Conditions, the Special Conditions shall govern. In the event of conflict between the General Conditions and the Special Conditions, the Special Conditions shall govern. In the event of conflict between the Plans and the Technical Specifications, the Technical Specifications shall govern, except that where items are shown on the Plans and are not specifically included in the Technical Specifications, the Plans shall govern.

C.7 CITY'S AUTHORITY: The City has full authority to interpret the Formal Bid Documents, to enforce the requirements thereof and to decide questions which arise during the course of the work. The City has authority to stop the work whenever such stoppage may be necessary to insure the proper completion of the project. The City shall also have authority to reject all work and materials which do not conform to the Formal Bid Documents.

If at any time before the commencement or during the progress of the work, tools, plant or equipment appear to the City to be insufficient, inefficient, or inappropriate to secure the quality of work required or the proper rate of progress, the City may order the Contractor to increase their efficiency, or to improve their character, or to augment their number, or to substitute new tools, plant or equipment as the case may be, and the Contractor must conform to such order; but the failure of the City to demand such increase of efficiency, number, or improvement shall not relieve the Contractor of his obligation to secure the quality of work and the rate of progress necessary to complete the work in accordance with the Formal Bid Documents.

In giving instructions, the City shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purpose of the work.

C.8 INSPECTION OF WORK: The City and their representatives shall at all times have access to the work wherever it is in preparation or progress and the Contractor shall provide proper facilities for such access and for inspection. If the Specifications or the City's instructions require any work to be specially tested or approved, the Contractor shall give the City timely notice of its readiness for inspection. Inspection by the City will be made promptly. If any work should be covered up without approval or consent of the City, it must, if required by the City, be uncovered for examination at the Contractor's expense.
The inspection of the work or materials shall not relieve the Contractor of any of his obligations to complete the project as prescribed. Work and materials not meeting such requirements shall be made good and unsuitable work or materials may be rejected, notwithstanding that such work or materials may have been previously inspected by the City or that payment therefore has been included in a progress estimate.

Re-examination of questioned work may be ordered by the City and if so ordered, the work must be uncovered by the Contractor. If such work is found to be in accordance with the Formal Bid Documents, the City will pay the cost of re-examination and replacement. If such work is not found to be in accordance with the Formal Bid Documents, the Contractor shall pay such cost.

Projects financed in whole or in part with State or federal funds shall be subject to inspection at all times by the State or federal agency involved. Where any part of the work is being done under an encroachment permit or building permit, or is subject to State, County or municipal codes, laws or ordinances, representatives of the governing agency shall have full access to the work and shall be allowed to make any inspection or tests in accordance with such permits, codes, laws or ordinances. If advance notice of the readiness of the work for inspection by the governing agency is required, the Contractor shall furnish such notice to the appropriate agency.

C.9 SUPERINTENDENCE: The Contractor shall designate in writing before starting work, an authorized representative who shall have complete authority to represent and to act for the Contractor. Said authorized representative shall be present at the site of the work at all times while work is actually in progress on the project. During periods when work is suspended, arrangements acceptable to the City shall be made for any emergency work which may be required.

Whenever the Contractor or their authorized representative is not present on any particular part of the work where it may be desired to give direction, orders will be given by the City, which shall be received and obeyed by the superintendent or foreman who may have charge of the particular work in reference to which the orders are given.

Any order given by the City, not otherwise required by the Formal Bid Documents to be in writing will, on request of the Contractor, be given or confirmed by the City in writing.

C.10 CHARACTER OF WORKMEN: If any subcontractor or person employed by the Contractor shall fail or refuse to carry out the directions of the City or shall appear to the City to be incompetent or to act in a disorderly or improper manner, he shall be removed immediately on the requisition of the City, and such person shall not again be employed on the work.

The Contractor shall at all times enforce strict discipline and good order among his employees, and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him. Neither party shall employ or hire any employee of the other party without his consent.

C.11 PLANS, SPECIFICATIONS, AND INSTRUCTIONS: Unless otherwise provided in the Special Conditions, the City will furnish to the Contractor, free of charge, all copies of Plans and Specifications reasonably necessary for the execution of the work. They will also furnish with reasonable promptness additional instructions, either as supplemental drawings or otherwise, as may be necessary for the proper execution of the work. The Contractor shall keep one copy of all Plans and Specifications, including any Addenda and Change Orders, on the work in good order available to the City and their representatives.

Should the Contractor be in doubt as to the meaning of any provision in the Plans and Specifications, or should he find any errors or omissions therein, or should he find any errors or omissions in the layout or staking, he shall immediately notify the City. The City will promptly investigate and will furnish the Contractor with any additional instructions as may be required.

Unless otherwise noted in the Special Conditions, upon completion of all project work, the Contractor shall provide the City with one complete set of Plans and Specifications with all "As Built" changes or modifications marked and annotated.

C.12 CONSTRUCTION STAKING: Construction Staking is not required for this project.

C.13 PERMITS AND REGULATIONS: Permits and licenses of a temporary nature necessary for the prosecution of the work shall be obtained by the Contractor at his expense. Unless otherwise specified in the Special Conditions, permits and licenses for permanent structures or permanent changes in existing facilities will be secured and paid for by the City. Copies of any permits and licenses which are obtained by the City will be on file at his office and will be available for inspection by the Contractor. The Contractor shall acquaint himself with, and abide by, any requirements of these documents. The Contractor shall obtain any supplemental agreements or bonds required by any encroachment permit, and he shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work. If the Contractor observes that the Plans and Specifications are at variance therewith, he shall promptly notify the City in writing, and any necessary changes shall be adjusted as provided in the Formal Bid Documents for changes in the work. If the Contractor performs any work, knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the City, he shall bear all costs arising therefrom.

The Contractor shall be required obtain a Business License from the City of Gridley to conduct work on the project.

C.14 LANDS FOR WORK: The City shall provide the lands, easements, and rights-of-way upon which the work is to be done. Unless he specifically makes other arrangements, the Contractor shall confine his operations to the limits of the City's land and to the limits of the easements and rights-of-way. The Contractor shall provide land required for the erection of temporary construction facilities and storage of his material.

C.15 SUSPENSION OF WORK: The City may at any time suspend the work, or any part thereof, by giving one (1) working day's notice to the Contractor in writing. The work shall be resumed by the Contractor as directed by the City to the Contractor to do so. The City will reimburse the Contractor for expense incurred by the Contractor in connection with the work as a result of such suspension, except that no reimbursement will be made if the suspension is due to non-conformance with the Formal Bid Documents on the part of the Contractor. If the work or any part thereof shall be stopped by notice in writing, and if the City does not give notice in writing to the Contractor to resume work within thirty (30) calendar days of the date fixed in written notice to suspend, the Contractor may abandon the suspended portion of the work and will be entitled to payment for all work acceptably done on the abandoned portions.

C.16 THE CITY'S RIGHT TO DO WORK: If the Contractor should neglect to prosecute the work properly or fail to perform any provision of the Formal Bid Documents, the City, after three (3) working days written notice to the Contractor, may, without prejudice to any other course of action the City may have, perform or have performed by other forces, all or any portion of the work and may deduct the cost thereof from the monies due or to become due the Contractor.

C.17 THE CITY'S RIGHT TO TERMINATE PROJECT: If the Contractor should be adjudged bankrupt, or should make a general assignment for the benefit of his creditors, or if a receiver should be appointed because of his insolvency, or if he should persistently or repeatedly refuse or should fail to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors or for materials or labor, or persistently disregard laws, ordinances or the instructions of the City, or otherwise be guilty of a substantial violation of any provision of the Formal Bid Documents, then the City, upon the certification of the City that sufficient cause exists to justify such action, may, without prejudice to any other right or remedy and after giving the Contractor seven (7) calendar days written notice, terminate the employment of the Contractor and take possession of the premises and of all materials, tools, and appliances thereon and finish the work by whatever method he may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the bid price exceeds the expenses of finishing the work, including compensation for all attributable administrative costs and for damages incurred through the Contractor's default, such excess shall be paid to the Contractor. If such expenses exceed such unpaid balance, the Contractor shall pay the difference to the City. The expenses incurred by the City as herein provided, and the damage incurred through the Contractor's default, shall be certified by the City.

C.18 REMOVAL OF EQUIPMENT: In the case of termination of the project before completion for any cause, the Contractor, if notified to do so by the City, shall promptly remove any part or all of his equipment and supplies from the City's property. If not promptly done, the City shall have the right to remove such equipment and supplies at the expense of the Contractor.

C.19 CORRECTION OF WORK: The Contractor shall promptly remove from the premises all materials condemned by the City as failing to conform to the Formal Bid Documents whether incorporated in the work or not. The Contractor shall, at his own expense, promptly replace such materials and perform all work made necessary by such replacement, including making good all work of others destroyed or damaged by such removal or replacement.

If the Contractor does not remove such condemned work and materials within a reasonable time, fixed by written notice, the City may remove and store the material at the expense of the Contractor. If the Contractor does not pay for the expense of the removal within ten (10) calendar days time thereafter, the City may, upon ten (10) calendar days written notice, sell such materials at auction or at private sales and shall account for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the Contractor.

C.20 DEDUCTIONS FOR UNCORRECTED WORK: If the City deems it inexpedient to correct work injured or done not in accordance with the Formal Bid Documents, an equitable deduction from the Proposal price shall be made therefore.

C.21 USE OF COMPLETED PORTIONS: The City shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the entire work or such portions may not have expired but taking possession and use shall not be deemed an acceptance of any work not completed in accordance with the Formal Bid Documents. If such prior use increases the cost of or delays the work, the Contractor shall be entitled to extra compensation, or extension of time or both, as the City may determine.

C.22 CONTRACTOR CLAIMS: Appropriate claims shall be submitted and reviewed in accordance with Section 20104 of the Public Contracts Code. For any claim subject to this Article, the following requirements apply:

(a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided in the Formal Bid Documents for the filing of claims.

(b) (1) For claims of less than fifty thousand dollars ($50,000), the City shall respond in writing to any written claim within forty five (45) calendar days of receipt of the claim, or may request, in writing, within thirty (30) calendar days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the City may have against the Contractor.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the City and the Contractor.

(3) The City's written response to the claim, as further documented, shall be submitted to the Contractor within fifteen (15) calendar days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

(c) (1) For claims of over fifty thousand dollars ($50,000) and less than or equal to three hundred seventy-five thousand dollars ($375,000), the City shall respond in writing to all written claims within sixty (60) calendar days of receipt of the claim, or may request, in writing, within thirty (30) calendar days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the City may have against the Contractor.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the City and the Contractor.

(3) The City's written response to the claim, as further documented, shall be submitted to the Contractor within thirty (30) calendar days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

(d) If the Contractor disputes the City's written response, or the City fails to respond within the time prescribed, the Contractor may so notify the City, in writing, either within fifteen (15) calendar days of receipt of the City's response or within fifteen (15) calendar days of the City's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the City shall schedule a meet and confer conference within thirty (30) calendar days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the Contractor may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.

It is hereby mutually agreed that the Contractor shall not be entitled to payment of additional compensation for any cause, including any act or failure to act by the City, or of any event, thing or occurrence, unless he shall have given the City due written notice of potential claim, provided however, that compliance with this Article shall not be a prerequisite as to matters within the scope of the protest provisions in Article A.2, nor to any claim which is based on differences in measurements or errors of computation of Proposal quantities.

The written notice of potential claim shall set forth the reasons the Contractor believes additional compensation will or may be due, the nature of the costs involved, and, insofar as possible, the amount of the potential claim. The required notice must have been given to the City prior to the time the Contractor performed the work giving rise to the potential claim for additional compensation, if based on an act or failure to act by the City, or in all other cases within fifteen (15) calendar days after the event, thing or occurrence giving rise to the potential claim.

In the event of an emergency endangering life or property, the Contractor shall act as stated in Article D.4, and after execution of the emergency work, shall present an accounting of labor, materials, and equipment in connection therewith. The procedure for any payment that may be due for emergency work will be as specified in Article A.2.

The City shall, within a reasonable time after their presentation to him, state his decisions in writing on all claims of the City or the Contractor. All such decisions of the City shall be final.

It is the intention of this Article that differences between the parties arising under and by virtue of the Formal Bid Documents be brought to the attention of the City at the earliest possible time so that such matters may be settled, if possible, or other appropriate action promptly taken. The Contractor hereby agrees that he shall have no right to additional compensation for any claim that may be based on any act, failure to act, event, thing, or occurrence for which no written notice of potential claim was filed.

C.23 CLEANING UP: The Contractor shall, at his own expense, promptly remove from the City's property, and from all other lands affected by his work, all temporary structures, rubbish and waste materials resulting from his operations. He shall leave such lands in a neat and orderly condition which is at least as good as the condition prior to his operations.

D. INSURANCE AND LIABILITY

D.1 CONTRACTOR'S LIABILITY INSURANCE: The Contractor shall maintain insurance to protect them from claims under workman's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under the Formal Bid Documents, whether such operations are controlled by them, a subcontractor or by anyone directly or indirectly employed by either of them. The City shall be named as coinsured in all such insurance policies and the coverage shall include concurrent negligence of the City or their agents, employees, or representatives whether such concurrent negligence be active or passive, including specifically any liability based upon a violation of any non-delegable duties. Certificates of insurance and the certificate required by Labor Code Section 1861 shall be filed with the City prior to commencing the work and shall be subject to his approval for adequacy of protection.

The Contractor specifically obligates themself and hereby agrees to protect, hold free and harmless, defend and indemnify the City, the City and the consultants, and each of their officers, employees and agents, from any and all liability, penalties, costs, losses, damages, expenses, causes of actions, claims or judgments, including attorney's fees, which arise out of or are in any way connected with the Contractor's performance of the work on this project. To the extent legally permissible, this indemnity and hold harmless agreement by the Contractor shall apply to any acts or omissions, whether active or passive, on the part of the Contractor or his agents, employees, representatives, or subcontractors, or his subcontractor's agents, employees and representatives, resulting in liability irrespective of whether or not any acts or omissions of the parties to be indemnified hereunder may have also been a contributing factor to the liability.

As a further precaution toward this end, the Contractor shall procure and maintain, in full force and effect during the performance of the work contemplated thereunder, insurance in his favor and also in favor of the City, with an insurance carrier approved by the City, as follows:

> Liability for Personal Injury or Property Damage in the amount of one million dollars ($1,000,000.00) for any occurrence.

The Contractor shall, before the commencement of the work, take out and maintain in full force and effect, compensation insurance with an insurance carrier or carriers under an insurance policy or policies, satisfactory to the City covering the full liability under the "Worker's Compensation Insurance and Safety Act" of the State of California to any employee who may be injured during the course of said work and to the dependents of any employee who may be killed during the course of said work.

Such policy or policies shall expressly provide therein that they shall not be canceled by the insurer until ten (10) calendar days after written notice of the intended cancellation thereof shall have first been given to the City by the insurer.

The Contractor shall file with the City, immediately after issuance of a Notice of Award, certificates of all insurance. These certificates shall be fully executed and shall state that the policies cannot be canceled until ten (10) calendar days after written notification of such intent of cancellation has been given to the City. All policies shall be with Insurance Companies acceptable to the City.

In case of the breach of any provision of this Article, the City may take out and maintain at the expense of the Contractor such insurance as the City may deem proper and may deduct the cost of such insurance from any monies which may be due or become due the Contractor.

D.2 FIRE INSURANCE: The Contractor shall take out and maintain fire insurance on the entire structure on which work is to be done. This insurance will be in the amount of one hundred percent (100%) of the insurable value of the structure, including items of labor and materials during construction, and one hundred percent (100%) of the insurable value of the completed structure. The coverage shall be maintained by the Contractor until final acceptance of the work by the City.

The loss, if any, is to be made adjustable with and payable to the City as Trustee for whom it may concern, except in cases which require payment of all or a portion of said insurance to be made to a mortgagee as his interest may appear.

The Contractor, on the written request, shall be named jointly with the City in all policies, all of which shall be open to inspection. If the City fails to show them on request, or if they fail to effect or maintain as above, the Contractor may insure their own interests and charge the cost thereof to the City. If the Contractor is damaged by failure of the City to maintain such insurance, they may recover as stipulated in the Formal Bid Documents for recovery of damages.

The Trustee shall deposit any money received from insurance in an account separate from all their other funds and they shall distribute it in accordance with such agreement as the parties in interest may reach. If after loss no special agreement is made, replacement of injured work shall be ordered and executed as provided for under changes in the work.

The Trustee shall have power to adjust and settle any loss with the insurers unless the Contractor shall object in writing within three (3) working days of the occurrence of loss, and thereupon arbitrators shall be chosen. The Trustee shall in that case make settlement with the insurers in accordance with the directions of the arbitrators, who shall also, if distribution by arbitration is required, direct such distribution.

EXCLUSION: This insurance does not cover any tools owned by mechanics, any tools, equipment, scaffoldings, staging, towers, or supplies, and any temporary structures erected for the Contractor's operations.

D.3 PRESERVATION OF PROPERTY: The Contractor shall take whatever precautions necessary to prevent damage to all existing improvements, including aboveground and underground utilities, trees and shrubbery that are not specifically shown to be removed, fences, signs, mail boxes, survey markers and monuments, building and structures, the City's property, adjacent property and any other improvements or facilities within or adjacent to the work. If such improvements or property are injured or damaged by the Contractor's operations, they shall be replaced or restored, at the Contractor's expense, to a condition at least as good as the condition prior to the start of the Contractor's operations.

The Contractor shall examine all bridges, culverts, and other structures over which they will move materials and equipment, and before using them, shall properly strengthen such structures, where necessary. The Contractor will be held responsible for any and all injury or damage to such structures caused by his operations.

The fact that any pipe or other underground facility is not shown, or not accurately shown on the Plans, shall not relieve the Contractor of his responsibility under this Article. It shall be the Contractor's responsibility to ascertain the existence of any underground improvements or facilities which may be subject to damage by his operations.

D.4 PROTECTION OF WORK: The Contractor shall continuously maintain adequate protection of all work from damage. Shall make good any such damage, injury, or loss, except as may be directly due to errors in the Formal Bid Documents or caused by agents or employees of the City. Shall adequately protect adjacent property as provided by law and the Formal Bid Documents. Shall provide and maintain all passageways, guard fences, lights and other facilities for protection required by public authority or local conditions.

In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization from the City, is hereby permitted to act at their discretion to prevent such threatened loss or injury, and shall so act without appeal if so instructed or authorized. Any compensation claimed by the Contractor for emergency work shall be determined as specified under Article A.2.

D.5 PUBLIC SAFETY: The Contractor shall be responsible for furnishing and maintaining all flagmen, warning signs, barricades, emergency lighting, shoring, etc. necessary to protect the public and workmen employed on the project. Safety provisions shall conform to all applicable federal, State, County and local laws, ordinances, and codes and, in particular, to the rules and regulations established by OSHA and the California Division of Industrial Safety.

D.6 ACCIDENTS: The Contractor shall provide at the site such equipment and medical facilities as are necessary to give first-aid service to anyone who may be injured.

The Contractor must promptly report in writing to the City all accidents arising from or in connection with the performance of the work on or adjacent to the site, giving full details and statements of witnesses. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the City and the City.

If any claim is made against the Contractor or any subcontractor because of any accident, the Contractor shall promptly report the facts in writing to the City, giving full details of the claim.

E. LABOR AND MATERIALS

E.1 HOURS OF LABOR: The Contractor shall forfeit, as penalty to the City, twenty five dollars ($25.00) for each workman employed by them, or by any subcontractor under them, for each calendar day any workman is required or permitted to labor more than eight (8) hours (without workman being fully compensated at the in appropriate rate per the applicable provisions of the current Labor Code)

in violation of the provisions of the Labor Code and in particular, Section 1810 to Section 1817 thereof, inclusive.

E.2 EMPLOYMENT OF APPRENTICES: The Contractor's attention is directed to Section 1777.5 of the Labor Code; provisions of said section pertaining to employment of indentured apprentices are hereby incorporated by reference into these Specifications. As applicable, the Contractor or any subcontractor employed by him in the performance of the work shall take such actions as necessary to comply with the provisions of said Section 1777.5.

E.3 LABOR DISCRIMINATION: Attention is directed to Section 1735 of the Labor Code, which reads as follows:

> **"No discrimination shall be made in the employment of persons upon public works because of the race, color or religion of such persons and every contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter."**

E.4 PREVAILING WAGE: The Contractor shall forfeit as penalty to the City, fifty dollars ($50.00) for each calendar day or portion thereof, for each workman paid less than stipulated prevailing rates for any work done by them or by any subcontractor under them, in violation of the provisions of the Labor Code and in particular, Section 1770 to Section 1780 thereof, inclusive.

The City will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the Prevailing Wages set forth in the Formal Bid Documents. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his Proposal and will not be considered as the basis of a claim against the City.

The Contractor and each Subcontractor shall keep an accurate record showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week and the actual per diem wages paid to each journeyman, apprentice, worker or other employee by him or her in connection with the work. These payroll records shall be certified and made available for inspection at all reasonable hours at the principal office of the Contractor and furnished by the Contractor to the City and others upon request in accordance with the provisions of Labor Code Section 1776. The Contractor's attention is called to the penalties provided for in Section 1776 for the failure to comply with its provisions.

E.5 MATERIALS: Unless otherwise specifically stated in the Special Conditions, the Contractor shall furnish all materials necessary for the execution and completion of the work. Unless otherwise specified, all materials shall be new and shall be manufactured, handled and installed in a workmanlike manner to ensure completion of the work in accordance with the Formal Bid Documents. The Contractor shall furnish satisfactory evidence as to the kind and quality of materials.

Where materials are to be furnished by the City, the type, size, quantity and location at which they are available will be stated in the Special Conditions.

In certain instances, the City may have available power, water or other utilities or materials which the Contractor may wish to use. If the City intends to furnish these free of charge, it will be so stated in

the Special Conditions. In the absence of such specific statement, the Contractor shall furnish all utilities and materials at his own expense.

E.6 RECORDS OF MATERIALS PURCHASED: The Contractor is not required to duplicate invoices to the City for all materials furnished to the project.

E.7 PATENTS: The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the work, and agrees to indemnify and save harmless the City and the City from all suits at law, or actions of every nature for, or because of the use of any patented materials, equipment, devices, or processes.

E.8 OWNERSHIP OF REMOVED MATERIALS: Unless otherwise specifically stated in the Special Conditions or Technical Specifications, any existing equipment or material removed by the Contractor during the course of the work shall remain the property of the City. Equipment and materials shall be removed with care to prevent unnecessary damage and shall be neatly stored at a location adjacent to the site of the work as directed by the City. Contractor shall verify if City wishes to maintain ownership of said materials.

E.9 SUBSTITUTION OF MATERIALS: Where materials and equipment are specified in the Technical Specifications or are shown on the Plans as similar and equal to a certain proprietary brand, the intent is to establish the minimum quality and performance acceptable. If the Contractor proposes to substitute materials or equipment of another proprietary brand but of equal quality, he may submit a request to the City for approval of the proposed substitution. No substitution may be made without prior approval and the City shall be the final judge of equality.

If any tests are necessary for evaluation of the proposed substitution by the City, the Contractor shall furnish all necessary test materials and shall pay the cost of the tests.

E.10 SUBMISSION OF WORKING DRAWINGS: Unless otherwise specifically stated in the Special Conditions or Technical Specifications, the Contractor shall submit to the City, four sets of working drawings for all items of equipment or fabricated materials to be installed in the work. These drawings shall show any necessary details in fabrication or erections, which are not shown on the Plans, furnished by the City and shall verify details and dimensions of equipment. The Contractor shall verify these dimensions before starting any work dependent on or affected by them.

E.11 TESTS: Unless otherwise specified in the Special Conditions, the City will pay for the required testing of materials. The Contractor will furnish all samples at no cost to the City. In the event samples are submitted which fail to pass the specified tests, the Contractor will pay for all subsequent tests.

E.12 RECORD DRAWINGS: The Contractor shall maintain at the site of work, one set of construction drawings red noted with actual installation information which is to be updated at the end of each work day. Unless otherwise specified in the Special Conditions, the Contractor shall provide one Red Noted copy of the final plans marked Record Drawing. These plans shall show "ACTUAL" as install information regarding all final conditions of the Construction Project Site, including but not limited to: all hard surfaces, amounts of planting materials, ground cover, irrigation (if installed or modified by this contract) and locations with dimensions of all equipment and structures.

F. MEASUREMENT AND PAYMENT

F.1 MEASUREMENT OF QUANTITIES: Where the Formal Bid Documents provide for payment on a lump sum price basis, no measurement of quantities will be made. Where the Formal Bid documents provide for payment on a unit price basis, the quantities of work performed will be computed by the City on the basis of measurements taken by the City, and these measurements shall be final and binding.

All work shall be measured by the City according to United States Measurements and Weights. Methods of measurement are specified in the Special Conditions and in the Technical Specifications.

F.2 SCOPE OF PAYMENT: The Contractor shall accept the compensation, as full payment for furnishing all labor, materials, tools, equipment, and incidentals necessary to the completed work and for performing all work contemplated and embraced in the Formal Bid Documents; also for loss or damage arising from the nature of the work, from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the work until the acceptance by the City and for all risks of every description connected with the prosecution of the work, also for all expenses incurred in consequence of the suspension or discontinuance of the work; and for completing the work according to the Formal Bid Documents. Neither the payment of any estimate nor any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.

No compensation will be made for loss of anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as provided in such agreements.

F.3 CHANGES IN THE WORK: The value of changes in the work, including extra work, shall be determined in accordance with Articles A.2 through A.5.

F.4 FORCE ACCOUNT PAYMENT: Where work is to be paid for by Force Account, the Contractor shall be paid on the basis of the actual cost of labor, material, and equipment, furnished by them as shown on paid vouchers, plus fifteen percent (15%). However, the City reserves the right to furnish such materials and equipment as they deems expedient, and the Contractor shall have no claim for overhead and profit on the cost or such material and equipment.

The cost of labor as referred to above shall include the cost of the base wages paid to workmen, plus any additional payment paid to, or on behalf of, workmen as required by State or federal laws plus any benefits, subsistence and travel allowance as may be required by collective bargaining agreements.

The cost of material as referred to above shall be the net cost to the purchaser, whether Contractor, subcontractor or other forces, from the supplier thereof.

The cost of equipment as referred to above, shall conform to current equipment rental rates prevailing in the locality, as determined and agreed upon in writing by the City and by the Contractor. This applies to both rental equipment and equipment owned by the Contractor.

F.5 RECORDS OF FORCE ACCOUNT WORK: The Contractor shall maintain his records in a manner to provide a clear distinction between the direct costs of extra work paid for on a Force Account basis and the costs of other operations. The Contractor shall furnish the City report sheets in duplicate of each day's extra work no later than the working day following the performance of the work. The daily report sheets shall itemize the materials used, and shall cover the direct cost of labor and the charges for equipment rental, whether furnished by the Contractor, subcontractor, or other forces. The daily report sheets shall provide names or identifications and classifications of workmen, the hourly rate of pay and hours worked, and also the size, type and identification number of equipment and hours operated.

Material charges shall be substantiated by valid copies of vendor's invoices. Such invoices shall be submitted with the daily report sheets, or if not available, they shall be submitted with subsequent daily report sheets. Should vendor's invoices not be submitted within 15 days after acceptance of the work, the City reserves the right to establish the cost of such material at the lowest current wholesale prices at which the materials are available in the quantities concerned delivered to the location of the work.

Said daily report sheets shall be signed by the Contractor or his authorized agent.

The City will compare his records with the daily report sheets furnished by the Contractor, make any necessary adjustments, and compile the costs of work paid for on a Force Account basis on daily extra work report forms. When these daily extra work reports are agreed upon and signed by both parties, they shall become the basis of payment for the work performed.

F.6 PAYMENTS WITHHELD: The City may withhold or, because of subsequently discovered evidence, nullify the whole or a part of any payment to such extent as may be necessary to protect themselves from loss due to:

a. Defective work not remedied.
b. Claims filed or reasonable evidence indicating probable filing of claims.
c. Failure of the Contractor to make payments properly to subcontractors or for material or labor.
d. A reasonable doubt that the project can be completed for the balance then unpaid.
e. Damage to another Contractor.
f. Failure to maintain Red Noted Record drawings per E.12 herein.

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

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

F.7 PROGRESS PAYMENTS: Once each month, the City will make an estimate in written form of the total amount of work done and of the acceptable materials furnished and delivered by the Contractor on the site and not used to the time of such estimate, and the value thereof. To assist the

City in determining the value of acceptable materials which are on hand but not used, the Contractor shall furnish the City with copies of invoices for all such materials. The City shall retain five percent (5%) of such estimated value of work done, and fifty percent (50%) of the value of materials so estimated to be on hand but not used.

This retention will serve as part security for the completion of the project by the Contractor. The City shall pay monthly to the Contractor the balance not retained of the aforesaid, after deducting therefrom all previous payments and all sums to be retained.

When in the judgment of the City, the work is not proceeding in accordance with the provisions of the Formal Bid Documents, or when in his judgment the total amount of the work done since the last estimate amounts to less than five hundred dollars ($500.00), no pay estimate will be prepared and no progress payment will be made.

No estimates or payment shall be construed to be an acceptance of any defective work or improper materials.

The Contractor may, in accordance with the provisions of Government Code Section 4590, substitute securities for any monies which the City may withhold to insure performance.

F.8 FINAL PAYMENT: Within ten (10) calendar days after the completion of the work and its acceptance by the City, the City will make a final estimate in writing of the quantities of work done and the value thereof, and will prepare a Notice of Completion to be filed by the City. At this time, a semi-final payment will be made to the Contractor provided that such payment is warranted under the terms of Article F.7. The amount of this payment shall be based on the total value of work acceptably performed, subject to the same conditions and retentions as payments previously made under the monthly estimates.

Within twenty (20) calendar days after the date of the final estimate, the Contractor shall submit to the City either written approval of the final quantities, and value of work as determined by the City, or a written statement of any and all claims for additional compensation claimed to be due. No claim for which a notice of potential claim is required will be considered unless the Contractor has complied with the notice provisions of Article C.21, nor will any claim be considered that was not included in said written statement of claims.

Failure of the Contractor to submit claims within the specified twenty (20) calendar day period, regardless of whether or not he files written approval, shall constitute acceptance of the quantities and value of work determined by the City in the final estimate. No claim will be considered if filed after the specified twenty (20) calendar day period.

In the event the Contractor files claims within the specified twenty (20) calendar day period, the City will, within ten (10) calendar days after receipt of said claims, consider and investigate the Contractor's claims and make a final determination. Should they find any revision to be warranted as a result of the investigation, the City will immediately notify the Contractor, and the final pay estimate will be revised accordingly.

Sixty (60) calendar days after the date of filing the Notice of Completion, the City will pay the entire sum found to be due, after deducting all previous payments and all amounts to be retained. As a

condition of such payment, the City may require the Contractor to furnish a release of all claims against the City. Payment will be withheld for any Proposal items for which a release is not furnished.

All prior partial estimates and payments shall be subject to correction in the final estimate and payments.

F.9 PAYMENT OF TAXES: The Proposal prices paid for the work include full compensation for payment of federal, State or local taxes.

THE GRIDLEY SPORTS COMPLEX PHASE 1

1. SPECIFICATIONS AND PLANS - GENERAL

The work embraced herein shall be done in accordance with the following specifications insofar as the same apply, and in accordance with the General Conditions and these Special Conditions.

(a) The Standard Specifications, most recent version, of the State of California, Department of Transportation and herein after called the Caltrans Standard Specifications.

(b) The latest edition of the City of Gridley Public Works Construction Standards and Standard Drawings hereinafter called the City Standards and Details.

In case of conflict between the Standard Specifications, the City of Gridley and the General Conditions and these Special Conditions, the General Conditions and Special Conditions shall take precedence over and be used in lieu of such conflicting portions.

All electrical work shall be done to the latest Electrical Code and to the satisfaction of the Engineer.

2. SPECIFICATIONS AND PLANS - DEFINITIONS

Unless the context otherwise requires, whenever terms listed below appear in the Caltrans Standard Specifications, these special conditions and other documents which constitute the contract (hereafter referred to as "Contract Specifications" or "Contract Documents"), the following definitions shall apply:

(a) "Engineer" shall mean the City Engineer of the City of Gridley acting either directly or through properly authorized agents, such agents acting within the scope of particular duties delegated to them in writing.

(b) "Department", "State", or "State of California", as used in the Caltrans Standard Specifications, shall mean the City of Gridley.

3. NOTIFICATION TO RESIDENTS/OWNERS

The Contractor shall notify all residents/owners in the project area, in writing, of the start date of construction, temporary lane closures to through traffic. The Contractor shall submit written notice to the Project Manager for review prior to notifying residents/owners.

4. PUBLIC SAFETY

In addition to any other measures taken by the Contractor pursuant to the General Conditions and the conditions of Section 7-1.04, "Public Safety", of the Caltrans Standard Specifications, the Contractor shall submit a traffic control plan for City approval prior to commencement of the work, when the following conditions exist:

(a) Excavations - Any excavation the near edge of which is 12 ft. or less from the edge of the lane, except:

(1) Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.

(2) Excavations less than one foot deep

(3) Trenches less than one foot wide for irrigation pipe of electrical conduit or excavations less than one foot in diameter.

(4) Excavations parallel to the lane for the purpose of pavement widening or reconstruction.

(5) Excavations in side slopes, where the slope is steeper than 4:1.

(6) Excavations protected by existing barrier or railing.

(b) Temporarily Unprotected Permanent Obstacles - Whenever the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system.

(c) Storage Areas **-** Whenever material or equipment is stored within 12 feet of the lane and such storage is not otherwise prohibited by the specifications.

Except for installing, maintaining and removing traffic control devices, whenever work is performed or equipment is operated in the following work areas the Contractor shall close the adjacent traffic lane unless otherwise provided in the specifications.

Approach speed of public traffic (posted limit)	Work Areas
Over 45 mph	Within 6 ft. of a traffic lane but not on a traffic lane.
Under 45 mph	Within 3 ft. of a traffic lane but not on a traffic lane.

When traffic cones or delineators are used to delineate a temporary edge of traffic lane, the line of cones or delineators shall be considered to be the edge of traffic lane, however, the Contractor shall not reduce the width of any existing lane to less than 10 ft. without written approval from the Project Manager. The lane closure conditions of this section shall not apply if the work area is protected by permanent or temporary railing or barrier.

When work is not in progress on a trench or other excavation that required a lane closure, the traffic cones or portable delineators used for the lane closure shall be placed off and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Driveways shall be usable at all times, unless the contractor has made special arrangements with the property owner to close the driveway. The City shall be provided a written copy of the arrangement approved by the property owner.

5. STORMWATER POLLUTION PREVENTION PLAN

Stormwater Pollution Prevention Plan shall conform to the conditions in Section 13 “Water Pollution Control,” and Section 21 “Erosion Control” of the Caltrans Standard Specifications, Butte County requirements and these special conditions. The Contractor is required to prepare, submit, update and maintain a Stormwater Pollution Prevention Plan for all work to be completed as a part of this project.

6. CONSTRUCTION AREA – TRAFFIC CONTROL

Construction area signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the conditions in Section 12, “Temporary Traffic Control”, of the Caltrans Standard Specifications and these special conditions.

Personal vehicles of the Contractor's employees shall be parked in areas approved by the City. Entry to the construction site will be allowed only at the location approved by the City.

All side streets, and driveways, and parking lots shall remain open and accessible during construction by ramping with A.B. or temporary A.C. or trench plating as directed by the City Inspector.

The Contractor is required to submit a traffic control and staging plan for this project. The City must approve the traffic control and staging plan prior to commencement of on-site work. The traffic control and staging plan shall include delineation of the Contractor's proposed staging areas, vehicular site access points, designated worker parking, construction fencing, and any locations where partial or full closure of a traffic lane or parking area is required. The plan shall include methods for landscape protection from construction vehicle travel.

7. CONFINED SPACE ENTRY AND SAFETY

Anyone entering the dry well structure must conform to all California Code of Regulations (CCR) Title 8 and Cal/OSHA requirements for "Confined Space Entry" equipment and permitting.

8. DUST CONTROL

Dust control shall conform to the conditions of Section 14-9.03 of the Caltrans Standard Specifications and the following Special Conditions.

No dust palliatives will be permitted on this project. Full compensation for dust control required shall be considered as included in the various bid items and no additional compensation will be allowed therefore. A water truck shall be kept onsite at all times during construction for dust control and cleaning at the direction of the Engineer or Inspector.

9. RURAL RECREATION AND TOURISM PROGRAM FUNDING - REQUIRED EMPLOYEMENT/VOLUNTEER

(a) California Conservation Corps

The grant requires that the Six Sacramento Regional Conservation Corps will assist with clearing, grubbing, seeding of fields, irrigation activities and other construction tasks. The contractor shall be responsible for furnishing the materials to complete the work, and providing oversight to the conservation corps. The conservation corps involvement will be discussed during the preconstruction meeting.

THE GRIDLEY SPORTS COMPLEX PHASE 1

PART 1: GENERAL

1.1 SECTION INCLUDES

A. Measurements of the completed work in accordance with, and by instruments and devices calibrated to United States Standard Measures and the units of measurement for payment, and the limits thereof, shall be made as shown on the Plans, Specifications, General Conditions, and Special Conditions.

1.2 METHODS OF MEASUREMENT

A. Payment for the various items of work shall include full compensation for the furnishing of all overhead, labor, material, tools, equipment, and appurtenances necessary to complete the work as indicated on the Drawings and as specified.

1. Each item shall be complete with all necessary connections and appurtenances for the satisfactory use and operation of said item.

2. All connections, testing, cleanup, and related work must be completed to provide a complete operable system.

3. No additional payment will be made for work related to each item unless specifically noted or specified.

4. Measurement will be for in-place completed work with no allowance for waste.

B. Quantities of material wasted or disposed of in a manner not called for under the Contract; or rejected loads of material, including material rejected after it has been placed by reason of failure of the Contractor to conform to the provisions of the Contract; or material not unloaded from the transporting vehicle; or material placed outside the lines indicated on the plans or given by the City Engineer; or material remaining on hand after completion of the Contract, will not be paid for and such quantities will be deducted from the final total quantities. No compensation will be allowed for hauling rejected material.

1.3 BID ITEMS

A. Bid items are not intended to be exclusive descriptions of work categories and the Contractor shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Bid Item as shown and specified.

B. The Total Amount bid includes the summation of Bid Items and represents the total price bid to complete the work as shown on the Drawings and as specified.

C. Payment shall be made in accordance with the General Conditions and the following items of work described in these Technical Specifications.

D. Payments for all bid items that will be paid on a lump sum basis will be based on percent complete.

E. The contract lump sum price paid for each bid item will include full compensation for furnishing all the labor, materials, tools, equipment and incidentals for doing all the work involved, complete and in place, all as specified in the Standard Specifications, these Technical Specifications, and as directed by the Engineer, and no additional compensation will be allowed.

Bid Item No. 1 Mobilization and Demobilization

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Mobilization and Demobilization.

D. Scope of Bid Item: Mobilization and Demobilization includes, but is not limited to the following:

1. Mobilization of labor, materials, tools, equipment, personnel, supplies, machinery, and incidentals to job site
2. Securing and preparing staging areas
3. Coordination of demolition and placement with the City or Engineer.
4. Obtaining permits, licenses, insurance and bonds required
5. Project submittals
6. Material and Product submittals
7. Site security and construction safety
8. Implementation of Best Management Practices (BMPs)
9. Dewatering if necessary
10. De-mobilization, site restoration, and final clean-up

E. All other incidental work necessary to complete Mobilization and Demobilization in accordance with the Contract Documents.

F. The retention of funds provisions in General Conditions and the Special Conditions and as allowed by the California Public Contract Code, shall apply to the contract unit prices for the item of Mobilization and Demobilization.

1. Payment

a) This bid item is limited to a maximum amount of five percent (5%) of the Bid Price. Payment for fifty percent (50%) of mobilization and

demobilization shall be made at the time of the first progress payment after the Contractor has purchased bonds and insurance.

b) The remaining fifty percent (50%) shall be made at the time of the final progress payment.

Bid Item No. 2 Clearing and Grubbing

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Clearing & Grubbing.

D. Scope of Bid Item: for Clearing & Grubbing includes, but is not limited to the following:
   1. Clearing throughout the project site, including but not limited to areas upon which facilities, structures, landscaping or fill will be placed.
   2. Grubbing, removing tree roots, pruning tree roots.
   3. Removal of debris and off haul
   4. Demolition and removal of small posts, stubbed up abandoned conduits, small concrete pads (less than 4 sq ft)

E. All other incidental work necessary to complete for Clearing & Grubbing in accordance with the Contract Documents.

Bid Item No. 3 Demo Existing Curb, Gutter & Pavement

A. Units: Square Feet (SF)

B. Measurement: Partial payment based on Engineer's determination

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Demo Existing Curb & Gutter & Pavement

D. Scope of Bid Item: for Demo Existing Curb & Gutter & Pavement includes, but is not limited to the following:
   1. Demolition/Removal of existing concrete, curb, gutter, gutter pan, pavement and chip seal.
   2. Coordination with the Project Engineer related to Demo.
   3. Removal of debris and off haul

E. All other incidental work necessary to complete for Demo Existing Curb & Gutter & Pavement in accordance with the Contract Documents.

Bid Item No. 4 Excavation

A. Units: Cubic Yard (CY)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Excavation.

D. Scope of Bid Item: for Excavation includes, but is not limited to the following:
   1. Field activities related to excavation.
   2. Cutting and filling activities.
   3. Removal and off haul of abandoned pipes/conduits or structures encountered.
   4. Stockpiling of materials on site.
   5. Off haul of excess soil generated to a site no further than 15 miles round trip. Excess soil spoils can be assumed to be no more than fifteen percent (15%) of total excavation quantity.

E. All other incidental work necessary to complete for Excavation in accordance with the Contract Documents.

Bid Item No. 5 Remove Existing Signage

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Remove Existing Signage.

D. Scope of Bid Item: for Remove Existing Signage includes, but is not limited to the following:
   1. Removal of existing signage.
   2. Disposal of existing signage, unless otherwise specified by the City or Project Engineer.

E. All other incidental work necessary to complete for Remove Existing Signage in accordance with the Contract Documents.

Bid Item No. 6 Remove Existing Sanitary Sewer Manhole

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Remove Existing Sanitary Sewer Manhole.

D. Scope of Bid Item: for Remove Existing Sanitary Sewer Manhole includes, but is not limited to the following:
   1. Excavation required to remove existing sanitary sewer manhole.
   2. Backfill of excavation to final grade.
   3. Disposal of existing sanitary sewer manhole, unless otherwise specified by the City or the Project Engineer.

E. All other incidental work necessary to complete for Remove Existing Sanitary Sewer Manhole in accordance with the Contract Documents.

Bid Item No. 7 Remove Existing Sanitary Sewer Pipe

F. Units: Linear Foot (LF)

A. Measurement: Partial payment based on Engineer's determination.

B. Payment: Payment includes full compensation for all work and materials required to complete the contract requirements for Remove Existing Sanitary

Sewer Pipe.

C. Scope of Bid Item: for Remove Existing Sanitary Sewer Pipe includes, but is not limited to the following:
   1. Excavation to remove existing sanitary sewer pipe.
   2. Backfill of excavation to final grade
   3. Cutting required to remove existing sanitary sewer pipe.
   4. Removal and disposal of existing sanitary sewer pipe, unless otherwise specified by the City or the Project Engineer.

D. All other incidental work necessary to complete for Remove Existing Sanitary Sewer Pipe in accordance with the Contract Documents.

Bid Item No. 8 Repurpose Existing Water Pipe as Irrigation Pipe

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work and materials required to complete the contract requirements for Repurpose Existing Water Pipe as Irrigation Pipe.

D. Scope of Bid Item: for Repurpose Existing Water Pipe as Irrigation Pipe includes, but is not limited to the following:
   1. Excavation, and cutting of existing pipe per details on the plans related to repurposing existing water line as irrigation.
   2. Installation of dead end waterline connections.
   3. Work on Potable Water Main to disconnect., such as near a hydrant.
   4. Disinfection as required on potable water main.
   5. Backfill and inspection as required.

E. All other incidental work necessary to complete for Repurpose Existing Water Pipe as Irrigation Pipe in accordance with the Contract Documents.

Bid Item No. 9 Remove Existing Fire Hydrant Assembly

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Remove Existing Fire Hydrant Assembly.

D. Scope of Bid Item: for Remove Existing Fire Hydrant Assembly includes, but is not limited to the following:
   1. Excavation, and cutting of existing pipe per details on the plans.
   2. Installation of appurtenances such as a blind flange.
   3. Removal of existing fire hydrant, to be returned to the City.
   4. Backfill and inspection as required.

E. All other incidental work necessary to complete for Remove Existing Fire Hydrant Assembly in accordance with the Contract Documents.

Bid Item No. 10 Sawcut

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Sawcut.

D. Scope of Bid Item: for Sawcut includes, but is not limited to the following:
   1. Sawcutting of existing pavements per the plans.
   2. Minor grading to complete sawcutting.

E. All other incidental work necessary to complete for Sawcut in accordance with the Contract Documents.

Bid Item No. 11 Abandon Existing Sanitary Sewer Pipe

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Abandon Existing Sanitary Sewer Pipe.

D. Scope of Bid Item: for Abandon Existing Sanitary Sewer Pipe includes, but is not limited to the following:
   1. Excavation and trenching as needed to access existing sanitary sewer pipe.
   2. Installation of a manual plug at the end of the abandonment and at the downstream manhole.
   3. Backfill and inspection as required.

E. All other incidental work necessary to complete Abandon Existing Sanitary Sewer Pipe in accordance with the Contract Documents.

Bid Item No. 12 Lower Irrigation Main

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Lower Irrigation Main.

D. Scope of Bid Item: for Lower Irrigation Main includes, but is not limited to the following:
   1. Excavation and trenching as needed to access existing irrigation main.
   2. Work to verify where the irrigation main needs to be lowered, potholing, exploratory excavation etc.
   3. Installation of Anchor Blocks, restrained lengths, and fittings to obtain minimum cover.
   4. Furnish and installation of 8" C-900 PVC Wate pipe.
   5. Backfill and inspection as required.

E. All other incidental work necessary to complete Lower Irrigation Main in accordance with the Contract Documents.

Bid Item No. 13 SWPPP Measures, Maintenance and Reporting

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for SWPPP Measures, Maintenance and Reporting.

D. Scope of Bid Item: for SWPPP Measures, Maintenance and Reporting includes, but is not limited to the following:
   1. Preparation of SWPPP.
   2. Application and monitoring of SWPPP Measures.
   3. Annual and Storm Reporting.

E. All other incidental work necessary to complete SWPPP Measures, Maintenance and Reporting in accordance with the Contract Documents.

Bid Item No. 14 Class 2 Aggregate Base

A. Units: Cubic Yard (CY)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Class 2 Aggregate Base.

D. Scope of Bid Item: for Class 2 Aggregate Base includes, but is not limited to the following:
   1. Purchase, hauling, stockpiling and placement of Class 2 Aggregate Base.
   2. Excavation and compaction of Class 2 Aggregate Base related to concrete, curb, building pad, gutter and sidewalk, commercial driveway, ADA Ramps, pavement sections, and trench work.
   3. Over excavation prior to placement of Class 2 Aggregate Base per details on the plans.

E. All other incidental work necessary to Class 2 Aggregate Base in accordance with the Contract Documents.

Bid Item No. 15 Hot Mix Asphalt

A. Units: Ton (TON)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Hot Mix Asphalt.

D. Scope of Bid Item: for Hot Mix Asphalt includes, but is not limited to the following:
   1. Purchase, hauling, stockpiling and placement of Hot Mix Asphalt.
   2. Preparation of subgrade.
   3. Minor grading and excavation.

E. All other incidental work necessary to Hot Mix Asphalt .in accordance with the Contract Documents.

Bid Item No. 16 Vehicular Concrete

A. Units: Square Feet (SF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Vehicular Concrete.

D. Scope of Bid Item: for Vehicular Concrete includes, but is not limited to the following:
   1. Preparation and submittals for jointing plans and mix.
   2. Purchase, hauling, stockpiling and placement of materials
   3. Preparation of subgrade.
   4. Forming, pouring, and jointing of concrete.
   5. Finishing of concrete and easing of edges.
   6. Furnish and installation of welded wire mesh.
   7. Minor grading and excavation.

E. All other incidental work necessary to Vehicular Concrete.in accordance with the Contract Documents.

Bid Item No. 17 Concrete

A. Units: Square Feet (SF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Concrete.

D. Scope of Bid Item: for Concrete includes, but is not limited to the following:
   1. Preparation and submittals for jointing plans and mix.
   2. Purchase, hauling, stockpiling and placement of materials
   3. Preparation of subgrade.
   4. Forming, pouring, and jointing of concrete.
   5. Finishing of concrete and easing of edges.
   6. Furnish and installation of welded wire mesh.
   7. Minor grading and excavation.

E. All other incidental work necessary to Concrete.in accordance with the Contract Documents.

Bid Item No. 18 Install A1-6 Curb

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install A1-6 Curb.

D. Scope of Bid Item: for Install A1-6 Curb includes, but is not limited to the following:
   1. Purchase, hauling, stockpiling and placement of materials
   2. Preparation of subgrade.
   3. Furnish and placement of rebar and other reinforcement.

4. Forming, pouring, and jointing of concrete.
5. Additional labor for forming curb cuts.
6. Minor grading for positive drainage.
7. Placement and compaction of slope protection.
8. Minor grading and excavation.

E. All other incidental work necessary to Install A1-6 Curb.in accordance with the Contract Documents.

Bid Item No. 19 Install A2-6 Curb

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install A2-6 Curb.

D. Scope of Bid Item: for Install A2-6 Curb includes, but is not limited to the following:
1. Purchase, hauling, stockpiling and placement of materials
2. Preparation of subgrade.
3. Furnish and placement of rebar and other reinforcement.
4. Forming, pouring, and jointing of concrete.
5. Finishing of concrete and easing of edges.
6. Minor grading and excavation.

E. All other incidental work necessary to Install A2-6 Curb.in accordance with the Contract Documents.

F.

Bid Item No. 20 Curb, Gutter and Sidewalk

A. Units: Square Feet (SF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Curb, Gutter and Sidewalk.

D. Scope of Bid Item: for Curb, Gutter and Sidewalk includes, but is not limited to the following:
1. Purchase, hauling, stockpiling and placement of materials
2. Preparation of subgrade.
3. Forming, pouring, and jointing of concrete.
4. Furnish and placement of rebar and other reinforcement.
5. Finishing of concrete and easing of edges.
6. Minor grading and excavation.

E. All other incidental work necessary to Curb, Gutter and Sidewalk.in accordance with the Contract Documents.

Bid Item No. 21 Commercial Driveway

A. Units: Square Feet (SF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Commercial Driveway.

D. Scope of Bid Item: for Commercial Driveway includes, but is not limited to the following:
   1. Purchase, hauling, stockpiling and placement of materials
   2. Preparation of subgrade.
   3. Furnish and placement of rebar and other reinforcement.
   4. Forming, pouring, and jointing of concrete.
   5. Finishing of concrete and easing of edges.
   6. Minor grading and excavation.
   7. Conforming to Sawcut line with Hot Mix Asphalt as needed in roadway.

E. All other incidental work necessary Commercial Driveway in accordance with the Contract Documents.

Bid Item No. 22 ADA Curb Ramps

A. Units: Square Feet (SF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for ADA Curb Ramps.

D. Scope of Bid Item: for ADA Curb Ramps includes, but is not limited to the following:
   1. Purchase, hauling, stockpiling and placement of materials
   2. Preparation of subgrade.
   3. Furnish and placement of rebar and other reinforcement.
   4. Furnish and placement of detectable warning surfaces
   5. Forming, pouring, and jointing of concrete and curbing as required per plans.
   6. Finishing of concrete and easing of edges.
   7. Minor grading and excavation.

E. All other incidental work necessary ADA Curb Ramps in accordance with the Contract Documents.

Bid Item No. 23 Striping, Curb Painting, and ADA Markings

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Striping, Curb Marking, and ADA Markings.

D. Scope of Bid Item: for Striping, Curb Marking, and ADA Markings includes, but is not limited to the following:
   1. Purchase, hauling, stockpiling and placement of materials
   2. Parking stall striping, ADA marker painting, ADA parking stall striping, and loading curb marking.

E. All other incidental work necessary Striping, Curb Marking, and ADA Markings in accordance with the Contract Documents.

Bid Item No. 24 Mowband

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Mowband.

D. Scope of Bid Item: for Mowband includes, but is not limited to the following:
   1. Purchase, hauling, stockpiling and placement of materials.
   2. Preparation of subgrade.
   3. Furnish and install of all materials such as rebar and concrete.
   4. Forming, pouring, and jointing of concrete.
   5. Finishing of concrete and easing of edges.
   6. Minor grading and excavation.

E. All other incidental work necessary to Mowband in accordance with the Contract Documents.

Bid Item No. 25 Install Rolled Curb Transition

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install Rolled Curb Transition.

D. Scope of Bid Item: for Install Rolled Curb Transition includes, but is not limited to the following:
   1. Purchase, hauling, stockpiling and placement of materials.
   2. Preparation of subgrade.
   3. Furnish and install of all materials such as rebar and concrete.
   4. Forming, pouring, and jointing of concrete.
   5. Finishing of concrete and easing of edges.
   6. Minor grading and excavation.

E. All other incidental work necessary to Install Rolled Curb Transition in accordance with the Contract Documents.

Bid Item No. 26 Install Flagpole

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install Flagpole Footing.

D. Scope of Bid Item: for Install Flagpole includes, but is not limited to the following:
   1. Furnish and install of all materials such as rebar, concrete, and stirrups.
   2. Furnish and install of flagpole.
   3. Excavation and minor earthwork.
   4. Forming, pouring, of concrete footing.

5. Finishing of concrete.
6. Install lighting per manufacturer's specifications.

E. All other incidental work necessary to Install Flagpole in accordance with the Contract Documents.

Bid Item No. 27 ADA Parking Signage

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for ADA Parking Signage.

D. Scope of Bid Item: for ADA Parking Signage includes, but is not limited to the following:
1. Furnish and install all required signage and materials such as sign pole, signage, and concrete related to the ADA Parking.
2. Painting of Curb.

E. All other incidental work necessary to ADA Parking Signage in accordance with the Contract Documents.

Bid Item No. 28 Seat Wall

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Seat Wall.

D. Scope of Bid Item: for Seat Wall includes, but is not limited to the following:
1. Furnish and install of all required materials to install the seat wall per the plans.
2. Forming, pouring, and jointing of concrete.
3. Setting and grouting of CMU blocks.
4. Application of Stucco Veneer and City provided art tiles.
5. Coordinate installation date of tiles with the City and Engineer.
6. Finishing of concrete and easing of edges.
7. Minor grading and excavation.

E. All other incidental work necessary to Seat Wall in accordance with the Contract Documents.

Bid Item No. 29 Tie Water Main into Irrigation System

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Tie Water Main into Irrigation System.

D. Scope of Bid Item: for Tie Water Main into Irrigation System includes, but is not limited to the following:
1. Furnish and install of all required materials to tie the repurposed irrigation main into the water system after the backflow prevention device.

2. Cutting of existing water main.
3. Furnish and Installation of all required fittings and pipe per the plans.
4. Excavation and trenching to access the existing pipe.
5. Disinfection, backfill and inspection as required.

E. All other incidental work necessary to Tie Water Main into Irrigation System in accordance with the Contract Documents.

Bid Item No. 30 Install 1" PVC Water Service Line

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install 1" PVC Water Service Line.

D. Scope of Bid Item: for Install 1" PVC Water Service Line includes, but is not limited to the following:

1. Furnish and install of all required materials to install 1" PVC water service line per the plans.
2. Trenching and excavation as required.
3. Backfill and inspection as required.
4. Disinfection, backfill and inspection as required.

E. All other incidental work necessary to Install 1" PVC Water Service Line in accordance with the Contract Documents.

Bid Item No. 31 Domestic Water Meter

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Domestic Water Meter.

D. Scope of Bid Item: for Domestic Water Meter includes, but is not limited to the following:

1. Installation of City provided Domestic Water Meter.
2. Furnish and install of all fittings and meter setters as required for inspection.
3. Trenching and excavation as required.
4. Backfill and inspection as required.

E. All other incidental work necessary to Domestic Water Meter in accordance with the Contract Documents.

Bid Item No. 32 Irrigation Water Meter Assembly

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Irrigation Water Meter Assembly.

D. Scope of Bid Item: for Irrigation Water Meter Assembly includes, but is not limited to the following:

1. Installation of City provided Water Meter.

2. Furnish and install of all fittings, valves, and meter setters as required for inspection.
3. Trenching and excavation as required.
4. Backfill and inspection as required.

E. All other incidental work necessary to Irrigation Water Meter Assembly in accordance with the Contract Documents.

Bid Item No. 33 Install Backflow Prevention Device

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install Backflow Prevention Device.

D. Scope of Bid Item: for Install Backflow Prevention Device includes, but is not limited to the following:
1. Furnish and install of backflow prevention device, freeze protection bag and fittings as required for inspection.
2. Trenching and excavation as required.
3. Pipe Restraints and supports as required.
4. Backfill and inspection as required.

E. All other incidental work necessary to Install Backflow Prevention Device in accordance with the Contract Documents.

Bid Item No. 34 Adjust Existing Water Valves to Grade

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Adjust Existing Water Valves to Grade.

D. Scope of Bid Item: for Adjust Existing Water Valves to Grade includes, but is not limited to the following:
1. Adjust existing water valves to grade, including new concrete collar.
2. Trenching and excavation as required.
3. Minor Concrete work.
4. Backfill and inspection as required.

E. All other incidental work necessary to Adjust Existing Water Valves to Grade in accordance with the Contract Documents.

Bid Item No. 35 Install a Drop Manhole Connection

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install a Drop Manhole Connection.

D. Scope of Bid Item: for Install a Drop Manhole Connection includes, but is not limited to the following:
   1. Excavation and Trenching as required to install a drop manhole connection on an existing sanitary sewer manhole.
   2. Furnish and install of materials as required to install a drop manhole connection.
   3. Coring and grouting of manhole.
   4. Epoxy lining as required.
   5. Trenching and excavation as required.
   6. Minor Concrete work.
   7. Backfill and inspection as required.

E. All other incidental work necessary to Install a Drop Manhole Connection in accordance with the Contract Documents.

Bid Item No. 36 Install a 6" Sanitary Sewer Cleanout

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install a 6" Sanitary Sewer Cleanout.

D. Scope of Bid Item: for Install a 6" Sanitary Sewer Cleanout includes, but is not limited to the following:
   1. Excavation and Trenching as required to install a 6" cleanout.
   2. Furnish and install of materials as required to install a 6" cleanout, including but not limited to cleanout fittings, cover and frames.
   3. Trenching and excavation as required.
   4. Minor Concrete work.
   5. Backfill and inspection as required.

E. All other incidental work necessary to Install a 6" Sanitary Sewer Cleanout in accordance with the Contract Documents.

Bid Item No. 37 Install 6" PVC Sewer Pipe

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install 6" PVC Sewer Pipe.

D. Scope of Bid Item: for Install 6" PVC Sewer Pipe includes, but is not limited to the following:
   1. Excavation and Trenching as required.
   2. Furnish and install materials as required to install 6" PVC sewer pipe to plan.
   3. Trenching and excavation as required.
   4. Backfill and inspection as required.

E. All other incidental work necessary to Install 6" PVC Sewer Pipe in accordance with the Contract Documents.

Bid Item No. 38 Install 48" Precast Drainage Inlet

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install 48" Precast Drainage Inlet.

D. Scope of Bid Item: for Install 48" Precast Drainage Inlet includes, but is not limited to the following:
   1. Excavation and Trenching as required.
   2. Furnish and install of 48" precast drainage inlet.
   3. Grouting and minor concrete work.
   4. Connection of pipes and ribbon drains to drainage inlet per the plans.
   5. Coring of drain inlet as required.
   6. Trenching and excavation as required.
   7. Backfill and inspection as required.

E. All other incidental work necessary to Install 48" Precast Drainage Inlet in accordance with the Contract Documents.

Bid Item No. 39 Install Sump Pump

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install Sump Pump.

D. Scope of Bid Item: for Install Sump Pump includes, but is not limited to the following:
   1. Furnish and install of sump pump and discharge piping.
   2. Grouting and minor concrete work.
   3. Trenching and excavation as required.
   4. Backfill and inspection as required.

E. All other incidental work necessary to Install Sump Pump in accordance with the Contract Documents.

Bid Item No. 40 Install 2-6" Ribbon Drain

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination. One linear foot of this bid item includes 2- 6" ribbon drains installed in parallel in the same trench.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install 2-6" Ribbon Drain.

D. Scope of Bid Item: for Install 2-6" Ribbon Drain includes, but is not limited to the following:
   1. Excavation and Trenching.
   2. Furnish, placement and compaction of class 2 permeable material and gravel per the plans.
   3. Furnish and install of ribbon drain, drain fittings, drain adapters, and other fittings as required to install the ribbon drain.

4. Backfill and inspection as required.

E. All other incidental work necessary to Install 2-6" Ribbon Drain in accordance with the Contract Documents.

Bid Item No. 41 Install Sports Lighting

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install Sports Lighting

D. Scope of Bid Item: for Install Sports Lighting includes, but is not limited to the following:
   1. Furnish and install of Sports Lighting or approved equal per manufacturer's recommendation
   2. Inspection as required.

E. All other incidental work necessary to Install Sports Lighting in accordance with the Contract Documents.

Bid Item No. 42 Install Precast Lighting Bases

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install Precast Lighting Bases.

D. Scope of Bid Item: for Install Precast Lighting Bases includes, but is not limited to the following:
   1. Excavation and Trenching.
   2. Furnish, placement and compaction of class 2 permeable material and gravel per the structural footing submittal.
   3. Furnish and placement of precast lighting bases.
   4. Backfill and inspection as required.

E. All other incidental work necessary to Install Precast Lighting Bases in accordance with the Contract Documents.

Bid Item No. 43 Electrical Distribution

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Electrical Distribution.

D. Scope of Bid Item: for Electrical Distribution includes, but is not limited to the following:
   1. Site trenching for conduit runs and backfill.

2. Utility Co. Transformer Precast Concrete Pad.
3. Pedestal Pad.
4. 25KVA transformer pad.
5. Underground pull boxes.
6. GFCI receptacles.
7. Irrigation Controller Connection.
8. 25KVA, 480→240/120V, 1Ø, 3W pad mounted transformer with weathershields.
9. Service Pedestal – 400 Amp, 480Y/277V, 3Ø, 4W.
10. 1" PVC conduits.
11. 1-1/4" PVC conduits.
12. #12 AWG THWN conductors.
13. #10 AWG THWN conductors.
14. #8 AWG THWN conductors.
15. #6 AWG THWN conductors.
16. #4 AWG THWN conductors.
17. #1 AWG THWN conductors.
18. Final circuit connections at sports lighting poles (provided by others).
19. Grounding at sports lighting poles as noted on drawings.
20. Circuit and connection to Booster Pump.
21. Circuit and connection to Sump Pump.
22. Feeder to electrical panel provided with Restroom/Concession Building.
23. Grounding for electrical panel provided with Restroom/Concession Building.

E. All other incidental work necessary to Electrical Distribution in accordance with the Contract Documents.

Bid Item No. 44 Install 6" Pipe from Water Main to Backflow Preventor

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install 6" Pipe from Water Main to Backflow Preventor.

D. Scope of Bid Item: for Install 6" Pipe from Water Main to Backflow Preventor BFP includes, but is not limited to the following:
   1. Furnish and install 6" PVC Irrigation pipe per the plans.
   2. Excavation and Trenching.
   3. Backfill and Inspection.

E. All other incidental work necessary to Install 6" Pipe from Water Main to Backflow Preventor in accordance with the Contract Documents.

Bid Item No. 45 Irrigation System

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Irrigation System.

D. Scope of Bid Item: for Irrigation System includes, but is not limited to the following:
   1. Controller assembly, 2-wire
   2. Irrigation booster pump
   3. 3" Master valve & 4" flow sensor
   4. Weather sensor
   5. 2-wire decoder (1 per 2-wire valve)
   6. Controller wire (2-wire)
   7. Air relief valve (mainline system)
   8. Gate valves - 4"
   9. Quick coupling valves- 1"
   10. Remote control valve - 2"
   11. Remote control valve - 1-1/2"
   12. Remote control valve - 1"
   13. Jumbo valve boxes (MV&FS)
   14. Std valve boxes
   15. Jumbo valve boxes
   16. Round valve boxes - 10"
   17. Trenching/backfill - mainline 24”
   18. Trenching/backfill - lateral lines 18”
   19. Mainline - 6" class 315
   20. Mainline - 4" class 315
   21. Lateral line - 3" sch 40 PVC
   22. Lateral line - 2-1/2" sch 40 PVC
   23. Lateral line - 2" class 200 PVC
   24. Lateral line - 1-1/2" class 200 PVC
   25. Lateral line - 1" class 200 PVC
   26. Lateral line - 3/4" class 200 PVC
   27. Pipe restraints
   28. Sleeving - 8" sch 40 PVC
   29. Rotors - hunter i-40 w/4" riser
   30. Spray - hunter pcb w/pros-00
   31. Spray - hunter mp2000 rotators w/6" risers
   32. Spray - hunter mp3000 rotators w/6" risers
   33. Tree deep root watering bubbler
   34. Swing joints
   35. Excavation and Trenching.
   36. Backfill and Compaction
   37. Inspections as required.

E. All other incidental work necessary to Irrigation System in accordance with the Contract Documents.

Bid Item No. 46 Planting Package

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer’s determination.

C. Payment: Payment includes full compensation for all work required to complete

the contract requirements for Planting Package .

D. Scope of Bid Item: for Planting Package includes, but is not limited to the following:
   1. Soil amendment
   2. Finish grading
   3. Trees - 15 gal
   4. Root barriers
   5. Shrub – 1 gal
   6. Turf - hydroseeded
   7. Chipped wood mulch - 3" depth

E. All other incidental work necessary to Planting Package in accordance with the Contract Documents.

Bid Item No. 47 Landscape Maintenance – 90 DAY

A. Units: Lump Sum (LS)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Landscape Maintenance – 90 DAY .

D. Scope of Bid Item: for Landscape Maintenance – 90 DAY includes, but is not limited to the following:
   1. Supply and use equipment as needed to maintain all plants in vigorous growing condition.
   2. Provide mowing, pruning, protection fertilization and mulch as needed.
   3. Guarantee and replacement until acceptance.

E. All other incidental work necessary to Landscape Maintenance – 90 DAY in accordance with the Contract Documents.

F.

Bid Item No. 48 Place Wheel Stops (Railroad Ties)

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Place Wheel Stops (Railroad Ties).

D. Scope of Bid Item: for Place Wheel Stops (Railroad Ties) includes, but is not limited to the following:
   1. Furnish and install of railroad ties as wheel stops per the plans.

E. All other incidental work necessary Place Wheel Stops (Railroad Ties) in accordance with the Contract Documents.

G.

Bid Item No. 49 Install Bollards (Permanent)

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete

the contract requirements for Install Bollards (Permanent).

D. Scope of Bid Item: for Install Bollards (Permanent).includes, but is not limited to the following:
   1. Furnish and install of bollards per the plans.
   2. Saw cutting existing pavement as needed, or excavation of existing soil.
   3. Minor concrete work and aggregate base for setting the bollards.
   4. Repaving in areas where the pavement was sawcut.

E. All other incidental work necessary Install Bollards (Permanent).in accordance with the Contract Documents.

Bid Item No. 50 Install Collapsible Bollards

A. Units: Each (EA)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install Collapsible Bollards.

D. Scope of Bid Item: for Install Collapsible Bollards includes, but is not limited to the following:
   1. Furnish and install of collapsible bollards per the plans.
   2. Sawcutting existing pavement as needed.
   3. Minor concrete work and aggregate base for setting the bollards.
   4. Repaving in areas where the pavement was sawcut.

E. All other incidental work necessary Install Collapsible Bollards in accordance with the Contract Documents.

Bid Item No. 51 Install Post and Cable Fencing

A. Units: Linear Foot (LF)

B. Measurement: Partial payment based on Engineer's determination.

C. Payment: Payment includes full compensation for all work required to complete the contract requirements for Install Post and Cable Fencing.

D. Scope of Bid Item: for Install Post and Cable Fencing includes, but is not limited to the following:
   1. Furnish and install of all materials to install post and cable fencing per plans.
   2. Sawcutting existing pavement as needed and excavation of existing soil.
   3. Minor concrete work and aggregate base for setting the bollards.
   4. Repaving in areas where the pavement was sawcut.

E. All other incidental work necessary Install Post and Cable Fencing in accordance with the Contract Documents.

1.4 CONTRACTOR'S COST BREAKDOWN

A. For work to be performed for a lump sum amount, the Contractor shall submit a cost

breakdown and schedule of values to the City Engineer prior to the first payment and within ten (10) days after Notice to Proceed. The cost breakdown, as agreed upon by the Contractor and the City Engineer, shall be used for preparing future estimates for partial payments to the Contractor, and shall list the major items of work with a price fairly apportioned to each item. If there is not a separate Bid Item for MOBILIZATION/DEMOBILIZATION, then mobilization, demobilization, overhead, bond, insurance, other general costs and profit shall be prorated to each item so that the total of the prices for all items equal the lump sum price. At the discretion of the City Engineer, mobilization, bond and insurance costs may be provided for separately if accompanied by invoices to verify actual expenses.

B. The cost breakdown shall be generally in the same format as the Contract specifications divisions and subdivisions or Caltrans Standards for items not in the contract specifications, with major items of work listed individually. The cost breakdown shall be by structure, civil, mechanical, electrical, landscaping, or other logical division of work. The cost breakdown for architectural, structural, mechanical, and electrical work shall include separate items for identifiable portions of the structures. The cost breakdown shall include separate allowances for any testing and startup work required. Measurable approximate quantities of work performed by the Contractor or its subcontractors shall be provided. For quantities that are the sum total of several individual quantities, backup summaries shall be provided which list the individual descriptions and quantities. These summaries then will be used to determine the quantities of work in place in subsequent progress payment requests.

C. The above is a statement of the intent of the Contract Documents to provide a high level of detail, acceptable to the City Engineer, to allow a fair and reasonable estimate to be made of the value of work installed. The detail of the cost breakdown must be sufficient to provide timely processing of the monthly progress payment request.

D. The cost breakdown will be subject to the approval of the City Engineer, and upon request, the Contractor shall substantiate the price for any or all items and provide additional level of detail, including quantities of work. The cost breakdown shall be sufficiently detailed to permit its use by the City Engineer as one of the bases for evaluating requests for payments. The City Engineer shall be the sole judge of the adequacy of the cost breakdown.

E. The cost breakdown shall be solely used to determine progress payments. The cost breakdown shall not be considered in determining payment or credit for additional or deleted work.

PART 2: MATERIALS – Not Used

PART 3: EXECUTION – Not Used

END OF SECTION

SECTION 01 31 13
CONSTRUCTION SCHEDULE

PART 1 - GENERAL

1.01 DESCRIPTION

A. This section specifies the procedures for preparing and revising the cost-loaded critical path construction schedule used for planning and managing construction activities. The schedule provides a basis for determining the progress status of the project relative to the completion time, specific dates, and for determining the acceptability of the Contractor's progress payment estimates. No progress payments will be made until the Engineer and City's Representative have accepted the Contractor's construction schedule.

B. Section includes:
   1. Requirement to provide an acceptable Critical Path Method (CPM) construction schedule and updating methods.
   2. Requirement to designate the Contractor's acceptable scheduling representative or to utilize an acceptable scheduling consultant.
   3. Requirement to prepare and submit a Project Schedule.
   4. Requirement to prepare acceptable recovery schedule(s) if the progress is unsatisfactory, and the requirement to gain acceptance from Engineer for schedule revisions and sequence changes.

1.02 RELATED SECTIONS

A. Section 01 33 00: Submittals

1.03 SUBMITTALS

A. Within seven (7) calendar days of issuance of the Notice to Proceed, the Contractor must submit a schedule showing each task of Work, the sequence of each task, the number of days required to complete each task, and the critical path controlling the completion of the entire Work. The schedule must allow for the completion of the entire Work within the Time for Completion.

B. The City may review the Contractor's submitted schedule and may note any exceptions. The Contractor must correct any exceptions noted by the City within three (3) working days of being notified of the exceptions.

C. After submission of a schedule to which the City has taken no exceptions, the Contractor must submit an updated schedule on a bi-weekly basis or as otherwise specified by the City and provide the current schedule to the Engineer at any time upon request until completion of the Work. The updated schedule must show the progress of Work as of the date specified in the updated schedule.

D. If the Contractor fails to submit schedules within the time periods specified in this Section or submits a schedule to which the City has taken uncorrected exceptions, the City may withhold payments to the Contractor until such schedules are submitted and/or corrected in accordance with the Contract Documents.

E. The Contractor will be solely and exclusively responsible for creating the schedule and properly updating it. The City may note exceptions to any schedule submitted by the Contractor. However, the Contractor will be solely responsible for determining

the proper method for addressing such exceptions and the City's review of the schedule will not place scheduling obligation on the City.

F. Submit the Contractor's authorized representative and their qualifications at the Construction Kick-off Meeting.

G. Work Days and Hours
   1. All construction activities associated with the Work, except for emergency situations, shall be conducted on working days only, and no work shall be conducted on Saturdays, Sundays, or legal holidays – without prior approval of City Public Works Director or his/her designated Project Manager.
   2. All construction activities associated with the Work at the site, allowing for exceptions for emergency situations, shall be conducted between the hours of 6 a.m. and 7 p.m.
   3. The Contractor shall restrict general construction vehicle trips to the site for the project if required by the City to avoid traffic flow disturbances or to protect the public's safety.
   4. If special circumstances require construction outside these days and hours, the Contractor shall submit a written explanation supporting its request to work at additional times to the Engineer for review and approval. The Contractor shall be required to reimburse all additional costs incurred by the City, as determined by the City, in order to provide construction administration, engineering, inspection, or observation of Work conducted on Saturdays, Sundays, or legal holidays, or during extended daily work hours.
   5. Except in the event that extra work is ordered by the Engineer or the City, the Contractor shall receive no additional compensation for overtime work, i.e. work in excess of 8 hours in any one calendar day, 40 hours in any one calendar week, or on Saturdays, Sundays, or holidays, even though such overtime work may be required to complete the Work.
   6. Additional compensation will be paid to the Contractor for overtime work only in the event that Extra Work is ordered by the City and a written Change Order is issued by the City that specifically authorizes the use of overtime work and then only to such an extent as overtime wages are regularly being paid by the Contractor for overtime work of a similar nature in the same locality.

H. Beginning of Work
   1. The Contractor shall not mobilize labor, materials, or equipment to the Work site prior to submitting to the City a copy of the Contractor's Safety Plan and Site Specific Hazard Assessment and Safety Plan. Contractor shall confirm it has investigated and identified the possible hazards of working at the site as required by Cal-OSHA, and shall acknowledge understanding of the site safety and emergency response procedures.

I. The Contractor shall complete work within the stipulated time of completion of one-hundred-forty (140) calendar days.

PART 2 - MATERIALS – NOT USED

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

A. The Engineer considers the project schedule requirements to be of significant importance to both the Contractor and the Engineer. The development, submittal, acceptance and maintenance of the Project Schedule must be given high priority.

Work under this section shall consist of providing a Critical Path Contract Schedule showing in detail how the Contractor plans to execute, coordinate and complete the work.

B. All schedule submittals shall include an electronic copy of the following:
   1. A tabular report that shows early start, early finish, late start, late finish, original duration, remaining duration, total float and percentage completion appropriately organized and sorted by site zones and major activity codes.
   2. A schedule narrative is required with each schedule update submittal. The narrative should discuss the Contractor's scheduling concerns. The Contractor should explain critical path delays and any major shifts to the critical paths. If the Contractor is behind schedule in a specific area, he should explain the proposed mitigation measures.
   3. Except for time extension requests, a cost report must be provided listing each activity and its associated cost, percentage of work accomplished, earned value to date, previous payments and amount earned for the update period. For all new or redefined activities created through updates, change orders, or for fragnet delay analyses for time extension requests, a cost report should also be provided listing each new or redefined activity and its associated cost.

C. The Construction Schedule shall be the basis for evaluating the job progress, payment requests, and time extension requests. The responsibility for developing the contract schedule, accurately updating the schedule, and monitoring the actual progress of the work compared to the planned schedule rests solely with the Contractor.

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

D. Float for any activity, milestone completion date or contract completion date shall be considered a resource available to both the City and the Contractor. Neither the City nor the Contractor has exclusive ownership of the float. Float shall be a resource to all parties and shall be consumed by whoever utilizes it first.

E. Progress payments may be withheld in whole or part should the Contractor fail to comply with the requirements of this section.

3.02 SEQUENCE CHANGES/RECOVERY SCHEDULES/SCHEDULE REVISIONS

A. If the Engineer determines that the sequence of the construction differs significantly from the Contract schedule, Contractor shall submit a revised schedule for approval within five (5) days of the Engineer's request.

B. If the Contractor falls seven (7) days behind schedule on milestone dates or completion dates, the Contractor shall be required to prepare and submit a recovery

schedule for review and acceptance. The recovery schedule shall show how the Contractor intends to reschedule the work in order to regain the time lost.

C. Requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule prior to the next Progress Meeting.

3.03 TIME EXTENSION REQUESTS

A. The Contractor shall submit a request for all claimed time extensions, showing the impact of the delay event on the contract schedule.

B. The time extension request shall include an analysis, which indicates how the Contractor proposes to incorporate the delay event (constructive changes, delay, abnormal weather, strike, etc.) into the project schedule. The analysis shall demonstrate the time impact based on the date(s) and durations of the delay event, the status of construction at that point in time, and the effect on the scheduled sequence and progress of the work. The Submittal shall also include all supporting project documentation or delay calculations that establish entitlement and quantify the delay. All required documentation shall have the Submittal number posted in the upper-right hand corner of the page.

C. The Engineer will approve or reject the Contractor's time extension request within seven (7) days after receipt unless subsequent meetings or negotiations are necessary.

D. Upon mutual agreement by the Engineer and Contractor, the schedule revisions included in the approved time extension request will be incorporated into the next Progress Meeting. No delay events that are the subject of a time extension request will be incorporated into the project schedule until approved by the Engineer.

E. In the event of multiple delaying events, and upon approval, the delay events shall be updated into the Schedule Update in the actual order of the delaying events.

3.04 NO SEPARATE PAYMENT

No separate payment will be made for any of the requirements of this section unless agreed upon with the City prior to the initiation of scheduling analysis. All such costs, unless demonstrated prior to the analysis, shall be part of the Contractor's project overhead costs.

END OF SECTION

SECTION 01 33 00
SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Submittals covered by these requirements include manufacturers' information, shop drawings, test procedures, test results, samples, and requests for substitutions, confined space entry and safety plan and miscellaneous work-related submittals. Submittals shall also include, but not be limited to, all mechanical, electrical and electronic equipment and systems, materials, fabricated items, detailed piping layout drawings, and conduit/wire mount details. The Contractor shall furnish all drawings, specifications, descriptive data, certificates, samples, tests, methods, schedules, and manufacturer's installation and other instructions as specifically required in the contract documents to demonstrate fully that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the Contract Documents.

1.02 RELATED WORK SPECIFIED ELSEWHERE

1.03 SUBMITTAL PROCEDURE

A. The Contractor shall prepare and submit to the Owner within fourteen (14) calendar days after the date of the Notice to Proceed a complete list of shop drawings and material submittals intended to be delivered. No payment will be made to the Contractor until this list is reviewed and found acceptable to the Owner and the Resident Engineer.

B. At least fourteen (14) calendar days prior to the need for approval, the Contractor shall forward to the Engineer all submittals required by the individual sections of the specifications. Unless a different number is called for in the individual sections, submit one electronic copy of each shop drawing.

The Engineer may require that the Contractor submit a legible reproducible print for the Contractor's use in lieu of multiple prints of a single drawing.

C. Identify all submittals including schedules and operation and maintenance manuals on the transmittal form as included in this Section. Obtain an electronic or original copy from the Engineer. Submittals must include submittal number, specification section, plan page reference number (where applicable), the supplier, etc. The Contractor shall also indicate under "Remarks", if the submittal is on the critical path and requires an expedited review. If the Contractor desires more than an electronic copy, he shall transfer the Engineer's comments onto additional copies at his own expense.

D. Submittals that are related to or affect each other shall be forwarded simultaneously as a package to facilitate coordinated review. Uncoordinated submittals will be rejected. Do not combine unrelated materials in the same submittal.

E. Submittals of or equal products shall be accompanied by product information of the recommended product and any differences shall be noted by the contractor.

F. The Engineer reserves the right to require submittals in addition to those called for in individual sections.

G. A copy of the specification section, and all referenced and applicable sections, with any addendum updates included, shall be submitted with each paragraph check-marked to indicated specification compliance or marked to indicate requested deviations from specification requirements. Check marks (□) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications. The submittal shall be accompanied by a detailed, written justification for each deviation. Failure to include a copy for the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

1.04 SHOP DRAWINGS

A. The term "shop drawings" includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the Contract.

B. The Contractor shall coordinate all such drawings, and review them for legibility, accuracy, completeness, and compliance with contract requirements, and shall indicate his approval thereon as evidence of such coordination and review. Shop drawings submitted to the Engineer without evidence of the Contractor's approval will be returned for resubmission.

C. Approval by the Engineer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with requirements of this Contract, except with respect to variations described and approved in accordance with Paragraph D below.

D. If shop drawings show variations from contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at time of submission. All such variations must be approved by the Engineer.

1.05 ENGINEER'S REVIEW

A. The Engineer will indicate his acceptance or rejection of each submittal, and his reasons for disapproval.

1. If no corrections are required, the copies will be returned marked "No Exceptions Taken" and work may begin immediately on incorporating the material and equipment covered by the submittal into the project.

2. If limited corrections are required, the copies will be returned marked "Furnish as Noted". Work may begin immediately on incorporating the material and equipment covered by the corrected submittal into the project.

3. If insufficient or incorrect data has been submitted, the copies will be returned marked "Amend and Submit". No work incorporating the material and equipment covered by this submittal into the project may begin until the submittal has been revised, resubmitted, and returned marked either "No Exceptions Taken" or "Furnish as Noted".

4. If the submittal is unacceptable, the copies will be returned marked "Rejected”. No work

incorporating the material and equipment covered by this submittal into the project may begin until a new submittal has been made and returned marked either "No Exceptions Taken" or "Furnish as Noted".

B. The Contractor shall not change any drawing after it has been marked No Exceptions Taken or Furnish as Noted or change any approved equipment or material without written permission of the Engineer. The Contractor shall comply with all submittals as marked by the Engineer, to the extent applicable.

C. If more than two (2) submittals for a single item are required because of incorrect or insufficient data, or the submittal is unacceptable, or because the Contractor wishes to change previously approved material, then all costs incurred by the Owner for the additional review shall be deducted from monies due the Contractor.

1.06 MOBILIZATION PLAN AND STAGING AREAS

A. The Contractor shall submit the proposed plan for equipment mobilization and the location and preparation of vehicle zones in the Project Plan for approval and shall coordinate project mobilization with the Engineer.

B. Onsite staging and loading areas; vehicle access and waiting zones; and construction equipment parking at the project site shall be limited to designated areas and specific Work tasks subject to approval by the Engineer.

C. Prior to mobilization, the Contractor shall submit to the Engineer a list of the names and contact information for key and responsible personnel that will be conducting the Work.

1.07 CERTIFICATES

For those items called for in individual sections, furnish certificates from manufacturers, suppliers, or others certifying that materials or equipment being furnished under the Contract comply with the requirements of these specifications.

1.08 SAMPLES

Samples shall be of sufficient size to clearly illustrate functional characteristics and full range of color, texture, and pattern. A completed submittal review transmittal form must accompany each submitted sample.

1.09 CONSTRUCTION SCHEDULE

As soon as possible after receiving Notice of Award and before any work starts, submit electronic copy of a Construction Schedule in accordance with Section 01 31 13 showing estimated starting

and completion dates for each part of the work. The first progress payment will not be issued until the progress schedule is submitted and approved.

1.10 CONFINED SPACE ENTRY AND SAFETY PLAN

Contract shall submit a Confined Space Entry and Safety Plan that is in compliance with the California Code of Regulations (CCR) Title 8, General Industry Safely Orders (Cal/OSHA), Article 108, Section 5157.

1.11 PROGRESS PAYMENTS

At the end of each month and at the end of the project, the Contractor shall submit a progress payment invoice to the Engineer detailing the work completed. Such payment invoice shall be in a format acceptable to the City and shall include an invoice of the current payment due and any other data necessary to support the Contractor's Progress Payment request by the Engineer. The Engineer will recommend the invoiced payment request to the City for payment after satisfactory review of the reported bid items quantities and supporting information. The Contractor shall submit the payment invoice with the Engineers' recommendation, and other documents required by the City, such as California Labor Code Section 1776 certified payroll reports, to the City for additional review and payment.

1.12 REVIEW OF SCHEDULES

Construction Schedule shall be subject to review by Engineer both for format and content.

SUBMITTAL TRANSMITTAL

Submittal Description: _____

_____

Priority Level: ( ) Low ( ) Medium ( ) High **( ) On Critical Path**

Submittal No.	
( ) 1st Submission	( ) Re-Submittal
Spec Section	
Dwg/Detail No.	

Owner: City of Gridley	**Routing**	**Date Sent**	**Date Received**
	Contractor/CM		
Project:	CM/Design Consultant		
	Design Consultant/CM		
Contractor:	CM/Contractor		

We are sending you: ( ) Attached ( ) Under separate cover via _____
( ) Submittals for review and Remarks: _____
( ) Product Data for information only _____

No. Copies	**Description**	**Manufacturer**	**Reviewer Action**	**Reviewer Initials**

The Action Designated Above is in Accordance with the Following Legend:	**CONTRACTOR:** Must certify one of the following statements pertaining to the transmittal or submittal sent for review:
A – No Exceptions Taken B – Furnish as Noted C – Amend and Submit D – Rejected E – Design Consultant's review not required	( ) As the General Contractor for this project we certify that the material or equipment contained in this submittal meets all the requirements, including coordination with all related work specified (no exceptions) ( ) As the General Contractor for this project we certify that the material or equipment contained in this submittal meets all the requirements specified except for the attached deviations.

Comments: _____
_____
_____

Certified by: _____
(Contractor's Signature)

PART 2 - MATERIALS - NOT USED

PART 3 - EXECUTION

3.01 CONTRACTOR'S JOBSITE DRAWINGS

Provide and maintain on the jobsite one complete set of prints of all drawings which form a part of the contract. Immediately after each portion of the work is installed, indicate all deviations from the original design shown on the drawings either by additional sketches or ink thereon. Upon completion of the project, deliver this record set to the Engineer.

A condition of the processing of Progress Payments shall be the satisfactory maintenance of the Contractor's Record Documents, as determined by the Engineer. The Contractor prepared progress payment estimates shall include an initial block for Contractor Representative and Owner's Representative to acknowledge the satisfactory maintenance of the documents.

END OF SECTION

SECTION 02 41 00
SITE DEMOLITION

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. Remove/abandon existing sanitary sewer pipe, as noted on the Drawings.

B. Remove existing sanitary sewer manhole, as noted on the Drawings.

C. Plug existing sanitary sewer manhole, as noted on the Drawings.

D. Remove hydrant assembly as noted on the Drawings.

E. Remove existing signage, as noted on the Drawings.

F. Remove existing Curb, Gutter and Sidewalk as noted on the Drawings.

G. Remove existing pavement as noted on the drawings.

H. Remove existing sidewalk, curb and gutter, as noted on the drawings.

1.02 REQUIREMENTS

A. Prior to starting demolition, comply with requirements listed in the City Standard Specifications. Comply with Environmental Protection Agency (EPA) regulations and disposal regulations.

B. Prior to demolition of the site all items for removal shall be confirmed with the engineer.

PART 2 - PRODUCTS (NOT USED)

PART 3 - PART 3 - EXECUTION

3.01 SANITARY SEWER PIPE ABANDONMENT/REMOVAL

A. Locate, and identify sanitary sewer pipe to be removed/abandoned..

B. The pipe that is to be abandoned shall be cut at a location determined in the field and approved by the Engineer. Pipe shall be mechanically plugged for a water tight seal.

3.02 SANITARY SEWER MANHOLE REMOVAL

A. Locate, and identify sanitary sewer manhole to be removed/abandoned.

B. The manhole frame, cover, cone, and barrel sections shall be removed. The base may be abandoned in place if it does not conflict with grading or backfill operations.

3.03 FIRE HYDRANT ASSEMBLY REMOVAL

A. Locate, and identify hydrant assembly to removed.

B. The assembly and valve shall be removed and returned to the City. A blind flange shall be installed on the main to provide a water tight seal.

3.04 EXISTING SIGNAGE REMOVAL

A. Locate, and identify existing signs to removed.

B. The signs shall be removed in a manner to which the signs can be reused. The signs shall be returned to the City.

3.05 EXISTING CURB, GUTTER AND SIDEWALK REMOVAL

A. Locate, and identify existing sections to removed.

B. Curb, gutter and sidewalk shall be neatly sawcut at the nearest joint.

3.06 UTILITIES

A. Locate, identify, disconnect, and cap off utility services to be demolished.

B. Maintain and protect existing utilities to remain in service before proceeding with demolition, providing bypass connections as necessary. Maintain streetlight operation during abandonment/removal of utilities.

C. Where equipment or devices have been removed, and where the active side of the pipe remains, Contractor shall cap or plug all abandoned piping using either threaded or soldered fittings. Do not rely on the existing valves for a positive shutoff.

D. Contractor to verify that utilities found during excavation are abandoned or in service. If the utilities are abandoned and are in a cut area the contractor shall dispose of abandoned pipes and conduit per these specifications.

3.07 DEMOLITION

A. Conduct demolition without disrupting adjacent property owner uses.

B. Conduct demolition operations and remove debris to prevent injury to people and damage to adjacent buildings and site improvements.

C. Perform Work in such a manner as to prevent damage to existing facilities to remain or to be salvaged. Hazardous Work shall not be left standing or hanging, but shall be knocked or pulled down to avoid damage or injury to employees or the public.

D. Conduct demolition operations in such a manner as to prevent damage to existing trees and plants that are to remain.

3.08 CUTTING AND PATCHING

A. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.

B. Cut bituminous and concrete pavements regardless of the thickness and curbs and sidewalks prior to excavation with a pavement saw or pavement cutter. Haul pavement and concrete materials from the site. Do not use for trench backfill.

3.09 SALVAGE

A. Items indicated to be removed and salvaged remain City's property. Remove, clean, and deliver to City's designated storage area or as directed by the City's

Representative.

B. Coordinate storage and/or relocation of relocated single streetlight and with the City's Representative until such time that they can be relocated to their new locations, per the Electrical Plans.

3.10 DISPOSAL

A. Unless otherwise indicated, demolished materials become Contractor's property.

B. Promptly remove demolished materials from City's property and legally dispose of them. Do not burn demolished materials.

3.11 HAZARDOUS MATERIALS

A. Except as otherwise specified, in the event Contractor encounters on the Project site material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), lead, or other hazardous substances that have not been rendered harmless, Contractor shall immediately stop work in the area affected and report the condition to the City's Representative in writing. The work in the affected area shall not thereafter be resumed except by written agreement of City and Contractor if in fact the material is asbestos, PCB, lead, or other hazardous substances and has not been rendered harmless. The work in the affected area shall be resumed in the absence of asbestos, PCB, lead, or other hazardous substances, or when such materials have been rendered harmless.

B. Disclose any hazardous substance or condition exposed during the work to the City's Representative for decision or remedy.

END OF SECTION

SECTION 22 14 29.16

SUBMERSIBLE SUMP PUMPS

PART 1 - GENERAL

1.01 DESCRIPTION

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

B. The work of this section consists of furnishing sump pumps at the basin drainage inlet with all accessories for a complete system.

1.02 TAG NUMBERS

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.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01 33 00: Submittals

B. Section 26 00 00: Electrical

C. Section 33 05 09: Piping Specials For Utilities

D. Section 33 05 31: Polyvinyl Chloride Utility Pipe

E. Section 33 42 31: Stormwater Area Drains and Inlets

1.04 SUBMITTALS

A. In accordance with Section 01 33 00

B. Manufacturer's literature and certificates of compliance with these referenced specifications

C. Manufacturer's installation instructions, parts list, and operating and maintenance instructions.

PART 2 - MATERIALS

2.01 GENERAL

A. The pumps shall be capable of dewatering collected rainwater, groundwater, and/or stormwater collected in a concrete sump. The pumps shall set on the sump floor as shown on the drawings. The pump motors shall be constant speed and capable of running intermittently or continuously and indefinitely in partially or non-submerged conditions.

B. Contractor is responsible for supplying the pumps and motors, power cables, and all other appurtenances, as specified herein and shown on the drawings.

2.02 DESIGN CRITERIA

A. Performance Requirements:

Motor Size	1/2 HP max
Discharge Size	1 1/2-inches
Power Requirements	115 V, 60Hz
Operating Conditions	34-42 gpm @ 5ft 25-30 gpm @ 10ft 7-10 gpm @ 20ft

B. Pump and Motor Casing

1. Type: Watertight, air filled
2. Material: Corrosion-resistant cast iron or aluminum with stainless steel fasteners

C. Impellers

1. The pump impellers shall be constructed of stainless steel or thermoplastic (nylon)

D. Pump Shaft

1. The pump shaft shall be constructed of stainless steel

E. Bearings

1. The upper and lower bearings shall be of heavy-duty construction

F. Motor

1. Permanently lubricated for extended service life and powered for continuous operation.
2. Provide motors that are rated suitable for continuous operation in 40 degrees Celsius ambient temperature at project site altitude.
3. The motor shall be capable of continuous operation under load with the motor submerged, partially submerged or exposed, without derating the motor.
4. Motor Sealing: Design motor case and seals to withstand 20 feet of submergence.

G. Power/Control Cables

1. Submersible to same water depth as motor casing
2. Type SJTW

3. Insulation rated for 90 degrees Celsius.
4. Non-wicking fillers.
5. Length: Sufficient to connect to surface junction box (without the need of splices) as indicated on the Drawings or 10 feet, whichever is greater.
6. All power and control conductors shall terminate at terminal blocks in a junction box.
7. Sized to conform to NEC, ICEA, and CSA specifications.

H. Float Switch

1. The sump pumps shall come equipped with an external float switch that is easily adjustable for various liquid levels. The float switch shall also be easily removed for direct operation of the pump or for replacement.

I. Manufacturer: One of the following, or equal:

1. Goulds Model GSP0311
2. Little Giant Model 5.5-ASPA
3. DAYTON Model 3YU75

2.03 TOOLS AND SPARE PARTS

A. Tools and Spare Parts: All special tools required for normal operation and maintenance shall be furnished with the equipment. Furnish one (1) float switch for each pump installed.

PART 3 - EXECUTION

3.01 INSTALLATION OF EQUIPMENT

A. Install pumps in accordance with manufacturer's recommendations and as shown on the drawings.

3.02 TESTING

A. Perform field test to ensure the pump performs per manufacturer's specifications

END OF SECTION

SECTION 26 00 00
ELECTRICAL SPECIFICATION

PART 1 - 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 the electrical work 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 approved by the review agency before start of any work.

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 and wiring.
3. Installation of new sports lighting fixtures and poles.
4. Electrical connections for equipment.
5. Adjustment and cleaning.
6. Testing and start-up.

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 following codes:

1. California Electrical Code (CEC) which adopts, with 2022 amendments, the National Fire Protection Association NFPA No. 70-2022, National Electrical Code (NEC), and the California Code of Regulations, Title 24 State Building Standards, Part 3, Basic Electrical Regulations.
2. California Building Code (CBC) which adopts, with 2022 amendments, the 2021 International Building Code (IBC) and the California Code of Regulations, Title 24, Part 2.
3. California Fire Code (CFC) which adopts, with 2022 amendments, the 2021 International Fire Code (IFC), and the California Code of Regulations Title 24, Part 9.

4. The Office of Statewide Health Planning and Development (OSHPD) Regulations.
5. Current edition Title 19, California Code of Regulations, Public Safety, State Fire Marshal Regulations.
6. Occupational Safety and Health Act (OSHA).
7. State of California, Title 24, State Building Standards, Part 6, California Energy Code, 2022 edition.
8. NECA 1 – Standard Practices for Good Workmanship in Electrical Contracting; National Electrical Contractors Association
9. All applicable state local codes and regulations

1.05 PERMITS, FEES, AND INSPECTIONS

A. Obtain all permits which are required for the work.

B. Obtain approvals from the building department Inspector prior to final observation by Owner's Representative.

C. 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

A. 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.

B. 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.

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

D. American National Standards Institute (ANSI).

E. American Society for Testing Materials (ASTM).

F. Insulated Power Cable Engineers Association.

G. 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., pedestals, panelboards, disconnects)
    b. Electrical Basic Materials (e.g., conduit, boxes, receptacles, fittings, supports, anchors, firestop material)
    c. Lighting Fixtures including LED Drivers and LED arrays. Driver data shall include a list of compatible dimmers (manufactures and models)
    d. Lighting Control Equipment.
    e. Sports Lighting System
2. Shop Drawings:
    a. Custom or Non-Stock Equipment.
3. Equipment Manuals for the following Systems or Equipment (Sports Lighting Equipment and associated Lighting Control Equipment):
    a. Furnish 1 set of Equipment Manual(s) to the Engineer prior to equipment/system purchase for review.
    b. Equipment Manuals shall include:
        1) Installation Instructions
        2) Operating instructions
        3) Maintenance instructions
        4) Wiring, Layout, Schematic and other pertinent drawings
        5) Specifications
        6) Spare parts list

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).

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 of 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. 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.

C. 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

A. 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 with 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. 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.

C. 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.

1.15 COORDINATION WITH OTHER TRADES

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

1.16 EXAMINATION OF SITE

A. 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 IDENTIFICATION

A. Install nameplates on electrical equipment including:

1. Circuit breakers and metered pedestal.
2. Switches or pushbuttons for which the control functions are not evident.

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 for normal power equipment and signal. Bevel edges. Engrave through outer layer to produce white letters and numerals. 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.

1.18 TESTS

A. Take precautions during the testing period to ensure 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. Lighting circuits, for resistance to ground.
3. Check voltages ensuring that they are within specification for all equipment supplied as part of the scope of work.
4. Check circuit breakers for loose connections and proper operation. Adjust trip settings as required by Engineer.

5. Prior to energizing equipment, check the insulation resistance of feeders sized larger than #2 AWG with a 1000 volt dc “Megger”. Minimum insulation resistance values shall not be less than 50 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).

1.19 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.

1.20 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 26 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 - PRODUCTS

2.01 RACEWAYS

A. 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.

B. 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.

C. 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. (No Compression type for Kaiser)
      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. (No Compression type for Kaiser)
      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.

D. 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.

E. 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.

2.02 SUPPORTING DEVICES

A. Conduit Supports:

1. Wet locations:
    a. One hole galvanized 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.

2.03 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. Device Boxes: For receptacles, provide boxes not less than 4 inches square by 1-1/2 inches deep.

D. Special Mounting: In cabinets, tile, concrete, 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.

E. 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.

2.04 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, 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

2.05 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)	#14 to #4/0	THHN
Branch Circuits (wet)	#14 to #4/0	THWN-2 (Okonite for #12-10, or Equal
Feeders (wet)	Over #4/0	XHHW-2

2.06 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.

2.07 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.

2.08 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.

2.09 PEDESTAL TYPE DISTRIBUTION EQUIPMENT AND CONTROL CABINETS

A. Construction:

1. Enclosure: Fabricate pedestal from 14 ga. #304 stainless steel and int. 14 ga. Cold rolled steel electrically welded and reinforced where required. Conform to NEMA 3R and NEMA 12 standards. Provide dust-tight doors with neoprene gasketing.
2. Provide exterior door with lensed window for utility meter viewing and three-point latching assembly with a heavy duty pad-lockable handle. Provide deadfront, free standing assemblies, for mounting to an anchor bolt base. Hinge exterior door and deadfront interior pedestal with a continuous piano type, stainless steel hinge, with minimum three-thirty-second (3/32) inch pin. Provide not screws, rivets, or bots visible outside the enclosure. All screws, bolts, nuts and washers shall be stainless steel.
3. Incoming line: bottom, with lugs for termination of electric service conductors.
4. Provide meter socket to allow for utility meter.
5. Finish: degrease, clean, phosphatize, prime and finish all interior and exterior surfaces with an electrostatically applied baked enamel. White interior, Ranch Green exterior.
6. Wiring: Factory connect all interior wiring to terminal blocks. Provide terminals for field connections, harness wiring with cable ties and fan wiring at terminals to facilitate identification. Terminate conductors from the interior deadfront hinged pedestal to

terminal blocks in the pedestal interior, harnessed and relieved from strain to permit a minimum of 90 degree door swing, provide #14 AWG type MTW interior control wiring.

7. Nameplates:
   a. Provide an engraved laminated nameplate identifying pedestal and all breakers.
   b. Provide a manufacturer's nameplate on the deadfront interior pedestal indicating pedestal type, voltage rating, current rating and manufacturer's name.

B. Bussing

1. Phase bus: copper cable bus type sized in accordance with the Nation Electric Code or tin plated copper, with a maximum current density not to exceed one thousand (1,000) amperes per square inch of bus cross sectional area. Brace bussing for twenty-two thousand (22,000) RMS amperes, minimum, short-circuit duty.
2. Neutral bus: Full-size, copper with lugs for connection of neutral conductors.
3. Ground bus: Half-size, copper with lugs for connection of ground conductors.
4. Spacing: Maintain code separation between phases and between phase and ground.
5. Directory: Provide a directory card which fits into slots in the back of pedestal door. Protect directory with non-yellowing clear plastic.

C. 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 100/2 and 3 Poles	15-100 15-100	120 240	10,000 min 10,000 min

2.10 WIRING DEVICES

A. Provide UL listed, specification 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 devices provided with building. 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 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. Contractor shall provide City with locks and keys

for receptacle. Contractor shall confirm lock type with City prior to purchase and installation of locks and keys.

D. Provide 120 volt single and duplex receptacles which meet Federal Specification W-C-596 as listed and bear the UL Fed. Spec logo.

	HUBBELL	PASS & SEYMOUR	LEVITON
NEMA 5-20R single	HBL 5361	5361	8310
NEMA 5-20R duplex	HBL 5362	5362A	8300-SG
NEMA 5-20R duplex GFCI	GFR 8300-H	2097 HGTR	GFTR2-HF

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:

	HUBBELL	PASS & SEYMOUR	LEVITON
Single Pole	HBL 1221	PS20AC1	1221-2

2.11 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 upstream 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.

2.12 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.

PART 3 - EXECUTION

3.01 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.

D. Flexible Metal Conduit: Suitable for connection of recessed lighting fixtures or other devices requiring flexible connections in dry locations. Flexible metal conduit may be fished into existing walls as allowed by the CEC. Length shall not exceed 6'-0".

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

F. 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.

G. Clean and mandrel all under floor/ground raceways before wire is installed.

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.

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. Length of run: 400 feet maximum, less 100 feet for each equivalent 90 degree bend.
3. Radius of Underground Bends: Minimum 12 times conduit radius.
4. 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.

3.02 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 indicated on plan.

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. 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.

3.03 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.

3.04 PEDESTAL

A. Protect pedestal from damage, abuse, dirt, and debris during construction. Keep equipment free from dirt, scratches, nicks, blisters, and other marks not part of the factory finish. Make touch-ups to the finish with factory enamel.

B. Unless noted on drawing, anchor pedestal to concrete slabs with ½ inch or larger anchor bolts fastened to malleable iron or steel expansion shields in the slab. Submit a detail indicating anchor method.

C. Coordinate all required conduit openings, blackouts, stubs, and conduit entrance requirements.

D. Identify conductors with circuit numbers and phase tape.

E. Neatly arrange wiring within the equipment. Bundle and wrap conductors #8 AWG and smaller with plastic wire ties.

F. Install an insulated grounding bushing on conduits which enter the equipment.

3.05 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. Install receptacles with grounding terminal up.

3.06 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.

3.07 GROUNDING

A. Permanently and effectively ground all raceway systems, supports, pedestals, sports lighting poles, motor frames, and other utilization apparatus.

B. 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.

3.08 ELECTRICAL WORK FOR EQUIPMENT

A. Provide all connections to equipment requiring electrical supply.

3.09 LIGHTING FIXTURES

A. Install final connections to sports lighting poles. Coordinate with sports lighting pole manufacturer.

3.10 LIGHTING CONTROL DEVICES

A. Install where noted on plans. Coordinate with lighting control system manufacturer.

END OF SECTION

SECTION 26 56 68
SPORTS FIELD LIGHTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the bid documents, including general and supplementary conditions apply to this section.

1.02 DESCRIPTION OF WORK

A. The Sports Lighting section includes:
   1. Galvanized steel pole and luminaire mounting crossarms
   2. LED Luminaires, with appropriate glare/spill light control
   3. Remote driver enclosure
   4. Pole Foundations
   5. Wireless Control System

B. The purpose of this specification is to define the performance standards, product values and features, required manufacturer's service responsibilities, and design standards for City of Gridley Sports Complex.

C. The primary goals of this project are:

   1. Guaranteed light levels: The system shall provide light levels designed to meet IES class III standards of 30 footcandles. Light levels shall not drop below specified levels.

   2. Environmental light control: The system design shall limit spill to the surrounding environment. It shall incorporate adequate pole height to setback ratios, luminaire visors, and differing optic selection based on luminaire aiming.

   3. Provide a sports lighting system that is manufactured in the USA and whose manufacturer is based in the USA.

1.03 SUBMITTALS

A. These project specifications are the minimum acceptable criteria for this project. Sports lighting design is based on Wisconsin Lighting Lab, Willsport KBX-RPC. Equals will be considered.

B. Manufacturers requesting approval shall provide submittal information as per Section 1.03 D. Submittal information must be received 10 days prior to bid opening, approved manufacturers will be notified by addendum. Refer to Specification Section 01 33 00 – Submittals for additional requirements.

C. Submit each item in this article according to the conditions of the contract and specification section. Any deviations to the specification require the manufacturer to list and describe in detail such deviations. Failure to provide this information shall be grounds for immediate rejection.

D. Submittal information required:

   1. Light scans as per Section 1.04 of the specification.

   2. Spill scans as per Section 1.05 of the specification.

   3. Detailed warranty information as per Section 3.01 of the specification.

   4. Stamped Detail foundation design as described in Section 2.01.

5. Provide written information for the automated control system to include monitoring. Also provide examples of system reporting and access for numbers for personal contact to operate the system.
6. Lighting Manufacturer will supply certified photometric reports from Independent Testing Lab (ITL) or a Certified Lab along with an aiming angle summary for verification.

1.04 SPORTS LIGHTING PERFORMANCE

A. Illumination Levels and Design Factors: The illumination levels specified shall be based on light levels for 10 years. Light levels shall not drop below specified targeted lighting levels during the specified warranty period.

Area of Lighting	Light Levels	Uniformity	# of Points	Grid Spacing
Soccer 1	30fc	2.5:1	60	30’ x 30’
Soccer 2	30fc	2.5:1	60	30’ x 30’
Soccer 3	30fc	2.5:1	48	24’-6” x 24’-6”

B. Lighting Degradation: The lighting system shall not degrade more than 10% over the life cycle. Over designed lighting systems and HID lighting systems will not be acceptable.

C. Lighting Design: The manufacturer shall provide a CAD-based lighting design including all design practices per IESNA RP-6-20. The design shall use a 0.90 LLF. The design shall minimize on site and off site glare as well as off site spill lighting.

D. Pole Locations and Heights: The manufacturer shall provide pole locations and heights on lighting design per IESNA RP-6-20 for review.

1.05 SPILL AND GLARE ANALYSIS

A. Submitted spill/glare computer models shall depict the field test stations at sidewalk across the street from the property line. The test stations shall be shown every 30’ along the line with the field lights on. Bidder shall submit, as described below:

1. Horizontal footcandles: No single point shall exceed 0.8 footcandles. Models shall represent readings taken with the meter positioned horizontal 36 inches above grade.
2. Vertical footcandles: No single point shall exceed 0.8 footcandles. Models shall represent readings taken with the meter positioned horizontal 36 inches above grade.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pole Structural Steel

1. The pole shafts shall be high strength low alloy tapered tubular steel that is equal to current ASTM A595 standards, with galvanized coating inside and out. All connections of pole sections shall be by slip fitting the top section over the lower section by a length of at least 1.5 times the diameters.

2. Steel components of the poles shall be hot dip galvanized t current ASTM A-123. Steel portions of the pole shall be constructed such that all segments of the pole can be readily heated to like temperatures in commercially available galvanizing methods.

3. To avoid problems of galvanize adherence to differing steel alloys, all steel components used for the pole must be of the same type steel.

4. All exposed steel components of the pole shall be at least 18” above the surface of the ground to avoid exposure of the steel to the heavily moisture and oxygen laden air, both above and below the surface. There shall be a cap to cover the top of the pole so that rain will not enter the interior of the pole.

5. To avoid stress corrosion of the pole, there shall be no weld points of the steel portion of the pole within 18” of the ground. The pole shall be galvanized steel.

6. The poles for this project have been designed to withstand 110 mph winds based upon CBC-C standards. The premise of the wind speed criteria will be the 50 year mean recurrence Isotach wind map. Applicable gust factors to be applied per code.

7. Pole Provisions: The pole must have welded plates for cross arm mounting, reinforced handholes, conduit couplings, strain-relief hook(s), and internal wiring harness guide.

8. Cross Arm Brackets: The brackets must be galvanized steel and tubular allowing for internal wiring.

B. Foundation Design

1. The Manufacturer shall provide a stamped foundation design, prepared by a Structural Engineer, licensed in the State of California.

2. It is the contractor’s responsibility to notify the owner of soil conditions other than the design criteria. The owner shall then be responsible and absorb the additional costs associated with: Providing engineered foundation embedment design by a registered engineer in the State of California for soils other than specified soil conditions. Additional materials required to achieve alternate foundation. No direct burial steel poles allowed.

3. Lightning Protection: Manufacturer shall provide integrated lightning grounding via concrete encased electrode grounding system as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A. If grounding is not integrated into the structure, the Manufacturer shall supply grounding electrodes, copper down conductors and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be not less than 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.

C. LED Sports Lighting Fixtures:

1. The lens is permanently sealed to keep optics away from harmful environmental elements. The LED luminaire shall incorporate silicone optics with not glass or polycarbonate parts. The silicone optics must provide >90% optical efficiency.

2. Chip-On-Board (COB) LED Design: The LED luminaire shall consist of a Chip-On-Board LED array with a minimum L90 life >85,000 hours (L70 life >270,000 hours). The luminaire must have a correlated color temperature (CCT) of 5700K with a ±300K tolerance and a CRI of >70.

3. Passive Cooling: The LED luminaire shall include an independent heat sink for each LED array for efficient heat dissipation. The heat sink must be extruded aluminum mounted to the luminaire vertically, so dirt and debris does not collect on the luminaire housing. The thermal properties of the luminaire shall be maintained so that premature failure does not occur. Fans are not allowed.

4. Anodized Aluminum Housing: The LED luminaire housing shall be made of anodized aluminum. The aluminum housing shall be designed such that it acts as an additional heat mitigation device. Cast aluminum housings are not allowed.

5. LED driver: The LED luminaire must include ultra-high efficiency LED drivers with 0-100% (dim to off) capabilities.

6. Glare and Light Spill Control: The LED luminaire shall provide glare control to minimize spill light and glare on and off the field. The luminaire shall accomplish this through a combination of optics technology, integral physical glare shields, reflectors, and proper selection of LED luminaire optics during the design phase.

7. All LED luminaires shall be provided with a pre-aimed yoke attached, aimed, and oriented by the luminaire manufacturer. Fixtures shall be powder coated gray.

D. Remote Electrical Enclosure:

1. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures with a minimum of a NEMA 3R rating. Drivers are remote for ease of installation and servicing. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure.

2. Wire Harness: Spiral wound, abrasion protection sleeve, strain relief, plug-in connections. Wiring harness shall be labeled and terminated in the remote drive panel and the top junction box.

3. Top Junction Box: The remote driver panel(s) system shall include a top mounted junction box for the wiring harness and LED luminaire wiring terminations.

4. Mounting: The remote driver panel(s) and top junction box shall be mounted via field adjustable stainless steel banding straps.

E. Electrical Power Requirements:

1. Electrical Power: Sports Lighting System shall be 480 Volt, 3 Phase.

2. Maximum total voltage drop: Voltage drop to the poles shall not exceed 3% of the rated voltage.

F. Controls and Monitoring System:

1. Instant On/Off Capabilities: System shall provide instant on/off to luminaires.

2. Dimming: Advanced control for full (0-100%, DIM to OFF) dimming and theatrical effects. Control system shall include: scheduling, patterns, and scenes.

3. DMX Communication: System will be wireless and wired DMX capable. Wireless capabilities shall require installation of supplied antennas. Touchscreen tablet and control panel-mounted touch screen for ease of use.

4. Remote Control and Troubleshooting: System shall allow for remote use and monitoring of luminaire state. Manufacturer must be able to access system remotely for troubleshooting and owner-requested updates. Trained staff must be available 24/7. The manufacturer shall notify Owner of outages within 24 hours, or the next business day.

5. Control Panel to be constructed of IP65 rated, polycarbonate. Control panel shall require 120-277V service.

6. In the event of power loss at control panel, luminaires must default to 100% ON.

G. Structural Parameters:

1. Support Structure Wind Load Strength: Poles and other support structures, brackets, arms, bases, anchorages, and foundations shall be determined based on the AASHTO 2013 ed 6 fatigue cat 1, wind speed of 100 MPH, exposure category C.

Luminaire, visor, and crossarm shall withstand 150 mph winds and maintain luminaire aiming alignment.

2. Foundation Drawings: Project specific foundation drawings stamped by a registered Structural Engineer in the State of California shall be provided by the manufacturer. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) for at ground level for each pole.

PART 3 - EXECUTION

3.01 WARRANTY

A. 10-Year Warranty: Manufacturer shall supply a signed warranty covering materials and labor for the entire system for a minimum of 10 years from the date of shipment. Warranty shall specify light levels, system energy consumption, monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers

END OF SECTION

SECTION 31 20 00
EARTHWORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. General: The Contractor shall perform all excavation, dewatering, backfilling, compaction and grading necessary or required for the construction of the work as covered by these Specifications and indicated on the Drawings. The excavation shall include, without classification, the removal and disposal of all materials of whatever nature encountered, including water and all other obstructions which would interfere with the proper construction and completion of the required work.

B. Site Access: Access to the project sites will be over City of Gridley public roads. The Contractor shall exercise care in the use of such roads and shall repair at his own expense any damage thereto caused by his operations. Such repair shall be to the satisfaction of the owner or agency having jurisdiction over the road/driveway. The Contractor shall take whatever means are necessary to prevent tracking of mud onto existing roads and shall keep roads free of debris.

C. Barriers: Barriers shall be placed at each end of all excavations and at such places along excavations as may be necessary to warn all pedestrian and vehicular traffic of such excavations. Lights shall also be placed along excavations from sunset each day to sunrise of the next day until such excavation is entirely restored.

D. Access: Free access must be maintained to all fire hydrants, water valves and meters, and private driveways.

E. Open Trench Limitations: The Owner shall have the authority to limit the amount of trench to be opened or left open at any one time. In public roads, excavation and pipe laying shall be coordinated to the end that a minimum of interference with public traffic will result. In existing streets, no more than 200 feet of trench shall be open at any time on any single heading. An open trench in existing streets shall be defined as any trench which has not been completely backfilled, satisfactorily compacted, and capped with at least 1 inch of temporary paving (cutback) or first lift of permanent pavement.

F. Demolition of Pavement: Where trenching or excavation occurs in paved areas, the pavement shall be sawcut and broken ahead of the trenching or excavation operation. The extent of paving removed shall be limited to the minimum necessary for the excavation.

G. Dust Control: Take proper and efficient steps to control dust. Conform to requirements set forth by the Butte County Air Quality Management District.

H. Storage of Materials: Excavated materials unsuitable for backfill shall not be stored on existing streets and shall be disposed of immediately. Neatly place excavated materials far enough from the excavation to prevent stability problems. Keep the materials shaped to cause the least possible interference with drainage or the normal use of adjacent properties, structures or roadways.

I. Temporary Pavement: Place temporary pavement or first lift of permanent pavement on trenches in existing streets within 24 hours after the trench has been backfilled. Maintain temporary pavement until permanent pavement is to be placed.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01 33 00: Submittals

B. Section 31 23 33: Trenching, Backfilling, and Compacting

C. Section 32 12 16: Asphalt Paving

1.03 SUBMITTALS

Submit the following under the Product Information category.

A. Samples and Test Results: Furnish, without additional cost to the Owner, such quantities of import materials as may be required by the Engineer for test purposes. The Contractor shall cooperate with the Engineer and furnish necessary facilities for sampling and testing of all materials and workmanship. Submit test results for import materials. Tests shall be performed within 60 days of the submission. All material furnished and all work performed shall be subject to rigid inspection, and no material shall be delivered to the site until it has been favorably reviewed by the Engineer or used in the construction work until it has been inspected in the field by the Engineer.

1.04 QUALITY ASSURANCE

A. Source Quality Control: Contractor shall test import materials proposed for use to demonstrate that the materials conform to the specified requirements. Tests shall be performed by an independent testing laboratory.

B. Field Quality Control:

1. The Owner will:
    a. Review and test materials proposed for use.
    b. Inspect foundations, site grading and borrow operations.
    c. Inspect placement and compaction of fill.
    d. Test soils during placement of fill.
2. Contractor shall excavate holes for in-place soil sampling. Contractor shall be responsible for costs of additional inspection and re-testing resulting from non-compliance.

C. Testing Methods:

1. Durability Index: Manual of Test, State of California, Department of Transportation.
2. Specific Gravity: ASTM D854.
3. Laboratory Compaction: ASTM D1557, Method A or C.
4. In-Place Density: ASTM D1556 or ASTM D2922.
5. Particle Size Analysis of Soils: ASTM D422.
6. Plastic Limit and Plasticity Index: ASTM D4318.
7. Soil Classification: ASTM D2487.
8. In-Place Moisture Content: ASTM D3017.

1.05 SUBSURFACE INVESTIGATIONS

A. No geotechnical evaluation has been prepared for this project. Past subsurface investigations in the project area have been compiled and a technical memorandum

prepared with general soils information. All previous subsurface investigations and the soils technical memorandum are included as an attachment to these Specifications.

1.06 REFERENCE SPECIFICATIONS

Whenever the words "Standard Specifications" are referred to, the reference is to the State of California, Department of Transportation, Standard Specifications latest edition. Starting of painting Work shall be construed as Applicator's acceptance of surfaces and conditions.

PART 2 - MATERIALS

2.01 BEDDING MATERIAL

Bedding material shall be Class 2 Aggregate Base per Section 26 of Caltrans Standard Specifications.

2.02 IMPORT BACKFILL

Imported nonexpansive soil with liquid limit no greater than 40% and a plasticity index no greater than 15%, an expansion index of 20 or less, free from clods or rocks larger than 6 inches in greatest dimension, and free from organic material.

2.03 NATIVE BACKFILL

Crushed and screened native soil prepared as necessary to be free from clods or rocks larger than 4 inches in greatest dimension, and free from organic material.

2.04 CONSTRUCTION BERM – NOT USED

2.05 STRUCTURAL BACKFILL

Imported or native screened nonexpansive soil with liquid limit no greater than 40% and a plasticity index no greater than 15%, free from clods or rocks larger than 6 inches dimensions, and free from organic material and debris.

2.06 ENGINEERED FILL

A. Soil removed during excavations will require drying prior to use as engineered fill material. Lime can be mixed with soil to dry it to compactable moisture content. The percentage of lime is dependent on the moisture content of the soils.

B. Soil removed during excavations will require drying prior to use as engineered fill material. Lime can be mixed with soil to dry it to compactable moisture content. The percentage of lime is dependent on the moisture content of the soils.

2.07 IMPERVIOUS MATERIAL – NOT USED

2.08 DECOMPOSED GRANITE – NOT USED

2.09 FILTER FABRIC MATERIAL – NOT USED

2.10 CONCRETE SLURRY – NOT USED

2.11 HYDROSEED

A. All seed shall be delivered to the site tagged and labeled in accordance with the California Agricultural Code and shall be acceptable to the County Agricultural Commissioner. Seed mixture shall be guaranteed for a minimum of 80% germination.

B. Bag tag figures will be evidence of purity and germination. Time since date of seed test shall not exceed 9 months.

C. Seed shall be of a quality that weed seed shall not exceed 0.5 percent of the aggregate of pure live seed (PLS) (percent germination x percent purity) and other material.

D. Seed shall be a mixture of the following in proportion to application rates:

E. Seed shall be furnished separately or in mixture of the proportionate quantities in standard containers with the variety and net weight shown. Based on bag tags, seeding rates shall be adjusted to ensure the required amounts of pure live seed.

F. Hydroseed mix shall have a one-year maintenance warranty.

2.12 WATER

The water used shall be reasonably free of objectionable quantities of silt, oil, organic matter, alkali, salts and other impurities. Water quality must be acceptable to the Engineer. Water shall be provided as set forth in the Engineer's Supplemental Conditions.

2.13 AGGREGATE BASE

In accordance with Section 32 12 16 Asphalt Paving.

2.14 ENGINEERED STREAMBED MATERIAL

Engineered Streambed Material (ESM) is a mixture of imported rock and Native Streambed Material. ESM blend shall be uncrushed, free of deleterious material, hard and durable that is well graded from maximum size to minimum size meeting the requirements in the following table, or as directed by the Engineer:

Material	Mixture Percentage
Native Streambed Material	60%
Class No. 3*	30%
Class No. 2*	10%

*Non-crush rounded rock is acceptable if it meets gradation criteria.

PART 3 - EXECUTION

3.01 CONTROL OF WATER

Dewatering for the installation of structures and pipelines shall commence when groundwater is first encountered and shall be continuous until the excavation is backfilled. Best Management Practices including but not limited to scouring and erosion measures shall be used to eliminate sediment-laden discharges in accordance with the approved SWPPP.

3.02 MATERIALS QUALITY

A. General: The known existing utilities and pipelines except building connections are shown on the Drawings in their approximate location. The Contractor shall exercise care in avoiding damage to all utilities as he will be held responsible for their repair if damaged. There is no guarantee that all utilities or obstructions are shown, or that locations indicated, are accurate. Utilities are piping, conduits, wire, cable, poles, ducts, manholes, pull boxes and the like, located at the project site and adjoining said site and along the pipeline right-of-way.

B. Check on Locations (Potholing):

1. Contact all affected utility owners and request them to locate their respective utilities prior to the start of "potholing" procedures. The utility owner shall be given 7 days written notice prior to commencing potholing. If a utility owner is not equipped to locate its utility, the Contractor shall locate it.
2. Clearly paint the location of all affected utility underground pipes, conduits and other utilities on the pavement or identify the location with suitable markers if not on pavement. In addition to the location of metallic pipes and conduits, non-metallic pipe, ducts and conduits shall also be similarly located using surface indicators and detection tape, if present and shall then be similarly marked.
3. After the utility survey is completed, commence potholing to determine the actual location and elevation of all utilities where crossings, interferences, or connections to the new pipelines are shown on the Drawings, marked by the utility companies, or indicated by surface signs. Prior to the preparation of piping shop drawings, or the excavating for any new pipelines or structures, the Contractor shall locate and uncover these existing utilities including services and laterals to a point 1 foot below the utility. Submit a report identifying each underground utility and its depth and station. Any variation in the actual elevations and the indicated elevations shall be brought to the Engineer's attention.
4. Excavations around underground electrical ducts and conduits shall be performed using extreme caution to prevent injury to workmen or damage to electrical ducts or conduits. Similar precautions shall be exercised around gas lines, telephone and television cables.
5. Backfill after completing potholing. In existing streets, pave with a minimum of 1 inch of cutback or cutback as necessary to fully repair the pothole, whatever is greater.

C. Interferences:

1. If interferences occur at locations other than shown on the Drawings, the Contractor shall notify the Engineer, and a method for correcting said interferences shall be supplied by the Engineer. Payment for interferences that are not shown on the plans, nor which may be inferred from surface indications, shall be in accordance with the Special Provisions. If the Contractor does not expose all required utilities prior to shop drawing preparation, he shall not be entitled to additional compensation for work necessary to avoid interferences, nor for repair to damaged utilities.
2. Any necessary relocations of utilities, whether shown on the Drawings or not, shall be coordinated with the affected utility. The Contractor shall perform the relocation only if instructed to do so in writing from the utility and the Engineer.

D. Shutdowns: Planned utility service shutdowns shall be accomplished during period of minimum use. Such work shall be at no additional cost to the Owner. Program work so that service will be restored in the minimum possible time and shall cooperate with the utility companies in reducing shutdowns of utility systems to a minimum.

1. Disconnections: No utility shall be disconnected without prior written approval from the utility owner. When it is necessary to disconnect a utility, the Contractor shall give the utility owner not less than 72 hours notice when requesting written approval. The Contractor shall program his work so that service will be restored in the minimum possible time.

E. Overhead Facilities: Overhead facilities are approximately shown on the Drawings but may exist in other locations. All overhead utilities shall be located by the Contractor prior to commencing work and shall be protected in place. If any overhead facilities are damaged, notify the Engineer and the affected utility immediately. The cost of repair shall be borne by the Contractor.

F. Existing gas, water, sewer and telephone laterals are presumed on the Drawings but may exist along the pipeline routes. Protect all service laterals from damage due to construction operations. If any laterals are damaged, notify the Engineer and the affected utility immediately. The cost of repair shall be borne by the Contractor.

3.03 DUST CONTROL

A. Water for compaction and dust control shall be clean and free of oil, acids, salts, and other deleterious substances. Water shall be supplied by the Contractor at no additional expense to the Owner.

B. The Contractor shall use extreme care during construction to prevent damage from dust to adjacent property. The Contractor shall sprinkle the right-of-way or take other dust abatement preventive measures as directed by the Engineer.

C. Conform to requirements set forth by the Bay Area Air Quality Management District.

3.04 TRENCH EXCAVATION

In accordance with Section 31 23 33 Trenching, Backfilling, and Compacting.

3.05 EXCAVATION FOR STRUCTURES

A. All excavation for structures shall be done to the dimensions and levels indicated on the Drawings or specified herein. Excavate to such width outside the lines of the structure to be constructed as may be required for proper working methods, the erection of forms and the protection of the work.

B. Take care to preserve the foundation surfaces shown on the Drawings in an undisturbed condition. If the Contractor overexcavates or disturbs the foundation surfaces shown on the Drawings or specified herein, without written authorization of the Engineer, they shall replace such foundations with concrete fill or other material approved by the Engineer in a manner which will show by test an equal bearing value with the undisturbed foundation material. No additional payment will be made for the added quantity of concrete fill or other material used because of overexcavation.

C. Inspection of Excavation: Notify the Engineer when excavation for the structure is complete. No forms, reinforcing steel, concrete, or precast structure shall be placed until the excavation has been inspected by the Engineer.

D. Where unsatisfactory material is encountered below the grades shown for structural excavations, it shall be removed and replaced with selected material as directed by the Engineer and compacted. Payment for removal and replacement of such unsatisfactory material directed by the Engineer shall be made in accordance with the Special Provisions.

3.06 BACKFILL AND COMPACTION

A. In accordance with Section 31 23 33 Trenching, Backfilling, and Compacting.

3.07 SUPPORT OF EXCAVATIONS

A. Adequately support excavation for trenches and structures to meet all applicable

requirements in the current rules, orders and regulations. Excavation shall be adequately shored, braced and sheeted so that the earth will not slide or settle and so that all existing structures and all new pipe and structures will be fully protected from damage. Keep vehicles, equipment and materials far enough from the excavation to prevent instability.

B. Take all necessary measures to protect excavations and adjacent improvements from running, caving, boiling, settling, or sliding soil resulting from the groundwater table and the nature of the soil excavated. Attention is directed to Section 832 of the Civil Code of the State of California relating to lateral and subjacent supports, and wherever structures or improvements adjacent to the excavation may be damaged by such excavation, the Contractor shall comply with this law.

C. The support for excavation shall remain in place until the pipeline or structure has been completed. During the backfilling of the pipeline or structure, the shoring, sheeting and bracing shall be carefully removed so that there shall be no voids created and no caving, lateral movement or flowing of the subsoils.

3.08 OVEREXCAVATION

Overexcavation areas, cut bottoms, areas to receive fill, or areas left at-grade shall be thoroughly scarified to a minimum depth of 12 inches, uniformly moisture-conditioned at least 2 percent over optimum moisture content, and compacted to at least 90 percent relative compaction. The Engineer shall observe scarification and re-compaction operations to evaluate performance of the subgrade under compaction equipment loading and to identify any areas that may require removals.

3.09 FINISH GRADING

Except where shown otherwise in the Drawings, restore the finish grade to the original contours and to the original drainage patterns. Grade surfaces to drain away from structures. The finished surfaces shall be smooth and compacted.

3.10 DISPOSAL OF EXCAVATED MATERIAL

Dispose of unsuitable material or excavated material in excess of that needed for backfill offsite in accordance with the requirements of the Owner.

3.11 HYDROSEEDING

A. Any uneven area should be graded so that water will not collect and cause concentrated flows. If the soil surface is crusted from a previous rain, then it should be raked or dragged to break it up. Small clods or a rough appearance should not be of concern as they help to hold the seed and the rainfall. Remove all trash, weeds, and other debris. Seedbed preparation shall be suspended when soil moisture conditions are not suitable for obtaining a satisfactory seedbed.

B. Fertilization: Fertilizer shall not be applied more than 15 days prior to seeding. Fertilizer shall be distributed uniformly over the seedbed at the rate of 500 pounds per acre. Fertilizer shall be applied in any way that will result in uniform distribution. It is recommended that fertilizer be applied hydraulically by the hydroseeder in the form of a slurry. The slurry shall also contain the required seed, inoculants (if applicable), mulch, and water. Fertilizer shall not remain in the slurry longer than two (2) hours.

C. Seedings:

1. The seed shall be drilled, broadcast, or distributed uniformly in a water slurry by the hydroseeder. The seeds shall be covered by approximately ¼- to ½-inch mulch.

2. The hydroseeder shall be equipped with a built-in continuous agitation system of sufficient operating capacity to produce a homogeneous slurry and a discharge system that will apply the slurry to the slopes at a continuous and uniform rate.
3. Seed shall not remain in the slurry longer than thirty (30) minutes. The slurry in this first application shall also contain wood fiber mulch at the rate of 500 pounds per acre and the required fertilizer.
4. Application rates for wood fiber mulch products that have moisture contents greater than 15 percent shall be increased by the following factor, c:

$$C = \frac{85 \text{ percent}}{\text{Percent fiber (solids) in product}}$$

5. The wood fiber shall not remain in the slurry longer than two (2) hours. Water used shall be potable water or Class 1 or 2 agricultural irrigation water.
6. The slurry shall be continuously mixed and shall be mixed for at least five (5) minutes after the last addition before application starts. The slurry shall be applied uniformly over the site at a rate that is nonerosive and minimizes runoff.

D. Mulching:

1. Areas equal to or greater than 2:1 slope (netting installation regardless of application date) - Material shall be hand punched straw or wood fiber blankets or bio-composite reinforcing matting. Regions with concentrated flow shall have American Excelsior Curlex Enforcer II or equal while regions with high velocity flows shall have American Excelsoir Curlex III or equal. Netting rolls shall be applied up and down the slope with a 4-inch minimum side-to-side overlap and a 3-foot minimum end-to-end overlap.
2. The upper end of the netting shall be buried at least 8 inches into the soil. Overlap of matting shall be provided. Anchor pin or staple spacing shall be 5 feet down sides and center of rolls driven perpendicularly into soil. Spacing at top end and at end overlaps shall be 1 foot. If manufacturer installation recommendations are more conservative, manufacturer recommendations take precedence.
3. Areas Less Than 2:1 Slope (Hydromulch Seeding Installation)
    - General Equipment Requirements: Use hydraulic equipment for the application of the fertilizer, seed, and slurry of prepared wood pulp of the type approved by the Engineer. This equipment shall have a built-in agitation system and operating capacity sufficient to agitate, suspend and homogeneously mix a slurry containing up to 40 pounds of fiber plus combined total of 70 pounds fertilizer solids for each 100 gallons of water. The slurry distribution lines shall be large enough to prevent stoppage and equipped with a set of hydraulic spray nozzles which will provide a continuous non-fluctuating discharge and delivery of the slurry of the prescribed quantities uniformly, without misses, waste, or erosion. The slurry tank shall have a minimum capacity of 1,000 gallons and be mounted on a traveling unit which may be either self-propelled or drawn with a separate unit which will place the slurry tank and spray nozzles within sufficient proximity to the areas to be seeded so as to provide uniform distribution. The Engineer may allow equipment with smaller tank capacity provided that the equipment has the necessary agitation system and sufficient pump capacity to spray the

slurry in a uniform coat.

- Irrigation: Irrigation shall continue until natural atmospheric moisture is enough to sustain growth.
- Mulching Application:

1) A straw covering shall be distributed uniformly over the seeded area within 48 hours after seeding. Straw shall be applied at the rate of two (2) tons per acre. The straw shall be applied by hand, blower, or other suitable equipment. If straw is applied by blower, it shall not be chopped in lengths less than six (6) inches.
2) Anchoring the Mulch Mechanically: The straw mulch shall be anchored in place via with hand tools, mulching rollers, disks, or similar types of suitable equipment alone or in combination with a hydro-mulch material and shall be performed in a satisfactory manner.
3) Anchoring Straw Mulch with Hydro-Process: All post October 15th applications shall utilize a hydro-mulch anchoring process. The hydro-mulch material shall be applied uniformly over the straw in a water slurry by hydroseeder within 48 hours following mulching. The hydro¬mulch shall be wood fiber mulch, a tackifier, and water in the following portions per acre:

Tackifier	Rate (pounds)	Wood Fiber Mulch (pounds)	Water (gallons)
M-Binder	100	150	700
Ecotak-SAT	100	150	700
Sentinel	100	500	2,000
Fish -STIK	60	500	3,000
Soil Master WR	100	250	1,000

4) The hydroseeder shall be equipped with a built-in continuous agitation system of sufficient operating capacity to produce a homogeneous slurry and a discharge system that will apply the slurry to the slopes at a continuous and uniform rate.
5) The materials shall not remain in the slurry longer than two (2) hours. Water used shall be potable water or Class I or 2 agricultural irrigation water.
6) The slurry shall be continuously mixed and shall be mixed for at least five (5) minutes after the last addition before application starts. The slurry shall be applied uniformly over the site at a rate that is nonerosive and minimizes runoff.

3.12 CLEAN UP

A. Leave the site in a neat and clean condition after completing all earthwork, doing all such grading as is required by the plans.

B. Replace, repair, or restore, to their original condition or better, any existing features, structures, and other facilities damaged or affected by the work.

END OF SECTION

SECTION 31 22 19 FINISH GRADING

PART 1 – GENERAL

1.01 SCOPE OF WORK

A. Provide all labor, materials, services, and equipment indicated on Drawings and/or herein specified to complete all Finish Grading Work.

B. Finish grading shall consist of scarifying and establishing finish grade to conform to the contours, grades, line and shapes as indicated on the Drawings, and ensuring that all landscape areas are uniformly graded to an outlet.

C. Related Sections: Related sections may include but are not limited to:

1. Section 31 20 00 Earthwork
2. Section 32 90 00 Planting

1.02 DEFINITIONS

A. Subgrade: Surfaces upon which additional specified materials are to be placed, prepared, or constructed.

B. Rough grade: The establishment of grades to one-tenth (1/10) foot plus or minus tolerance of grades required to accomplish the Work described in other documents and drawings.

C. Finish grade: The establishment of grades to a plus or minus tolerance of final grades as indicated on Drawings. Tolerances are specified in applicable documents of the specifications (i.e., Planting, Concrete, Decomposed Granite, etc.) Finish Grade elevations in planted areas reference top of soil. Allowance shall be made for installation of mulch, sod, etc. as shown in the drawings.

D. Grading intent: Spot elevations (grades) and contours are indicated based on the best available data. Drawings are referenced to provide additional site grading data. The intent is to maintain constant slopes between spot elevations. If a spot elevation is determined to be in error, or the difference in elevation between points change, contact the Owner's Representative immediately for field adjustments of spot elevations.

1.03 EXISTING UTILITIES

A. Contractor is responsible to contact Underground Service Alert (USA North) (811) or (800-642-2444) and mark the location of all existing utilities before commencing Work.

B. Refer to the Drawings for information on proposed site utilities and their locations.

C. Retain and protect in operating condition all active utilities traversing the site designated to remain.

D. Where existing utilities not indicated on the Drawings are encountered, support, shore up, protect same and immediately contact the Owner's Representative for continuance and/or relocation of such services.

1.04 PROTECTION OF EXISTING CONDITIONS AND ADJACENT PROPERTIES

A. Use all means necessary to protect existing conditions designated to remain, newly constructed conditions and adjacent properties. Avoid any encroachment on adjacent properties.

B. Prevent damage to existing benchmarks, pavement, and utility lines. In the event of damage or loss, immediately make all repairs and replacements required to the satisfaction of the Owner's Representative and at no additional cost to the Owner.

1.05 QUALITY ASSURANCE

A. Finish grades shall conform to contours, grades, lines, and shapes, as indicated on Drawings, with uniform slopes between finish grades or between finish grades and existing grades.

B. Establish finish landscape grades in a continuous, uniform line, resulting in a uniform surface with positive drainage and without ridges or water pockets.

C. Finish landscape grade tolerance shall be .04 feet plus or minus of final grades indicated on Drawings.

1.06 SUBMITTALS

A. Per Section 31 20 00

PART 2 - PRODUCTS

A. Per Section 31 20 00 and Section 32 90 00

PART 3 - EXECUTION

3.01 PROTECTION

A. Rough grades shall be within plus or minus .10 foot of final finish grades as indicated on plans. If any discrepancies exist, notify the Owner's Representative immediately for direction.

B. Contractor shall be responsible for bringing rough grades into conformity with finish grades as indicated on the plans. Comply with tolerances specified in this document and as specified in applicable documents of the specifications (i.e., concrete, asphalt, planting, etc.).

C. Conduct work in an orderly manner. Dirt shall not be permitted to accumulate on hardscape or be washed into storm drains.

D. Use all means required to prevent the erosion of freshly graded areas during construction and until such time as proposed hard surfaces and landscaping have been constructed.

3.02 LAYOUT

A. Layout of all work under this Section shall be made by a licensed surveyor.

B. Maintain all benchmarks, control monuments and stakes. Protect from damage and dislocation.

C. If any discrepancies are found by the surveyor between the Drawings and actual site conditions, the Owner's Representative reserves the right to make minor adjustment in Work Specified as necessary to accomplish the intent of the Contract Documents without increased cost to the City.

3.03 FINISH LANDSCAPE GRADING

A. Scarify or rototill to a 6” depth all planting areas prior to finish grade operations and work until uniform and free from large clods larger than one (1) inch in greatest dimension.

B. Finish grade shall conform, after compaction, to shapes, spot elevations and contours as indicated on Drawings, with uniform levels or slopes between finish elevations or between finish elevations and existing elevations. Landforms shall be naturally formed, with increasing or decreasing slopes as follows:

1. “Round-off” all high points or tops of slopes to finish grade as noted on the drawings in a parabolic fashion, without exceeding maximum or minimum slopes as shown or as required.

2. “Feather” all low points or bottoms of slopes to finish grade as noted on the drawings in a parabolic fashion, without exceeding maximum or minimum slopes as shown or as required.

A. Soil amendment and preparation shall comply with Section 32 90 00 Planting.

B. Spread excess soil material excavated from plant pits to establish subgrades in

surrounding planting areas.

C. Top six (6) inches of all areas to be planted shall be free of stones, stumps, or other deleterious matter one (1) inch in greatest dimension.

D. Compact soil in planting areas to 85% relative compaction in accordance with ASTM D1557-78.

E. Fine grade all planting areas to a smooth, loose, and uniform surface. Eliminate uneven areas, ridges, and depressions.

F. Shrub/ground cover planting areas shall be graded three and one-half (3-1/2) inches below adjacent paved areas, sidewalks, valve boxes, mow bands, drains, etc. in order to receive a three-inch-deep layer of wood chip mulch, establishing final grade one-half (1/2) inches below these surfaces.

G. Turf areas shall be graded 1/2 inch in hydroseed, and 1 inch in sod, below adjacent paved area, sidewalks, valve boxes, mow bands, drains, top of seat walls etc. in order to receive turf, establishing final grade flush with these surfaces.

3.04 OBSERVATION SCHEDULE

A. Normal progress observations shall be requested by the Contractor from the Owner's Representative as per observations listed in Sections: 32 84 00 Irrigation, and 32 90 00 Planting.

3.05 CLEAN UP

A. Remove all trash, excess soil, or rubbish from the property. All scars, ruts or other marks in the ground caused by this work shall be repaired and the ground left in a neat and orderly condition throughout the site.

B. The Contractor shall leave the site area broom-clean and shall wash down all paved areas within the Contract area, leaving the premises in a clean condition acceptable to the Owner's Representative.

END OF SECTION

SECTION 31 23 33
TRENCHING, BACKFILLING, AND COMPACTING

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish all labor, materials, equipment, facilities, transportation, and services to complete all excavation, trenching, backfilling, compaction, and related work as shown on the Drawings and/or specified herein. Standard specifications follow CSI 2004 3-part format.

A. All trench and backfill shall be mechanically compacted native soil, mechanically compacted imported fill, mechanically compacted aggregate base or slurry material, as required on the Standard Details. All trenching within City Streets shall conform to the City's Standard Details and these standards.

B. Scope of work: The general extent of all trenching, backfilling, and compaction is shown on the Drawings and may include, but is not necessarily limited to, the following:

1. Storm Drainage System Installation
2. Irrigation System Installation
3. Sanitary Sewer Service Installation
4. Water Service Installation
5. Decommissioning of Potable Water Main Work
6. Paving Installation

1.02 RELATED SECTIONS

A. General and Project Conditions of the Bid Documents

B. Section 31 20 00 Earthwork

C. Section 31 22 19 Finish Grading

D. Section 32 12 16 Asphalt Paving

E. Section 32 13 13 Concrete Paving

F. Section 32 84 00 Irrigation

G. Section 33 05 05 Buried Pipe Installation

H. Section 33 05 09 Piping Specials for Utilities

I. Section 33 05 31 PVC Utility Pipe

J. Section 33 05 061 Concrete Manholes

K. Section 33 05 71 Cleanouts

L. Section 33 41 00 Subdrainage

M. Section 33 42 31 Stormwater Area Drains and Inlets

1.03 REFERENCE AND REGULATORY REQUIREMENTS

A. Geotechnical Report:
1. Provided upon request from the City.
2. C 33, Specification for Concrete Aggregates.
3. C 150, Specification for Portland Cement.
4. C 260, Specification for Air-Entraining Admixtures for Concrete.

5. C 618, Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.
6. D 1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
7. D 2321, Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe.
8. D 2487, Classification of Soils for Engineering Purposes.
9. D 3740, Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
10. E 329, Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.
11. E 548, Guide for General Criteria Used for Evaluating Laboratory Competence.

B. California Building Code, California Code of Regulations, Title 24, Part 2 - Chapter 18, Foundations, and Retaining Walls, and Chapter 33, Site Work, Demolition and Construction.

C. Manual of Warning Signs, Lights and Devices for Use in Performance of Work Upon Highways, issued by the California State Department of Transportation.

D. Office of Safety and Health Act (OSHA) Construction Safety Orders

E. California Code of Regulations Title 8: Construction Safety Orders.

F. City of Gridley Standard Specifications.

1.04 SUBMITTALS

A. Conform to the requirements of Section 01 33 00 and/or applicable Division One and Two Specifications, General Conditions and Special Provisions.

B. Submit material certificates of compliance and/or sieve analysis for all products and materials proposed to be used in work covered by this section.

C. Project Record Drawings:

1. Conform to requirements of Section 01 78 39 and/or applicable general conditions and special provisions.
2. Accurately record locations of utilities remaining, re-routed utilities, new utilities, and newly discovered utilities by horizontal dimensions, elevations, inverts and slope gradients as practical.

1.05 DEFINITIONS

A. Finish Grade Elevations: Indicated on Drawings.

B. Bedding: Select Backfill used for initial placement in utility trenches and other excavations.

C. Standard Specifications: The City of Gridley

D. State Standard Specifications: State of California, Business and Transportation Agency, Department of Transportation (Caltrans), Standard Specifications, latest edition, excluding Sections pertaining to measurement and payment items.

E. Relative Compaction: Ratio, expressed as a percentage of field dry density as compacted to a maximum dry density of representative sample of the same material determined by American Society for Testing and Materials (ASTM) Test Method D1557 (c).

1.06 SEQUENCING AND SCHEDULING

A. Refer to all other Contract Documents, determine the extent and character of related work, and properly coordinate work specified herein with that described elsewhere to produce a complete, operational installation.

B. Contractor is responsible to pay for an obtain an encroachment permit for all work within the public right of way.

1.07 QUALITY ASSURANCE

A. Control of Work: Comply with City Standard Specifications.

B. Control of Materials:

1. Comply with of the Standard Specifications.

2. Provide materials of the same type and from the same source throughout the work.

C. Trench Safety: Comply with applicable portions of the City's Standard Specifications and requirements of other agencies having jurisdiction (OSHA etc.).

1.08 WARRANTY

A. The Contractor shall warrant against settlement for a period of one year after the date of final acceptance and shall repair damage caused by settlement within that time. For the purpose of this Specification, settlement will be deemed to have occurred if, on paved surfaces, the depression falls 3/8-inches below the average of the sides of the uncut portion.

PART 2 - MATERIALS

A. Provide materials as described below free of debris, roots, wood, scrap material, vegetative matter, refuse, soft unsound particles, or other deleterious and objectionable materials.

B. Backfill: Select backfill material shall be per the respective City Standard detail for trenching and backfilling.

C. Class 2 Permeable Material: Class 2 permeable material shall conform to Section 68-2.02F(3) of the State Specifications.

D. Imported Materials: Deliver samples (minimum 2-gallon pail), sieve analysis and other reports as required to Owner's Representative a minimum of 3 weeks prior to proposed use.

E. Other material as indicated on the Drawings.

PART 3 - EXECUTION

3.01 PREPARATION

A. General:

Prior to trenching, the contractor shall pothole existing utilities at locations indicated or implied on the plans, where new piping or utilities will cross existing utilities of uncertain depth to determine the elevation of the utility in question and ensure that the new line will clear the potential obstruction.

The Contractor shall mark out all construction areas in white, non-permanent paint and contact Underground Service Alert (U.S.A.) (800-642-2444) to locate all known utilities a minimum 48 working hours prior to any excavation.

Should an existing crossing utility present an obstruction, the proposed line shall be adjusted as acceptable to the Owner's Representative to clear the existing utility.

The Contractor shall do such grading or work as is necessary to prevent surface water from entering the excavation.

3.02 EXCAVATION AND TRENCHING

A. Excavations

Pipeline excavations shall be open-cut trenches, unless otherwise specified on the approved improvement plans, with vertical sides to the pipe crown as specified on the Standard Details.

Excavations shall conform to all applicable Federal and State safety requirements. All work shall be conducted in such a manner as to prevent damage to new and existing facilities or adjoining property. The contractor shall appoint a designated “competent person” during construction.

The contractor shall relocate, replace, reconstruct, or repair, to an “as-was” or better condition, all surface or subsurface improvements which are in the line of construction or which may be damaged, removed, disrupted or otherwise disturbed by the construction activities. Except as specified in other Sections or shown in the Drawings, this provision applies to all surface improvements of whatever nature such as walls, fences, above-grade utilities, landscaping, paving, structures, or other physical features whether shown in the Drawings or not and to all subsurface improvements such as utilities which may be indicated in the Drawings or marked in the field. The contractor shall connect such utilities to existing systems and leave all in a workable and operating condition. The cost of this work shall be considered as included in other items of work and no additional compensation will be allowed.

Do not interfere with the area of influence of adjacent footings. This area is generally described as extending from the bottom of any footing outward at a 45-degree angle.

For water mains the trench shall be excavated a minimum of 6 inches below the outside diameter of the pipe per elevation on the approved plans. For water services the trench shall be excavated a minimum of 4 inches below the outside diameter of the pipe per elevation on the approved plans. For both water mains and services, if rocky or unyielding soil is encountered the trench shall be over excavated by 12 inches and backfilled with bedding material.

For sewer service lines the trench shall be excavated a minimum of 3 inches below the outside diameter of the pipe per elevation on the approved plans for 12 inch diameter pipe or less. For pipes with a diameter greater than 12 inches it shall be excavated a minimum of 4 inches. If rocky or unyielding soil is encountered the trench shall be over excavated by 4 inches and backfilled with bedding material.

For storm drain pipe the trench shall be excavated a minimum of 4 inches below the outside diameter of the pipe per elevation on the approved plans. If rocky or unyielding soil is encountered the trench shall be over excavated by 4 inches and backfilled with bedding material. If rocky or unyielding soil is encountered the trench shall be over excavated by 4 inches and backfilled with bedding material.

B. Trench Width

For irrigation piping the maximum allowable trench width a the top of pipe shall be 18 inches greater than the pipe diameter.

For water pipes the trench bottom width shall be at a minimum the outside diameter of the pipe plus 12 inches and at a maximum the outside diameter of the pipe plus 2 feet and shall comply with the Standard Details or as approved by the City. If rocky or unyielding soil is encountered the trench width shall be increased by 12 inches. A minimum clearance of 6 inches shall be maintained between the pipe and the trench wall

For sewer the trench bottom width shall be at a minimum the outside diameter of the pipe plus 2 feet and at a maximum the outside diameter of the pipe plus 4 feet and shall comply with the Standard Details or as approved by the City. A minimum clearance of 6 inches shall be maintained between the pipe and the trench wall.

For storm drain pipes with an outside diameter of 30 inches or less the trench width shall be outside diameter plus 16 inches. For pipes with an outside diameter greater than 30 inches the trench width shall be equal to the outsider diameter multiplied by 1.25 plus 12 inches. A minimum clearance of 6 inches shall be maintained between the pipe and the trench wall.

C. Compaction

The initial backfill material shall be hand tamped in layers not exceeding four inches (4") in uncompacted depth and shall be brought up uniformly on both sides of the pipe to avoid bending or distortional stress. After handtamping, the compaction of the initial backfill material shall be at

least 95% compaction.

D. Weather

During inclement weather, trenches shall be excavated only as far as pipe can be laid and backfilled during the course of the day.

E. Existing Roadways

Trenching in existing roadways shall be limited to the length of pipe that can be laid that day. No open trenches shall be left overnight. Exposed trenches shall be plated and backfilled as approved by the City Inspector.

Existing asphalt concrete paving over new trenches shall be sawcut, removed, and legally disposed. Existing asphalt concrete paving shall be neatly sawcut one foot (1') greater on each side than the trench width. If a longitudinal pavement joint or edge of pavement, curb or gutter is located within three feet of the limit of excavation, all intervening pavement shall be removed and replaced after completion of backfilling. If concrete curb and/or gutter are to be replaced, the adjacent existing asphalt concrete paving shall be sawcut one foot (1') from the edge of concrete curb and/or gutter.

Existing portland cement concrete paving over new trenches shall be sawcut to a minimum depth of 1-1/2 inches or one half the depth of paved section, whichever is greater, in straight lines at construction joint or expansion joint.

F. Dewatering

Dewatering for the installation of structures and pipelines shall commence when groundwater is first encountered and shall be continuous until the excavation is backfilled. Best Management Practices including but not limited to scouring and erosion measures shall be used to eliminate sediment-laden discharges in accordance with the approved SWPPP.

G. Excavated Material

All excavated material not required for backfill or of value to the Owner shall be removed and legally disposed of by the contractor at no additional cost.

Material excavated in paved areas shall be laid alongside the trench no closer than two feet from the trench edge and kept trimmed to minimize inconvenience to public traffic.

Provisions shall be made whereby all storm and wastewater can flow uninterrupted in gutters or drainage channels to drainage structures.

Excavated material shall not be stored on existing landscaping or paving without provisions being made to protect the surface below from being stained or otherwise adversely affected.

H. Shoring

Should excavations extend more than 4 feet below existing ground surface, shoring will be required.

Excavations can be sloped back to an inclination of 1.5 horizontal to 1 vertical as an option for shoring in these conditions.

Utility trenches shall be excavated according to accepted engineering practices following OSHA.

3.03 PIPE BEDDING

A. For irrigation piping, place sufficient bedding material in trench bottom up to grade of bottom of pipe. Relative compaction of tamped material shall be not less than ninety percent (90%) relative compaction. Place and compact additional bedding material to provide uniform bearing under the full length of the pipe to a minimum width of sixty percent (60%) of its external diameter.

B. For water pipe bedding shall conform to the City of Gridley Standard Details

C. For sewer pipe bedding shall conform to the City of Gridley Standard Details.

D. For storm drain pipe bedding shall conform to the City of Gridley Standard Details

3.04 TRENCH BACKFILL AND COMPACTION

Trench backfill within the City street right- of-ways shall conform to the Standard Details. Moisture content shall be controlled to obtain the optimum density for the soil type encountered. All compaction testing shall conform to ASTM D1557-78 test methods. Trench and backfill compaction shall be tested and certified by a licensed geotechnical engineer at the Developer's expense. Certification shall be provided to the City Inspector prior to the construction of surface improvements.

Backfill for joint utility trench shall be clean sand or ¾" aggregate base uniformly graded with a minimum sand equivalent of 25 or Class 2 Aggregate Base. Compacted to 95% relative compaction.

Following paving operations and where utility valve clusters are present, standard mechanical compaction efforts and equipment may have limited access to achieve adequate compaction per these Standards. In these cases, it is authorized that 2-sack flowable concrete slurry backfill material may be used within the valve excavation area to just below the required concrete collar height. Once cured, placement of concrete collar and/or HMA paving operations may progress.

A. Existing Streets

Compaction of trench backfill by jetting methods is NOT allowed in City right-of-way areas or over dedicated storm, sewer or water easements or mains. Jetting of joint utility trenches behind the right-of-way and within public Utility easements may be allowed under specific conditions and upon the written approval of the City's Construction Inspector and the Geotechnical Engineer.

Longitudinal trenches for dry utilities (CATV, telephone, gas, electric, traffic signal and signal interconnect cable) shall be excavated 6 inches clear from the gutter lip.

Following the patching of the trench with asphalt concrete, the street surface shall be slurry sealed from the gutter lip to the edge of the bike lane stripe (usually 4 feet wide). If the bike lane stripe is obliterated in any manner by the construction process, it shall be replaced with thermoplastic per these Standards. If the dry utility trench impacts the travel line due to crossings the street surface shall be slurry sealed from the gutter lip to the edge of the travel lane.

B. Jetting

Compaction of trench backfill by jetting methods is NOT allowed in City right-of-way areas or over dedicated storm, sewer or water easements or mains. Jetting of joint utility trenches behind the right-of-way and within public Utility easements may be allowed under specific conditions and upon the written approval of the City's Construction Inspector and the Geotechnical Engineer.

C. Material

Material for backfilled trenches shall contain no organic material and no rocks or soil lumps exceeding 4 inches in diameter with the following qualifications:

1. Cobbles in the initial backfill (the first 1 foot above the pipe bedding covering the pipe) shall be 3 inch maximum diameter.
2. An exception to the 4 inch maximum diameter cobble is where cobbles exceed 4 inches in diameter and are predominant (as determined by the City's Inspector and Geotechnical Engineer). In this condition, 8 inches in diameter is the maximum size cobble allowed.
3. The maximum cobble size shall not be greater than that of the depth of the maximum compaction lift, for the type of equipment used.

Slurry cement backfill, controlled low-strength material or dry mix “Popcorn” may be used on a case by case basis. The Contractor shall submit a proposed design mix to the City Inspector for review and approval prior to placement.

Native soil shall not be used for bedding or backfilling of utility conduits or chases within the City right-of-way, but only select bedding materials as discussed in these Specifications and per the Standard Details.

D. Placement of Material

Equipment shall be a size and type satisfactory to the on-site geotechnical engineer or City’s Inspector. Impact-type pavement breakers or compactors (hydro-hammers) shall not be used within 5 feet of the top of any type pipe. Material for mechanically compacted backfill shall be placed in horizontal lifts which, prior to compaction, shall not exceed the depths specified below for the type of equipment employed. Actual maximum lift depth will vary with soil conditions and compaction equipment. The Contractor shall consult with a geotechnical engineer to determine the appropriate maximum depths. The Contractor shall be responsible for verifying compaction requirements for each lift.

3.05 TRENCH SURFACING

A. General

1. In unimproved areas, the trench surface shall be restored to its original condition. No mounds of earth shall be left along the trench.
2. All backfill shall be flush with adjoining grade in a firm, unyielding position with no visible settling for a period of one year after Final Acceptance.

B. Tolerances

1. Top Surfaces for general backfilling: Plus or minus 0.10 foot from required elevations.
2. Top Surface of backfilling under paved areas: Plus or minus 0.10 foot from required elevations.

3.06 CLEANING

A. Leave unused materials in a neat, compact stockpile during progress of work.

B. Remove unused stockpiled materials. Leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

END OF SECTION

SECTION 32 12 16
ASPHALT PAVING

PART 1 - GENERAL

1.01 SUMMARY

A. This Section describes the requirements for furnishing and installing asphalt paving for the parking lot, pathway, to include:

1. Asphaltic concrete paving, wearing, binder and base course.
2. Surface sealer.
3. Aggregate subbase course.

1.02 RELATED SECTIONS

A. General and Project Conditions of the Bid Documents

1.03 REFERENCES

A. Asphalt Institute:

1. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot- Mix Types
2. AI MS-19 - Basic Asphalt Emulsion Manual.

B. ASTM International:

1. ASTM D946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction.
2. ASTM D3381 - Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction.

C. Caltrans Standard Specifications:

1. Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS, latest edition.

1.04 PERFORMANCE REQUIREMENTS

A. Paving: Designed in accordance with Caltrans Standard Specifications, Section 39.

1.05 SUBMITTALS

A. Product Data: Submit product information and mix design.

1.06 QUALITY ASSURANCE

A. Perform Work in accordance with Caltrans Standard Specifications, Section 39.

B. Mixing Plant: Conform to Caltrans Standard Specifications, Section 39.

C. Obtain materials from same source throughout.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Do not place asphalt when ambient air or base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Asphalt Cement: In accordance with Caltrans Standard Specifications, Section 39.

B. Aggregate for Base Course Mix: Shall be ½” aggregate in accordance with Caltrans Standard Specifications, Section 39.

C. Aggregate for Surface Course Mix: Shall be 3/8” aggregate in accordance with Caltrans

D. Tack Coat: In accordance with Caltrans Standard Specifications.

E. Slurry Seal: In accordance with Caltrans Standard Specifications, Section 37-3.

F. Aggregate for Slurry Seal: In accordance with Caltrans Standard Specifications, Section 37-3.

2.02 ASPHALT PAVING MIX

A. Use dry material to avoid foaming. Mix uniformly.

B. Base Course: In accordance with Caltrans Standard Specifications, Section 39.

C. Wearing Course: In accordance with Caltrans Standard Specifications, Section 39.

2.03 SOURCE QUALITY CONTROL AND TESTS

A. Submit proposed mix design of each class of mix for review prior to beginning of Work.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify compacted subgrade subbase is dry and ready to support paving and imposed loads.

C. Verify gradients and elevations of base are correct.

D. Verify gutter drainage grilles and frames, manhole frames, and are installed in correct position and elevation.

3.02 SUBBASE

A. Prepare subbase in accordance with Caltrans Standard Specifications, Section 39 and per the drawings.

3.03 PREPARATION – SURFACE

A. Clean surface free of dirt, water, and debris.

B. Fill cracks greater than 1/8 inch.

C. Correct areas of subgrade failure.

3.04 PREPARATION - TACK COAT

A. Apply tack coat in accordance with Caltrans Standard Specifications.

3.05 PLACING ASPHALT PAVEMENT - DOUBLE COURSE

A. Place wearing course within twenty-four hours of placing and compacting binder course. When binder course is placed more than twenty-four hours before placing wearing course, clean surface and apply tack coat before placing wearing course.

B. Compact each course by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.

C. Perform rolling with consecutive passes to achieve even and smooth finish, without roller marks.

3.06 TOLERANCES

A. Flatness: Maximum variation of 1/4 inch measured with 10-foot straight edge, and 1/8” with an 18” straight edge.

1. Contractor shall conduct a flood test of asphalt surface. Bird bath areas 1/16” deep or more remaining after a period of one (1) hour in 70 degrees or hotter weather shall be remediated. String line test shall help determine if a low area is simply adjacent to a high area or is indeed a low area.

2. Low areas shall be ground down and high areas shall be pathed per manufacturer.

3. Finish surface planarity shall be inspected and adjusted by the Contractor using the string line method. A mason’s line held taught between two workmen shall check for separations between the mason’s line and the finished surface that are equal to or greater than the tolerances specified. The entire finished surface shall be checked with the mason’s line in increments no greater than 5 linear feet. Areas of separation shall be identified with depth of

separation indicated.

B. Scheduled Compacted Thickness: Within 1/4 inch.

C. Variation from Indicated Elevation: Within 1/2 inch.

3.07 PROTECTION OF FINISHED WORK

A. Immediately after placement, protect pavement from mechanical injury for 48 hours or until surface temperature is less than 140 degrees F.

B. Comply with requirements of Section 01 77 00 Contract Closeout.

END OF SECTION

SECTION 32 13 13

CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes site concrete, including but not limited to pavements, footings, and sub slabs.

B. Provide all labor, materials, equipment, and services to complete the work as indicated on the Drawings or on the reviewed Shop Drawings, and in accordance with these specifications. Work includes but is not limited to the following:

1. Concrete formwork
2. Concrete reinforcement
3. Cast-in-place concrete items:
    a. Concrete paving, sidewalks, ramps, pads, curbs, mow bands, etc.
    b. Miscellaneous concrete.
    c. All imbeds including anchor bolts, tiedowns, hold downs with bolts, straps, and sleeves.

C. Related Sections

1. General and Project Conditions of the Bid Documents

1.02 REFERENCES

A. Caltrans Standard Specifications - Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation (Caltrans), latest edition.

B. ASTM - American Society for Testing and Materials

C. ACI - American Concrete Institute, Manual of Concrete Practice.

D. CBC – California Building Code

1.03 DEFINITIONS

A. Percent Compaction: ASTM D1557, percentage as shown on the Drawings or on the reviewed Shop Drawings of the maximum in place dry density of the same material.

1.04 SUBMITTALS

A. Conform to the requirements of Section 01 33 00 Submittals.

B. Shop Drawings Reinforcement: Submit Shop Drawings for fabrication, bending and placement of concrete reinforcement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars and arrangement of concrete reinforcement. Include special reinforcement required at openings through concrete structures.

C. Concrete Design Mixes:

1. The preparation of design mixes will be the responsibility of the Contractor. Mix designs may be prepared by the supplier and shall be certified by a Civil Engineer registered in California. Mix designs will be designed by the supplier and approved by the City's Representative.
2. Written reports will be submitted to the City's Representative of each proposed mix for review. Do not begin concrete production until mixes have been reviewed by the City's Representative.

3. Adjustment of Concrete Mixes:
4. Mix design adjustments may be requested by the Contractor when characteristics of materials, job conditions, weather, test results and other circumstances warrant; at no additional cost to the City and as accepted by the City's Representative. Provide submittals as in A above. Submit adjustment designs a minimum of 48 hours ahead of schedule for concrete production.

D. Product Data: Manufacturer's current catalog cuts and specifications for the following:
   1. Expansion joint filler, sealant, backer rod and bond breaker, including manufacturer's standard color chart for sealant
   2. Air-entrainment.
   3. Curing Compound.
   4. Fly Ash or Slag
   5. MDO plywood made for forming.

E. Samples:
   1. MDO plywood made for forming, one 6"x 6" piece.
   2. Exposed aggregate.

F. Certificates:
   1. Reinforcing Steel: Certificate of compliance
   2. Concrete Mix Design: Ticket for each batch delivered showing the following:
      a. Mix identification.
      b. Weight of cement, aggregate, water, and admixtures, aggregate sizes/proportion, and air entrainment.

1.05 QUALITY ASSURANCE

A. Comply with American Society for Testing Materials (ASTM) A-615 "Standard Specifications for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement," and "Manual of Standard Practice for Detailing Reinforced Concrete Structures," publication American Concrete Institute (ACI) 315-65 of the American Concrete Institute.

B. Comply with all pertinent recommendations contained in ACI, "Recommended Practice of Concrete Formwork, ACI-347", and Section 2606, 1997 California Building Code (CBC).

C. Construct forms to sizes, shapes, lines, and dimensions indicated on Drawings or on the reviewed Shop Drawings, and to obtain accurate alignment, location, grades, level, and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required in Work. Use selected materials to obtain required finish. Solidly butt joints and provide back-up at joints to prevent leakage of cement paste.

D. Provide complete forms of such strength and construction as to prevent any spread, shifting, or settling when concrete is deposited, and tight enough to avoid any leakage or washing out of cement mortar.

E. Provide at least one person who shall be present at all times during execution of this portion of the Work and who shall be thoroughly trained and experienced in placing the types of concrete specified and who shall direct all Work performed under this Section. For finishing of exposed surfaces of the concrete, use only thoroughly trained and experienced journeymen concrete finishers.

F. Conform to Section 90 of the Caltrans Standard Specifications.

G. The Contractor shall contact City's Representative of any discrepancies between field conditions and plans prior to proceeding with Work. The written dimension on Drawings or on the reviewed Shop Drawings shall supersede the graphic presentation. Dimensions are from back of curb, center line, base lines or as noted on the plans. All field adjustments must be approved by City's Representative prior to installation.

H. All walks and curbs shall be established in the field for review and approval prior to concrete pours. The Contractor shall layout the area or form work for review by City's Representative. If approval is not obtained, the Contractor is responsible for removal of any unauthorized field adjustments.

I. Transitions of curves to other curves, and curves to straight line tangents, shall be smooth and continuous.

J. Place expansion joint and score joints as shown on plan. Adjustments in the field shall be made only with the approval of City's Representative.

K. Where new concrete paving is placed adjacent to curbs or existing concrete paving, a construction joint (cold joint) shall be provided between the new concrete paving and curbs and existing concrete paving and curbs.

L. Sleeving shall be coordinated with concrete work. Refer to irrigation plan for sleeving location.

M. The Contractor shall be responsible for repairing, at no additional cost to City, any disturbed existing landscape designated to remain which resulted from construction of this project.

N. Some materials may require a several week order lead time. Contractor is responsible for determining any and all ordering lead times and providing required materials at the project site in a timely manner. No unapproved substitutions will be allowed. Contact City's Representative immediately if a specified material is not available.

O. Mock-up:

1. One 4-foot square mockup for all poured in place finishes, including concrete paving and vertical walls, as shown on the Drawings or on the reviewed Shop Drawings. Mock-ups shall also include finish, jointing, thickness, and edging.

2. Mock-ups shall be reviewed and approved by the City's Representative prior to commencing full work. Approved mock-up shall serve as a standard of quality for judging the acceptance of paving on the Project and may remain as part of the work.

P. Lines and Levels: To be established by a licensed Surveyor or registered Civil Engineer.

Q. Mix Standards: Conform to the ACI Manual and the Portland Cement Association's "Design and Control of Concrete Mixes".

R. Design of Concrete Mix: Employ approved commercial testing laboratory to design concrete mixes as follows:

Item	Minimum Cement Content	28-Day Minimum Strength	Maximum Slump	Aggregate Size	Maximum Water/Cement Ratio
Curbs & Footings	517 lb./cy.	3,000 PSI	4 in.	¾ in	0.55
Exterior Walkways	517 lb./cy.	3,000 PSI	4 in.	¾ in	0.45
Walls and Paving	517 lb./cy.	3,000 PSI	4 in.	¾ in	0.45

S. Fly Ash:

1. Source Control: The following sources of ash are not to be used:
    a. Ash from a peaking plant instead of a base loaded plant.
    b. Ash from plants burning different coals or blends of coal.
    c. Ash from plants burning other fuels (wood chips, tires, trash) blended with coal.
    d. Ash from plants using oil as a supplementary fuel.
    e. Ash from plants using precipitator additives, such as ammonia.
    f. Ash from start-up or shut-down phases of operation.
    g. Ash from plants not operating at a "steady state."
    h. Ash that is handled and stored using a wet system.
2. Fly ash used in concrete should be as consistent and uniform as possible. Fly ash to be used in concrete should be monitored by a quality assurance/quality control (QA/QC) program that complies with the recommended procedures in ASTM C31.(6) These procedures establish standards for methods of sampling and frequency of performing tests for fineness, loss on ignition (LOI), specific gravity, and pozzolanic activity such that the consistency of a fly ash source can be certified.

1.06 QUALIFICATION OF INSTALLER

A. Installer shall be thoroughly trained and experienced in the skills required and shall be completely familiar with the products and their installation as specified on the Drawings or on the reviewed Shop Drawings and in this Section. Installer shall be present at all times during progress of Work of this Section and shall direct all Work performed.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Delivered Mixes: Coordinate delivery so that mixes may be immediately poured upon arrival at site.

B. Components and Accessories:

1. Fittings and Reinforcements: Protect from rust, soil, and oil contamination at all times. Store on pallets above ground.
2. Templates: Protect from damage. Test accuracy prior to each use.

1.08 SEQUENCING AND SCHEDULING

A. Coordination: Coordinate all items of other trades to be furnished and set in place. Coordinate proper installation of all accessories embedded in the concrete and for the provision of holes, openings, etc., necessary to the execution of the work of the trades in ample time that progress of the work is not delayed.

1.09 JOB CONDITIONS

A. Cold-Weather Placement: comply with provisions of ACI 306 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

B. When air temperature has fallen to or is expected to fall below 40 deg F (4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.

1. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

2. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators.

C. Hot-Weather Placement: When hot weather conditions exist that would impair quality and strength of concrete, place concrete complying with ACI 305 and as specified.

1. Cool ingredients before mixing to maintain concrete temperature at time of placement to below 90 deg F (32 deg C). Mixing water may be chilled or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

2. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedding in concrete.

3. Fog spray form, reinforcing steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without puddles or dry areas.

1.10 COORDINATION

A. Secure all pipe sleeves, anchors, and bolts, including those for angle frames, inserts, ties and other materials in connection with concrete construction, in position before concrete is placed.

B. Obtain information and instructions from other Trades and suppliers in ample time to schedule and coordinate the installation of items furnished by them to be embedded in concrete so provisions for their work can be made without delaying the project.

1.11 FORM CONSTRUCTION TOLERANCES

A. Set form to required grades and lines, rigidly braced and secured. Install sufficient quantity of forms to allow continuous progress of Work so that forms can remain in place for twenty-four hours after concrete placement.

B. Check completed formwork for grade and alignment to following tolerances:

1. Top of forms not more than one-eighth inch in ten feet vertical elevation.

2. Vertical face on longitudinal axis not more than one-fourth inch in ten feet horizontal width.

3. Circular or curved formwork shall be continuous, complete radii as indicated on Drawings or on the reviewed Shop Drawings. No straight segments in circular/curved formwork shall be accepted.

1.12 TESTS AND OBSERVATIONS

A. The following tests shall be made by City's testing laboratory or by a certified Special Inspector as determined by the City. Special inspections for Concrete Construction shall be in accordance with Section 1704.4 and Table 1704.4 of the 2013 CBC and as noted below:

1. Periodic Inspection of reinforcing steel and placement.

2. Cement: Mill analysis and test reports by supplier certifying cement conforms to Specifications is acceptable in lieu of tests at the discretion of City's

Representative.

3. Provide free access to Work and cooperate with testing laboratory.
4. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
5. Concrete Inspections:
    a. Continuous Placement Inspection: Inspect for proper installation procedures.
    b. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.
6. Strength Test Samples:
    a. Sampling Procedures: ASTM C172.
    b. Cylinder Molding and Curing Procedures: ASTM C31, cylinder specimens.
7. Concrete cylinders: Make and cure in accordance with ASTM C31.
    a. Record shall be made of the time cylinders were made and of locations of concrete from which the cylinders were taken.
    b. Three identical cylinders shall be taken from each pour of 25 cubic yards or part thereof, being placed each day.
    c. When volume of concrete for any class of concrete would provide less than 5 sets of cylinders, take samples from five randomly selected batches, or from every batch when less than 5 batches are used.
    d. Make one additional cylinder during cold weather concreting, and field cure.
8. Field Testing:
    a. Slump Test Method: ASTM C143.
    b. Air Content Test Method: ASTM C173.
    c. Temperature Test Method: ASTM C1064.
    d. Measure slump and temperature for each compressive strength concrete sample.
    e. Measure air content in air entrained concrete for each compressive strength concrete sample.
9. Cylinder Compressive Strength Testing:
    a. Test Method: ASTM C39.
    b. Test Acceptance: In accordance with ACI 318.
    c. Test one cylinder at 7 days.
    d. Test two cylinders at 28 days.
10. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.
11. Should tests show that concrete is below specified strength; the Contractor shall remove all such concrete. Full cost of removal of inferior concrete, its replacement with concrete of proper specified strength and testing shall be borne by the Contractor.

1.13 CODES AND STANDARDS

A. ACI 301 "Structural Concrete for Building"

B. ACE 305 “Recommended Practice for Hot Weather Concreting”

C. ACI 306 “Recommended Practice for Cold Weather Concreting”.

D. ACI 308 “Curing Concrete”

E. ACI 309 “Recommended Practice for Consolidation of Concrete”

F. ACI 318 "Building Code Requirements for Reinforced Concrete".

G. ACI 347 “Recommended Practice for Concrete Formwork”.

H. ACI 605 “Recommended Practice for Hot Weather Concreting”.

I. ACI 614 "Recommended Practice for Measuring, Mixing, and Placing Concrete".

J. ASTM C31 “Practices for Making and Curing Concrete Test Specimens in the Field”.

K. ASTM C33-86 "Specifications for Concrete Aggregate".

L. ASTM C94-89 "Specifications for Ready Mixed Concrete".

M. ASTM C143 “Test Method for Slump Portland Cement Concrete”.

N. ASTM C150 “Portland Cement”.

O. ASTM C309 “Specifications for Liquid Membrane-forming Compounds for Curing Concrete”.

P. Western Concrete Reinforce Steel Institute (WCRSI) "Manual of Standard Practice".

Q. Where provisions of pertinent codes and standards conflict with this Specification, the more stringent provisions shall govern.

R. California Building Code (CBC), latest edition.

S. Section 90 of the Caltrans Standard Specifications.

PART 2 - PRODUCTS

2.01 CONCRETE REINFORCEMENT

A. Reinforcing Bars: Deformed Billet Steel Bars, ASTM A-615, Grade 40 or 60, containing a minimum of 70% total recycled content, clean and free from rust, scale, or coating that will reduce bond.

B. Smooth Dowels for Joints: ASTM A615, Grade 40 smooth, billet-steel bars, shop painted with iron-oxide zinc-chromate primer.

C. Welded Wire Mesh: ASTM A-185 plain type and uncoated finish.

2.02 CONCRETE

A. Concrete Mix:

1. Ready-mixed concrete in accordance with ASTM C-94 and with aggregates comply with ASTM C-33 and Portland Cement ASTM C-150, Type II.

2. All mixes shall conform to applicable building code requirements listed herein or on the Drawings or on the reviewed Shop Drawings. All mix designs shall be submitted to the City’s Representative for approval before being used. Mix design shall show proportions of cement, fine and coarse aggregate, and water and graduation of combined aggregates. Calcium chloride shall not be added at any mix.

3. Concrete shall be Class B per Caltrans Standards.

4. Cement: All cement shall be Portland cement Type II and shall be the product of one manufacturer. The temperature of cement delivered to the plant shall not exceed 150 degrees Fahrenheit.

5. Aggregates

a. Per Caltrans standards and specifications.

b. Coarse aggregate shall have a minimum cleanliness value of 75.

c. Fine aggregate shall have a minimum of sand equivalent of 75.

d. Any suitable individual grading of coarse aggregates may be used.

6. Exposed Aggregate: Exposed hard, sound, durable, and free of all deleterious materials and staining qualities.

7. Water: All water shall be clean and free from deleterious matter.

8. Admixture: No admixture of any type shall be used without prior approval of the City's Representative.

9. Concrete shall be as specified: Class B

a. 28-Day Minimum Strength: Refer to Table in Paragraph 1.5(R) above

b. Concrete slump: Refer to Table in Paragraph 1.5(R) above

c. Air Content: No air entrainment

B. Fly Ash: Pozzolanic admixtures, conforming to ASTM C618, Class C, with weight loss of ignition limited to not exceed 3 percent shall be used in mix designs to replace Portland Cement up to 15% by weight, unless noted otherwise on Drawings or on the reviewed Shop Drawings.

1. Reference: ACI 211.4R-93.

C. Aggregate base for on-grade slabs:

1. 3/8" 'Lodi Brown' as available from Hasties Sand & Gravel (916) 361-2760.

D. Water: Clean, potable (domestic) free from injurious amounts of salts, oils, acids, alkalis, organic materials, or other deleterious matter. Available from source determined by City's Representative.

E. Air Entrainment: ASTM C260.

F. Admixtures: Admixtures containing chlorides are not permitted. All admixtures shall be mixed in accordance with manufacture's written recommendations.

2.03 ACCESSORIES

A. Tie Wires: Black annealed, ASTM A-82, minimum 16 gauge.

B. Chains, Bolsters, Bar supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete.

C. Stirrup Steel: ASTM A-82.

D. Snap Ties: Snap-off metal of fixed length capable of leaving no metal within one and one-half (1 1/2) inches of surface nor causing fractures, spall or other defects larger than one (1) inch in diameter.

E. Expansion Joint Materials:

1. Premolded Joint Filler: ASTM D1751, non-extruding and bituminous type resilient filler, compatible with sealant, and having a "guide strip" removable depth gauge.

2. Joint Sealant: ASTM C290, non-snag sealant "Dynatred" by Pecora Corporation, (214) 278-8158 or "Sonolastic Sealant Two-Part" by Sonneborn, (415) 889-9899, or equal.

a. Color shall be selected by the City's Representative from the manufacturer's full color selection.

3. Bond Breaker: Pressure-sensitive tape as recommended by sealant manufacturer

to suit application.

F. Forms:

1. Steel or wood of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal.
2. Use forms that are straight and free of distortions and defects.
3. Use flexible spring forms or laminated boards to form radius bends as required.

G. Form Release Agent: Colorless non-staining, free from oils. Chemical agent shall not impair bonding of paint or other proposed coatings.

H. Form-Facing Materials:

1. All Surfaces: of sufficient strength to hold concrete properly in place and prevent leakage of water from forms.
2. Exposed Surfaces: Matte finish, coated, medium density overlay plywood made for forming. No wood-textured finish will be permitted on exposed concrete unless specified as such.
3. For “Board Formed” concrete finishes rough-sawn nominal 2x6 boards shall be used, with surfaces sand-blasted to reveal natural grain. 1 x 6 may be used for gently curved faces, with sufficient bracing to prevent “pop-outs.” Texture shall be approved prior to pouring concrete.

I. Wood Headers:

1. Wood: Construction Heart grade rough Redwood header and stake or pressure-treated rough Douglas Fir stake.
2. Nails: Hot-dipped galvanized.

J. Curing Compound: ASTM C309, Type I-D, Class A.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Verify that subgrade preparation for concrete paving has been completed prior to commencement of work.

B. Surface Drainage:

1. Report in writing conflicts discovered on the site or prior work, which would prevent positive drainage. Correct prior to performing concrete work.
2. Do not permit finished paving surfaces to vary more than 1/4 in. measured with a 10 ft. metal straightedge, except at grade changes. No "birdbaths" or other surface irregularities will be permitted. Properly correct irregularities.

3.02 PREPARATION

A. Templates: Use templates for all anchor plates, bolts, inserts and other items embedded in concrete. Accurately secure so that they will not be displaced during placing of concrete.

B. Piping and Conduit: Do not embed piping, other than electrical conduit, in structural concrete. Locate conduit to maintain strength of structures at maximum. Verify size, length, and location of electrical conduit.

C. Aggregate Base Course: Compact base course to thicknesses and relative compaction shown on Drawings.

3.03 CONCRETE REINFORCEMENT PLACEMENT

A. Fabricate reinforcement in accordance with ACI-315, providing a minimum concrete cover of three inches or as specified in UBC, latest edition.

B. Place all reinforcement in the exact position shown on the Drawings or on the reviewed Shop Drawings and secure in position during the placing and compacting of concrete. Wire bars together with No.16-gauge wire with ties at all intersections except where spacing is less than twelve inches in each direction, in which case tie alternate intersections.

C. Place all sleeves, inserts, anchors and embedded items required for adjoining work or for its support prior to concreting. Fill voids in embedded items temporarily with readily removable material to prevent entry of concrete.

D. Give all contractors and subcontractors whose work is related to concrete or supported by it, ample notice, and opportunity to introduce and/or furnish embedded items before concrete placement.

E. Verify that concrete reinforcement may be installed in strict accordance with all pertinent codes and regulations, the Shop Drawings, and the original design.

F. Bending:

1. Fabricate all reinforcement in strict accordance with the reviewed Shop Drawings.
2. Do not use bars with kinks or bends not indicated on the Drawings or on the reviewed Shop Drawings.
3. Do not bend or straighten steel in a manner that will injure the material.
4. Bend all bars cold.
5. Make all bends for other bars, including hooks, around a pin having diameter not less than six times the minimum thickness of the bar for number 8 and smaller and eight times the thickness for number 9 and larger.

G. Before the start of concrete placement, accurately place all concrete reinforcement, positively securing and supporting by concrete blocks, metal chairs or spacer, or by metal hangers.

H. Clearance:

1. Preserve clear space between bars of not less than one time the normal diameter of round bars.
2. In no case let the clear distance be less than 1 inch or less than 1-1/3 times the maximum size of aggregate. Provide the following minimum concrete covering of reinforcement: 2 inches for pedestrian; 3 inches for vehicular.
3. Concrete below ground deposited against forms: 3 inches.
4. Concrete deposited against earth: 3 inches.
5. Concrete elsewhere: as indicated on Drawings or on the reviewed Shop Drawings.

I. Splicing:

1. Horizontal bars:
2. Place bars in horizontal members with minimum laps at splices sufficient to develop the strength of the bars. Splice 40 bar diameters minimum.
3. Bars may be wired together at laps.
4. Wherever possible, stagger the splices of adjacent bars.
5. Wire fabric: Make all splices in wire fabric at least 1-1/2 meshes wide.
6. Other splices: Make only those other splices that are indicated on the approved Shop Drawings or specifically approved by City's Representative.

J. Dowels/Anchor Bolts: Place all required steel dowels/anchor bolts and securely anchor them into position before the concrete is placed. Bending the dowels after placement of concrete will not be permitted.

K. Obstruction: In the event conduits, piping, inserts, sleeves, or any other items interfere with placing reinforcement as indicated on the Drawings or on the reviewed Shop Drawings, or as otherwise required, immediately consult City's Representative and obtain review of new procedure before placing concrete.

3.04 CONCRETE FORMWORK CONSTRUCTION

A. Construct support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete.

B. Contractor assumes full responsibility in the removal of forms. The length of time forms must remain in place depends on the rate of time required for concrete to obtain a proper strength. Remove forms after the concrete is sufficiently hard to prevent damage to concrete.

C. Circular or curved formwork shall be continuous, complete radii as indicated on Drawings or on the reviewed Shop Drawings. No straight segments in circular/curved formwork shall be accepted.

D. Reuse of Forms:

1. Do not reuse forms if there is any evidence of surface wear or defect which would impair quality of surface.

2. Thoroughly clean and properly coat forms before reuse.

3.05 INSTALLATION

A. Notification: Notify the City's Representative at least 48 hours before placing concrete.

B. Placing Concrete:

1. Unless otherwise indicated or required by the Drawings or on the reviewed Shop Drawings, concrete paving shall be placed on compacted subgrade to thicknesses indicated on the Drawings to 95 percent compaction.

2. Place concrete in accordance with ACI-304 and Section 2605 of the California Building Code. Immediately after depositing, compact concrete thoroughly by mechanical vibration. No vibrating of forms is allowed. Mixing shall be continuous, with no interruptions from the time the truck is filled until the time it is emptied. Concrete shall be placed within one and a half hours from the time water is first added.

3. Ensure anchors, seats, plates, and other items to be cast into concrete are placed, held securely, and will not cause hardship in placing concrete.

4. Ensure reinforcement, inserts, embedded parts, etc. are not disturbed during concrete placement.

5. Pour concrete continuously between predetermined construction and control joints. Do not break or interrupt successive pours such that cold joints occur, unless otherwise indicated on the Drawings or on the reviewed Shop Drawings.

6. Lines and Grades: Elevations requiring accurate placement shall be set by a competent instrument man, using a professional type instrument.

7. For all concrete placed on soil, the subgrade shall be wet and compacted prior to placing.

8. Before placing concrete mixing, conveying, and finishing equipment, forms and reinforcing shall be well-cleaned. Wet form before placing concrete unless oiled forms are used.

3.06 CURING AND PROTECTION

A. Beginning immediately after placement, protect concrete from premature drying, from excessively hot or cold temperatures, and from mechanical injury. Maintain concrete with minimal moisture loss at relatively constant temperature for a period necessary for hydration of cement and hardening of concrete. In hot, dry, and windy weather protect concrete from rapid moisture loss before and during finishing operations with an evaporation – control material. Apply according to manufacturer's instruction.

B. As soon as building flat work has hardened sufficiently to prevent injury to finish, apply an approved concrete curing agent in accordance with the manufacturer's recommendation.

C. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Keep continuously moist for not less than seven (7) days.

D. Excessive cracking as determined by the City's Representative which is aesthetically unacceptable or which will result in premature disintegration of paving shall result in replacement of concrete.

E. Removal of Forms: Remove no sooner than seven (7) days after each pour.

F. Conform to all applicable requirements for curing and protection of concrete, Sections 90-7 and 90-8 of the Caltrans Standard Specifications.

G. Spraying: Spray concrete during the curing period as frequently as drying conditions may require.

H. Curing: Cure concrete in accordance with the ACI Manual of Concrete Practice. During curing period, maintain concrete above 70 degrees F. for at least 3 days or above 50 degrees F. for at least 5 days.

I. Damage and Defacement: Protect all concrete work against damage and defacement during subsequent construction operations until final acceptance.

3.07 CLEANING AND PATCHING

A. Removal: Remove all projecting fins, bolts, wire, nails, etc., not necessary for the work, or cut them back 1 in. from the surface and patch in an inconspicuous manner.

B. Snap Ties: Immediately after removal of forms, cut off snap ties extending from the face of concrete to at least 1 in. deep in the concrete. Fill or plug as detailed in Drawings or on the reviewed Shop Drawings.

C. Voids: Fill holes with a 1:3 cement/sand mortar with the same color as the adjoining concrete. Mix and place the mortar as dry as possible and finish flush with the adjacent surface.

D. Corrective Patching: Correct all defects in concrete work. Chip all voids to a depth of at least 1 in. with the edges perpendicular to the surface and parallel to form markings. Fill all voids, surface irregularities, or honeycombing by patching or rubbing. Ensure that all concrete surfaces so repaired duplicate the appearance of the unpatched work.

E. Finishing: Work finish surface texture as specified below.

3.08 FINISHES

A. Medium Broom Finish:

1. Floating: Float surface once it has sufficiently stiffened. Check planeness of surface with a 10 ft. straightedge in all directions. Cut down high spots and fill lows. Immediately refloat to a uniform non-directional sandy texture.

2. Obtain by drawing a stiff bristled broom across a floated finish.

3. Direction of brooming to be perpendicular to direction of paving.

B. Exposed Aggregate Finish

1. Seeded Exposed Aggregate Finish. Immediately after floating, broadcast a single layer of aggregate uniformly onto the pavement surface. Tamp seeded aggregate into plastic concrete and float to entirely embed aggregate with mortar cover of 1/16 inch.

    a. Prior to the concrete placing operation, all select seeding aggregate shall be thoroughly washed so that it is free of all dust, dirt, and clay particles. The aggregate should be in a damp condition but without free surface water at the time of seeding application. There shall be sufficient select aggregate on hand to complete the seeding once it has commenced.

    b. The seeding operation shall start immediately after the placement of concrete as described above. The select aggregate shall be carefully and uniformly seeded by suitable means so that the entire surface is completely covered with one layer of stone. Stacked stones and flat and slivery particles shall be removed at this time. The aggregate shall be embedded by suitable means. Care shall be taken to not over-embed and deform the surface. Under no circumstances shall areas lacking sufficient mortar be filled with small quantities of the base concrete mix.

    c. Without dislodging aggregate, remove excess mortar by lightly brushing surface with a stiff, nylon bristle broom.

    d. Fine-spray surface with water and brush. Repeat water flushing and brushing cycle until cement film is removed from aggregate surfaces to depth required/

    e. Work shall be planned so that the concrete placing and aggregate seeding procedures are coordinated with the capabilities of the washing and brushing crew.

3.09 JOINTS

A. Construction Joints:

1. Locate and install joints as indicated on the Drawing so they do not impair strength or appearance of slab.

2. All joints and other edges shall be formed in the fresh concrete using an edging tool to provide a smooth uniform impression.

B. Score Joints:

1. Locate and install joints as indicated on the Drawings or on the reviewed Shop Drawings so they do not impair strength or appearance of slab.

2. Score joints shall be formed in the fresh concrete using a jointer to cut the groove so that a smooth uniform impression is obtained. All joints shall be struck before and after finishing.

3. Locate and form joints with 1/4-inch radius edges and 1 inch to 1-1/4 inch deep score at the location as shown on the Drawings or on the reviewed Shop Drawings.

4. All joints and other edges shall be formed in the fresh concrete using an edging tool to provide a smooth uniform impression.

C. Expansion Joints:

1. Locate and install joints as indicated on the Drawings or on the reviewed Shop Drawings so they do not impair strength or appearance of slab.

2. Expansion joints shall be provided at the location and 40-foot maximum intervals as shown on the plans, and at all locations where concrete paving abuts buildings, curbs or other proposed or existing structures. Install as per detail on the Drawings or on the reviewed Shop Drawings.

3. All joints and other edges shall be formed in the fresh concrete using an edging tool to provide a smooth uniform impression.

4. Install backer-rod and joint sealant as indicated on the Drawings or on the reviewed Shop Drawings.
5. Sealing of Expansion Joints: After the curing period, strip out all depth gauge strips and carefully clean expansion joints. Fill with joint compound as shown on Drawings or on the reviewed Shop Drawings. Avoid spilling compound on paved surfaces or overflowing from joint.
6. Protect expansion joints from damage until placement of filler or caulk.

3.10 FIELD QUALITY CONTROL

A. Samples: Contractor shall coordinate with the City's Representative provide samples for testing during the course of the work as described in Article 1.13 Tests and Observations.

B. Field inspection and testing will be performed by a qualified testing laboratory in accordance with ACI 318 and as described in Article 1.13 Tests and Observations.

C. Cost of Testing: Contractor shall be responsible for costs associated with testing.

D. Rejected Materials: Remove off the site all concrete below specified strength.

E. Cost of Removal and Retesting: Contractor shall be responsible for costs associated with removal and costs associated with retesting.

F. Integral color: Color shall be evenly saturated in concrete mix to provide consistent, even, and distinct color in finished installation, including after medium sandblast finish is applied.

G. Defective Work: Remove in its entirety and replace all defective concrete work which after corrective patching, rubbing, etc., fails to duplicate the appearance of unpatched work and/or conform to the standards set forth in these Specifications.

H. Observe formwork continuously while concrete is being placed to see that there are no deviations from desired elevation, alignment, plumbness or camber.

I. If during construction any weakness develops and falsework shows undue settlement or discoloration, stop work, remove affected construction if permanently damaged, and strengthen falsework.

END OF SECTION

SECTION 32 84 00
IRRIGATION

PART 1 – GENERAL

1.01 SUMMARY

A. Scope of Work: Provide complete irrigation system to provide water necessary to sustain planting in healthy condition.

B. Related Sections:

1. General and Project Conditions of the Bid Documents
2. Section 31 23 33 Utility Trenching, Backfilling and Compacting
3. Section 32 90 00 Planting
4. Section 32 98 00 Landscape Maintenance

C. References and Regulatory Requirements

1. American Society for Testing and Materials (ASTM)
   a. D 1784-81 - Standard Specifications for Rigid (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds.
   b. D 1785-86 Standard Specifications for Rigid (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds.
   c. D 2564 Standard Specifications for Solvent Cements for (PVC) Plastic Pipe and Fittings.
   d. F477 Specification for Electrometric seals (gaskets) for joining plastic pipe.
2. National Sanitation Foundation (NSF), requirements for Seal of Approval.
3. Plastics Pipe Institute (PPI), recommendations for hydrostatic design stresses for PVC pipe.
4. State of California Department of Transportation Standard Specifications, latest edition.
5. Permits and Fees: Contractor is responsible to obtain all required permits and pay all associated fees unless otherwise noted.

1.02 SUBMITTALS

A. Material List

1. Manufacturer's product technical data for every product installed shall be submitted prior to performing the work. Product information shall include the manufacturer, model number, and options (if any) for all equipment proposed. Contractor to provide this information to Owner's Representative.

B. MWELO/LCOC; Landscape Certificate of Completion is required per the California Model Water Efficient Landscape Ordinance (MWELO), §492.9, upon the completion of the installation of all landscape improvements.

1. An inspection(s) by the signer of the landscape design plan or signer of the irrigation plans to verify the installation has been completed per the plans (MWELO §492.9.a.1.E.2). Items noted for correction shall be completed by the Contractor, at no additional cost.
2. An irrigation inspection, audit, and audit report are required upon the completion of the installation of all landscape improvements and must be submitted with the Certificate of Completion (MWELO §492.12). Fee for the first audit is a part of this Contract. If additional audits are required due to improper installation, the Contractor will be responsible for any additional audit fees.
3. All landscape irrigation audits shall be conducted by a third-party certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape. (MWELO §492.12.a.)

C. As-built Drawings

1. As-built Drawings showing location of constructed work (if different from locations shown on plan) shall be submitted to the Owner's Representative for review prior to project turnover. Drawings shall include dimensions from two permanent points of reference (i.e., built objects and not including plant material). Items to be located include:

    a. Point of connection

    b. Mainline (maximum dimension interval of 100' along straight runs, dimension all changes in direction)

    c. Valves (all types)

    d. Control wiring (if different from mainline)

    e. Other equipment as directed by Owner's Representative

D. Controller Charts

1. Controller chart shall utilize as-built/record drawing plans (not construction set) as a foundation.

2. Charts indicating the area(s) irrigated by each zone shall be prepared. Multiple sheets may be required to clearly identify all areas.

    a. Charts shall be separated by controller.

    b. The chart shall be prepared on a 11" x 17" print of the plans.

    c. Zones shall be identified by number and by varying colors. Colors shall not be duplicated on any one sheet.

    d. Charts shall be laminated, 10 mils both sides.

    e. Charts shall be prepared and available in the controller enclosure (attached to enclosure, not left loose) or otherwise turned over during the final inspection of the irrigation system, but in any case, prior to project acceptance or turnover.

E. Operation and Maintenance Manual

1. Prepare an Operation and Maintenance manual including the following:

    a. Table of Contents

    b. Contact information including

        i. Contractor's and subcontractors' name, address, email, and telephone number. Guarantee statement.

        ii. Manufacturer's product representative and contact information, if consulted or otherwise contacted in conjunction with construction.

    c. Copy of the irrigation controller schedule provided in the construction drawings.

    d. The irrigation controller schedule as programmed (if different from above).

    e. Product information, parts sheets, installation instructions, and operation manual for all material and equipment installed (as applicable).

F. Additional items & equipment to be furnished:

1. Provide the following to the Owner's Representative prior to acceptance:

    a. Three sets of any special tools or keys required to access or operate any equipment installed.

    b. One quick coupler key and hose swivel for every 10 (or fraction thereof) quick couplers installed.

1.03 QUALITY ASSURANCE

A. Manufacturer's directions and instructions and drawings shall be followed in all cases where information is not provided on the drawings or these specifications.

B. Explanation of Drawings:

1. For design clarity, drawings are generally diagrammatic and not indicative of exact placement or quantities as may be required to complete the work. Any question as to the placement of equipment and line shall be resolved prior to installation.

2. For design clarity, drawings do not indicate all outlets, fittings, sleeves, or other material as may be required to complete the work. Contractor shall review the plans and investigate existing conditions and shall provide all material required to meet existing conditions and install a complete and functional system.

C. Prior to commencing work, Contractor shall:

1. Review the site and resolve all obstructions, conflicts, or discrepancies that may be present.

2. Verify the point of connection and available pressure and flow as indicated on the drawings.

3. Verify the electrical point of connection and coordinate work. (Permanent power connection is required for substantial completion.)

4. Verify sleeves (if indicated as existing).

5. If water for the project is to be provided from any source other than a state-regulated supplier (well, pond, greywater, etc.), contractor shall obtain and provide a water chemistry analysis to the Owner's Representative.

D. Contractor shall furnish a Guarantee on company letterhead bearing the signature of an authorized representative of the company, including the following information:

LANDSCAPE IRRIGATION SYSTEM GUARANTEE

Project Name: _____

Project Location: _____

We hereby guarantee the above-referenced landscape irrigation system we furnished and installed is free from defects in materials and workmanship, and that the work has been completed in substantial conformance with the contract documents. We agree to replace or repair any defects which may develop during the period of one year from the date of acceptance and also to repair or replace any damage resulting from the repair or replacement of the irrigation system at no additional cost to the owner, excepting ordinary wear and tear, unusual abuse, or neglect. We shall make such repairs or replacements within 10 days of written notification by the owner. In the event of our failure to make such repairs or replacements within the time specified, we authorize the owner to proceed to have repairs or replacements made at our expense and will reimburse reasonable costs and charges therefore upon demand.

Signed:_____ Date:_____

Title:_____

Company name: _____

Company address: _____

Contact phone: _____

Contact email: _____

1.04 COORDINATION AND SCHEDULING

A. The Contractor shall be responsible for promptly scheduling and progressing the work so as not to delay the project, including:

1. Coordination with other trades as required.
2. Timing of work and coordinating (temporary and permanent) power, water, and other services or requirements.
3. Notifying the Owner's Representative of the following observations, with the advance time indicated:
    a. Pressure and flow test at point of connection – 7 days
    b. Mainline, control wire, and valve installation and testing – 14 days
    c. Lateral line and sprinkler installation – 7 days
    d. Coverage test – 7 days
    e. Irrigation Audit (via 3rd party) – 14 days
    f. Final Inspection – 7 days

PART 2 - PRODUCTS

2.01 PIPING MATERIALS

A. Polyvinyl Chloride (PVC) Pipe shall be made from National Sanitation Foundation (NSF) approved Type I, Grade I virgin PVC compound conforming to ASTM resin specification D1785. All PVC pipe shall bear the following marked continuously: Manufacturer's name, nominal pipe size, schedule or class, pressure rating in pounds per square inch (PSI), NSF approval, and date of extrusion.

1. Mainline (constantly pressurized) Pipe and Fittings

    a. Mainline 8" and 10": As specified on drawings. Fittings, joint restraints, and saddle taps for outlets shall be Leemco mechanical fittings and Leemco LH (fitting to pipe) and LPP (pipe to pipe) joint restraints. Install per manufacturer's specifications conforming to ASTM D2437.

    b. Mainline and sub-mains 3" to 6": As specified on drawings. Fittings, joint restraints, and saddle taps for outlets shall be Leemco mechanical fittings and Leemco LH (fitting to pipe) and LPP (pipe to pipe) joint restraints. Install per manufacturer's specifications conforming to ASTM D2437. Offsets from hardscape and/or adjacent pipe shall be 8" minimum.

    c. Mainline and sub-mains 2 1/2" in diameter and smaller: As specified on drawings. Fittings and outlets shall be PVC schedule 80 solvent weld, conforming to ASTM D2437. Offsets from hardscape and/or adjacent pipe shall be 6" minimum.

    d. Install tracer wire along entire length of mainline. Tracer wire shall be 14 gauge suitable for direct burial, resistant to UV and high temperature, or approved equal.

    e. Mainline joints shall be minimized to the extent possible within sleeving.

2. Lateral Line Pipe and Fittings

    a. Lateral lines: As specified on Drawings. Fittings shall be PVC schedule 40 solvent weld, NSF approved. No lateral lines shall use 1-1/4" pipe or fittings.

B. Joint Restraints:

1. Class 350, AWWA C153 ductile iron joint restraints and/or restraining fittings shall be used for all mainline piping 3" and larger in diameter.

2. Thrust blocks are not allowed in lieu of joint restraints.

C. Brass Pipe and Fittings shall be 85 percent red brass, seamless, conforming to ASTM B43. Fittings shall be schedule 40 threaded pipe.

D. Copper pipe shall be type 'K', hard tempered seamless conforming to ASTM B88. Soldered joints shall comply with ASME B16.22. Flux shall conform to ASTM B 813, and solder shall conform to B 32. Cast fittings joints shall comply with ASME B16.18.

E. Galvanized Pipe and Fittings shall be schedule 40, threaded and hot dipped galvanized, (verify: if same as ASTM, delete) complying with ASTM A53. Male end of threaded fittings shall be wrapped with three layers of PTFE tape. All galvanized pipe and fittings installed below grade shall be wrapped with two layers of minimum 10 mil. pipe wrap.

F. Sleeves shall be as specified on the drawings.

G. Electrical Conduit shall be rigid non-metallic PVC schedule 40 bell-end, conforming to ANSI/UL 651 and NEMA TC-2.

1. Elbows shall be long-sweep schedule 40 bell-end, conforming to ANSI/UL 651 and NEMA TC-3

2. Couplings, adapters, and fittings shall conform to UL 514B and NEMA TC-3.

2.02 BACKFLOW ASSEMBLIES

A. Shall be as specified on the drawings, conforming to all codes and local jurisdictional requirements.

2.03 VALVES

A. Isolation (mainline) Valves

1. Valves shall be as specified on the drawings and same size as the pipe they are installed on. An isolation valve shall be installed downstream of the backflow device, or if none, at the point of connection, whether shown on the plans or not.

2. Shutoff (SO) valves installed immediately upstream of remote-Control Valves (RCV) shall be Schedule 80 PVC with integrated union for sizes 2” and smaller. Shutoff valves immediately upstream of mainlines larger than 2” shall be gate-type bronze valves.

B. Quick Coupling Valves (QC) shall be as specified on the drawings. Valves shall have a brass two-piece body with a minimum working pressure of 125 psi and be operable with a standard quick coupler key.

C. Remote Control Valves (RCV) shall be as specified on the drawings. Valves have a manual flow adjustment and fully potted solenoid.

1. All remote-control valves shall have a schedule 80 compression coupling installed between the valve outlet and downstream lateral. Compression coupling and valve shall be removable without disturbing the valve box.

a. Spears S110 series; or

b. A.Y. McDonald Mfg. Co 2072 series; or

c. American Granby CCC series; or

d. equal.

D. In-line Check Valves (CV) shall be as specified on the drawings.

E. Mainline Continuous Automatic Air Release Valve(s) shall be as specified on the drawings.

2.04 VALVE BOXES

A. Boxes for isolation valves, quick couplers, air release valve, drip flush valves and drip air relief valves shall be as specified on the drawings. Extension sleeve shall be PVC with a minimum diameter of 6”.

B. Boxes for master valve, flow sensor, RCV’s, and drip filters shall be as specified on the drawings. Color: Valve boxes and lids shall be green or tan for potable water applications and purple for non-potable water designation.

C. Identification: Remote Control Valve box lids shall be heat-branded with the controller and valve number (e.g.: A13). Mainline Air Release Valve shall be branded “ARV.” Quick Coupling Valves shall be branded “QC.” Master Valve shall be branded “MV.” Isolation Valves shall be branded “IV.” Flow sensor shall be branded “FS.”

2.05 MASTER VALVE AND FLOW SENSOR

A. Master Valve: shall be as specified on the drawings.

B. Flow Sensor: shall be as specified on the drawings.

C. Flow Sensor communication cable and Master Valve control wiring shall be as specified by the manufacturer.

2.06 BOOSTER PUMP

A. Pre-assembled packaged unit shall be as specified on the drawings.

2.07 CONTROL WIRING

A. General: all wire shall be new, with wire and insulation intact and free of nicks and cuts.

B. Two-wire path: Polyethylene double-jacketed or UF-B UL PVC double-jacketed two-conductor solid core designed for direct burial with insulation 3/16 inch (.060") thick, high density, sunlight resistant incased in an outer jacket of Polyethylene or PVC conforming to ICEA S-GL-402 or NEMA WC5, having a minimum wall thickness of .045 inches. (#TW-CAB-14) Wire size shall be #14 gauge. Each two-wire path (one per controller) shall have a different wire insulation or jacket color.

C. Communication wiring between sensor(s) and controller shall conform to the manufacturer's requirements and shall be installed in electrical conduit, 3/4" diameter for runs of 50 feet or less, and 1" minimum diameter for longer runs.

D. Traditional low voltage control wiring (at master valve): direct burial solid copper wire, sized according to the length of the run, but minimum 14 gauge for control wires and 12 gauge for common wires. Wire jacket color shall be white for common wire, red for control wires, and yellow for spare wires.

E. Connectors for two-wire path shall be direct bury splice kits pre-filled with epoxy resin, supplied in a two-part composite bag with a barrier separating the epoxy from the polyol. Splice kit shall be designed to encapsulate a one wire connector, stable in applications at elevated temperatures up to 121 degrees C, and with a cure time of 24 hours at 70 degrees F. 3M Scotchcast Connector 3570G-N or equal.

F. Connectors for traditional low voltage control wiring (ie, master valves) shall be as specified in paragraph D, or as follows: direct bury splice kits pre-filled with insulating gel designed to encapsulate a yellow or red twist on wire connector, with a temperature range of 32 to 120 degrees F. Wire splice kits shall be UL-listed for wires carrying greater than 24 volts.

G. Control Wire Conduit: Shall be Gray PVC Schedule 40 electrical conduit; size as required.

2.08 AUTOMATIC CONTROLLERS

A. Controller assembly shall be as specified on the drawings, two-wire type. Controller, enclosure, and options shall be a shop-assembled and hot- tested unit, as available through Hunter. Contact Aaron Madsen at (916) 516-3314.

2.09 LIGHTNING PROTECTION

A. Materials, devices, and other equipment shall be as shown on the drawings, and per equipment manufacturer's requirements.

1. At irrigation controller(s)
    a. (1) copper grounding plate per controller per drawings.
    b. #6 AWG bare copper wire
    c. Earth Contact/Ground Enhancement Material
        i. Grounding material shall:
            (a.) maintain constant resistance for life of system in set form
            (b.) maintain performance in all soil conditions including drought conditions
            (c.) not require re-charging
            (d.) set in a cementitious form
            (e.) be non-corrosive
            (f.) not dissolve, decompose, or leach out with time – exceeding IEC® 62561-7 performance standards.
            (g.) be manufactured by Loresco (Powerset), Pentair (Ground Enhancement Material), or approved equal.

2. At irrigation wiring

    a. Lightning Arrestors for the two-wire path shall be model #DUAL-S as manufactured by Hunter. Spacing and location per manufacturer's requirements, 1000' o.c. maximum and at the furthest point of each loop and end of each run.

2.10 OVERHEAD EMITTER ASSEMBLIES

A. All emitters shall be as specified on the drawings, meet ASABE/ICC 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard", and shall have been documented by the manufacturer to achieve a distribution uniformity (low quarter) of 0.65 or higher using the protocol defined in the standard above.

B. All nozzles shall include radius adjustment features, excepting bubblers.

C. Rising-stem bodies shall include a molded wiper seal with UV resistant material and include internal pressure regulation.

D. Bodies with optional factory-installed check valves shall be installed as required to prevent low-head drainage.

E. All bodies shall be installed on swing arms with 360-degree adjustment in three planes, sized to the inlet of the body.

1. Swing shall be constructed of schedule 40 PVC street elbows, and schedule 80 threaded risers, minimum 6" in length. All threaded fittings shall be wrapped with a minimum of 4 wraps of Teflon tape.

F. When specified on pop-up bodies, bubbler nozzles shall fully retract into the body, and shall not require an adapter to thread onto the riser stem.

G. Multi-Stream, Multi-Trajectory Rotating (MSMTR) Nozzles shall include arc adjustment and radius adjustment to a minimum of -25% of catalog throw. As radius and arc are decreased, the volume of water shall proportionally decrease to achieve matched precipitation rates throughout the range of adjustment.

2.11 ROTOR ASSEMBLIES

A. As indicated on the drawings.

B. All bodies shall be installed on swing arms with 360-degree adjustment in three planes, sized to the inlet of the body.

1. Swing shall be constructed of schedule 40 PVC street elbows, and schedule 80 threaded risers, minimum 6" in length. All threaded fittings shall be wrapped with a minimum of 4 wraps of Teflon tape.

PART 3 – EXECUTION

3.01 PREPARATION

A. Contractor shall review the site and confirm that all preceding work has been completed to allow installation of the irrigation system.

B. Verify water and electrical points of connection (services) and ensure they are adequate to serve the work.

C. Beginning work shall constitute acceptance of the site and suitability of services.

3.02 INSTALLATION

A. Trenching: Provide the following depths for all lines:

1. Mainline and control wiring: 24 inches EXCEPT at living turf sports field area with flat drain system.

2. Lateral lines: 18 inches EXCEPT at living turf sports field area with flat drain system.
3. All lines under vehicular pavement: 30 inches
4. All lines under pedestrian pavement: 30 inches

B. Bedding:

1. Mainline bedding as specified on drawings.

C. Backfilling:

1. Backfilling shall not occur prior to all required observations and tests. Any lines covered prior to these shall be exposed at the contractor's expense.
2. Initial backfill for mainline as specified on drawings.
3. Initial backfill for laterals shall be a fine granular material in a layer 6" deep, or covering the pipe to at least 2" in depth, whichever is greater. Native soil may be used for initial backfill, excepting those rocks, clods, and deleterious material 1/2" in diameter or greater shall be screened out.
4. Backfill shall be compacted to a density at least equal to undisturbed soil in planting areas. Settlement of trenches shall be deemed evidence of insufficient compaction and shall be corrected at the contractor's expense, including adjustment of lines, heads, grades, and replacement of plant material.

D. Backfilling Under Paving:

1. Backfill shall consist of 6" of sand, then screened native material in 6" maximum lifts, compacted to 95% relative compaction. All trenches shall be left flush with the adjoining grade. As a part of irrigation work, contractor shall set in place and cap all sleeving under paving prior to paving work. If piping requires joints under paving, all piping shall be laid, capped, and pressure tested prior to paving work.
2. Piping under existing walks shall be done by jacking or boring. Hydraulic driving shall be permitted only under pedestrian paving not exceeding four feet in length. Where cutting and patching is required, concrete shall be removed to the nearest control joint. New concrete shall match existing finish and color.

3.03 PIPING

A. Piping:

1. Initially fill mainline slowly (maximum velocity 1 foot per second). Vent air from the mainline while filling. Thoroughly flush mainline prior to installing valves.
2. Pipe Clearance: all pipes 4" or greater shall have a minimum clearance of 6" from each other. All pipes 3" or less shall have a minimum clearance of 3" from each other.
3. Flushing: all lines shall be flushed prior to installation of emitter assemblies.
4. Deflection for PVC pipe: Do not exceed a longitudinal bending radius of 300 times the pipe outside diameter or the manufacturer's rated deflection, whichever is less, for either solvent welded or gasketed pipe.
5. Mainline shall in all cases be looped or terminated in a thrust-restrained cap with a minimum of 12" offset to upstream fitting(s).

B. Thrust Restraints:

1. Install thrust restraints on all changes in direction, outlets, joints, and ends, and as otherwise required or recommended by the piping manufacturer. Install per manufacturer's information and direction.
2. Thrust Blocking: Concrete thrust blocking shall be used at the booster pump drop pipes and other constant-pressure piping 2" in diameter or greater and not already receiving thrust restraints, as directed by the City's Representative. Wrap all thrust-blocked pipes with 1 mil.

or heavier plastic sheet prior to placing concrete.

C. Pipe Assemblies:

1. PVC solvent welded joints: follow ASTM D2855, “Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings”.
2. Threaded joints: Do not use male inlet pipe thread (MIPT) adapters. All threaded PVC fittings shall be female end with schedule 80 nipples. Wrap nipple with 2 layers of Teflon thread tape prior to assembly. On PVC to metal connections, work metal connections first.
3. Use fittings to change pipe direction without exceeding deflection limits. For elevation changes, multiple 45 or 22.5 degree elbows shall be used. Do not use 90 degree elbows to change elevation.
4. Use minimum number of fittings required. Do not use multiple shorter lengths of pipe in lieu of one continuous piece.

3.04 BACKFLOW ASSEMBLY

A. Install as shown on the drawings and in conformance with all local codes and local jurisdiction requirements.

B. Locate assembly away from casual view, outside of turf areas. Screen with plant materials, as shown on the drawings or as directed by City’s Representative. Field verify and confirm final location with City’s Representative prior to installation.

C. Use copper or brass as required by code or local jurisdiction for assembly risers. Do not use PVC on backflow assemblies.

D. Install on a concrete pad a minimum of 4 inches thick and extending 6” beyond pump enclosure on all sides, or as detailed by backflow enclosure manufacturer, whichever is greater.

3.05 CONTROL WIRING

A. Install separate two-wire path for each controller.

B. Wiring shall be installed in the same trench as and adjacent to but not on top of the mainline. Wire shall be bundled together and secured with electrical tape at 10 feet intervals.

C. Wiring shall be laid loosely in the trench and snaked from side to side to allow sufficient length for thermal expansion and contraction. Do not pull, stress, or stretch wires.

D. Provide an expansion curl (pigtail) within 3 feet of each wire connection, the greater of 18” or sufficient length to allow the valve to be raised 12” above the finished surface.

E. Field splices between the controller and the remote control valve shall not be permitted without prior approval of the City’s Representative.

F. All splices shall be made with dry electrical connectors within valve boxes.

G. Label all wires in the controller enclosure within 18” of the terminal strip with permanent tags wrapped around the wire, indicating the controller, and valve (for master valve/flow sensor wires).

3.06 AUTOMATIC CONTROLLER

A. Equipment shall be located outside casual view, but accessible for maintenance operations. Field verify controller locations and confirm with City’s Representative prior to installation.

B. Grounding shall be accomplished with grounding plate, as shown in the drawings. Each piece of equipment shall be individually grounded.

C. Assure communication with City’s Central Communication Station. Contractor to coordinate all required tests.

3.07 LIGHTNING PROTECTION

A. Materials, devices, and other equipment shall be installed as shown on the drawings, and per equipment manufacturer's requirements.

1. Irrigation Controllers

a. Install grounding plates per drawings.

b. Refer to manufacturer's specifications for thickness and quantity of earth contact/ ground enhancement material.

2. Irrigation Control Wiring

a. Lightning Arrestors shall be installed along the two-wire path at intervals not to exceed 600'. Install grounding rod at each arrestor.

b. A measured resistance reading of no more than 25 ohms is required at each Lightning Arrestor per ASIC Specifications Section 7.0 – Measuring resistance, item A.

3.08 BOOSTER PUMP

A. Install on a concrete pad a minimum of 4 inches thick, with all required penetrations, and extending 4" beyond pump enclosure on all sides, or as detailed by the manufacturer, whichever is greater. Wrap all penetrations in two layers of pipe wrap where in contact with slab.

B. Install per manufacturer's instructions.

C. Ground per all applicable codes and ordinances.

3.09 FLOW SENSOR

A. Install per manufacturer's instructions. Provide a minimum unobstructed pipe length of 10 times the diameter of the mainline pipe length upstream of the flow sensor, and 5 times the diameter of the mainline downstream of the flow sensor.

3.10 VALVES

A. Remote Control Valve Assemblies, Quick Couplers, and Isolation Valves

1. Install in approximate locations shown on drawings, but in planter areas instead of turf areas wherever possible, and as shown in the details. Valve boxes shall be perpendicular to adjacent walls, walks, or headers, and shall be parallel to each other.

2. Each valve shall be identified with a minimum 2" x 2-3/4" yellow (or purple, for non-potable applications) polyurethane I.D. tag attached to the control wire of the valve.

B. Mainline Air Release Valves

1. Install an automatic air relief valve on all mainlines with vertical elevation difference of 15 feet or more, and on all mainlines exceeding 2,000 linear feet, whether shown on the drawings or not. Air relief valve shall be 1" for mainlines up to 8" in diameter. Install at localized high point on mainline and verify location with City's Representative in field prior to installation.

C. Master Valves

1. Install per manufacturer's instructions and as shown on the drawings.

3.11 OVERHEAD EMITTERS/SPRINKLER ASSEMBLIES

A. Install as detailed in the drawings. Where adjacent to headers or hard surfaces, locate such that edging equipment can pass between the adjacent edge and emitter without damage to either.

B. In no case shall spacing exceed the manufacturer's listed thrown. Single-stream rotors shall be installed at a spacing of 80% or less of the manufacturer's listed throw.

3.12 FIELD QUALITY CONTROL

A. The mainline and all piping under paving shall be simultaneously pressure and leak tested. Contractor shall furnish force pump and all necessary equipment. Sufficiently brace piping to prevent movement while testing. If concrete thrust blocking is used, allow blocking to sufficiently

cure. Restrain ends of mainlines. Ensure all air is removed from mainline prior to testing.

1. Test with a hydrostatic pressure of 120 psi, or 150% of the operating pressure (sustained mainline pressure), whichever is greater.
2. Observe pressure using a minimum of two gauges, at opposite ends of the mainline. Pressure shall not vary by more than 5 psi during the test.
3. Pressure shall be sustained for a minimum of two hours. If leaks are visible or pressure drops by more than 5 pounds, replace joints and retest.

B. Irrigation system shall be operated in its entirety and shall be adjusted for complete coverage, proper operation, and to reduce or eliminate overspray and water hammer. Adjustments may include:

1. Pressure regulating devices, whether stand-alone or integrated with remote control valves
2. Manual flow adjustment of each remote control valve
3. Arc and radius adjustment of each nozzle.
4. Substitution of variable arc nozzles or reduced radius nozzles if required.

C. The irrigation system, including controller, shall be operable prior to planting.

3.13 CLEAN UP

A. All materials and debris accumulated in conjunction with completing this Work, including trash, excess soil, and empty plant containers, shall be legally recycled or disposed of by Contractor off site.

B. All scars, ruts or other marks in the ground caused by this work shall be repaired and the ground left in a neat and orderly condition throughout the site.

C. The Contractor shall leave the site area broom-clean and shall wash down all walkways and other paved areas, leaving the premises in an excessively neat, clean, and safe condition.

D. Promptly remove soil, debris, or marks created by work from paved areas, buildings, site furnishings, and other appurtenances.

E. Clean vehicle tires before leaving site to avoid tracking soils onto paved areas.

END OF SECTION

SECTION 32 90 00
PLANTING

PART 1 - GENERAL

1.01 SUMMARY

A. Scope of Work: Provide landscape planting, complete in place, as shown and specified including: removal of rock, gravel and other construction related material, sub-grade treatment, soil replacement, rough grading, soil amendment and preparation, finish grading, planting, seeding, staking, header installation, decomposed granite installation, clean-up, and maintenance.

B. Related Sections:

1. General and Project Conditions of the Bid Documents

1.02 SUBMITTALS

A. Submittals shall include but not be limited to the following:

1. Topsoil, Amendments, including fertilizers: Product data including chemical and physical composition, sieve, plasticity, and analytical reports from an approved laboratory source illustrating compliance with industry standards and manufacturer's stated data.
2. Mulch: size, type, and source of material, including data demonstrating compliance with physical and chemical characteristics required herein.
3. Soils fertility testing report(s) (after rough grading). Report(s) to include the following:
    a. percentage of organic matter,
    b. salinity,
    c. pH.
    d. micro and macro mineral nutrients, including concentrations of nitrogen, phosphorus, potassium, calcium, and magnesium,
    e. potential hazards of impediments to plant growth from salinity; sodium, boron, impaired soil structure or drainage,
    f. written recommendations for soil amendment application rates, and
    g. infiltration rates.
    h. Soil Texture
4. Seed: Botanical and common name, percentage by weight, percentages of purity, germination and weed seed for each grass seed species.
5. Schedule indicating anticipated dates for plant delivery, inspections, reviews, and planting.
    a. Provide documentation at least 60 days before planting certifying that all plant material is available, listing sources of materials.
    b. Contractor is responsible for securing all material in a timely manner so as not to disrupt overall project schedule and allowing for customs and agricultural inspection (if necessary) for materials that may not be locally available.

B. Quality Assurance Submittals:

1. Plants shall be subject to inspection and approval by City's Representative at place of growth or upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. The health and vigor of the plant material is the sole responsibility of Contractor.

2. City’s Representative may request delivery tags for bulk materials and receipts for other materials.

1.03 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery

1. Deliver all packaged and/or manufactured products to the site in unopened containers bearing manufacturer's guaranteed chemical analysis.
2. Deliver all plants with legible identification labels.
    a. Label trees, shrubs, bundles of plants, or groundcover plants.
    b. Include correct botanical genus, species, and cultivar indicated on plant list.
    c. Use durable labels with water- and UV- resistant ink which will remain legible for at least sixty days.
3. Transport plants in enclosed or covered conveyances. Protect plant material during delivery and while temporarily stored to prevent damage to root ball and leaves, including, if necessary, application of anti-desiccants.
4. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

B. Storage

1. Store plant material in shade and protect from weather.
2. Maintain and protect plant material not to be planted within 4 hours of delivery in a healthy, vigorous condition.
3. Store seed, mulch, fertilizer, and other products with protection from weather or other conditions that would damage or impair the effectiveness of the product.

C. Handling

1. Contractor is cautioned to exercise care in handling, loading, unloading, and storing of plant materials. Plant materials that have been damaged in any way shall be discarded and shall be replaced with undamaged materials at the Contractor's expense.

1.04 COORDINATION AND SCHEDULING

A. Perform planting only when weather and soil conditions are suitable in accordance with standards of industry.

B. Scheduling: Install trees, shrubs, and liner stock plant material after irrigation system is installed and inspected, after soil amendments have been incorporated and finish grades have been achieved, and before wood mulch is spread.

C. Observation Schedule. Contractor shall notify City’s Representative in advance for the following site visits, according to the time indicated:

1. Plant material review or tagging at growing site - notify City’s Representative at least 30 days before planting.
2. Pre-job conference - 7 days.
3. Final grade and soil preparation review - 48 hours.
4. Plant material, plant layout, and planting operation review – 3 days.
5. Pre-maintenance - 7 days.
6. Final acceptance - 7 days.

1.05 SAMPLES AND TESTS

A. City's Representative reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request. Rejected materials shall be immediately removed from the site at Contractor's expense. Cost of testing of materials not meeting specifications shall be paid by Contractor.

B. Contractor shall arrange for a soil fertility analysis by a certified soil testing laboratory after rough grading operations are complete. At minimum, provide one test of each source of imported soil, four tests of soil at a depth of 4-6 inches for turf areas, and six tests of soil at a depth of 8-12" for shrub and groundcover areas.

1.06 GUARANTEE AND REPLACEMENT

A. All plants and other materials installed shall be guaranteed against any and material failures, decline, and/or workmanship for the duration of the maintenance period. Any plant found to be dead or not in a satisfactory or healthy condition due to faulty materials, workmanship, natural occurrences, or improper maintenance shall be replaced immediately by the Contractor at no additional expense to the City.

B. The City's Representative shall be the sole judge as to the condition of plants and other materials. Material to be replaced within the guarantee period shall be replaced by the Contractor within twenty days of written notification by the Owner. All replacement materials and installation shall comply with the Drawings and Specifications.

PART 2 - PRODUCTS

2.01 GENERAL

A. Specific amendments and fertilizer amounts will be determined after rough grading operations are complete and soil fertility test results are provided by the Contractor and approved by the City's Representative. The amounts listed in the Preparation section are considered minimum amounts for the project unless directed otherwise.

2.02 PLANTING SOIL CONDITIONER

A. Gro-Power Plus (no known equal): Humus (bacteria included based fertilizer and soil conditioner with soil penetrant shall consist of the following percentages by weight: 5% nitrogen, 3% phosphoric acid, 1% potash, 50% humus, and 15% humic acids.

2.03 PLANTING ORGANIC AMENDMENT

A. Organic amendment shall be nitrogen stabilized composted wood residual or compost containing 0.56 to 0.84 percent N based on dry weight.

B. Particle Size: 95 - 100 percent passing 6.35 mm standard sieve, 80 - 100 percent passing 2.33 mm standard sieve.

C. Iron Content: Minimum 0.08 percent dilute acid soluble Fe on dry weight basis.

D. Ash: 0-6.0 percent (dry weight).

2.04 SOIL AMENDMENTS

A. Soil Sulfur: Agricultural grade sulfur containing a minimum of 99 percent sulfur (expressed as elemental).

B. Iron Sulfate: 20 percent Iron (expressed as metallic iron), derived from ferric and ferrous sulphate, 10 percent sulfur (expressed as elemental).

C. Calcium Carbonate: 95 percent lime as derived from oyster shells.

D. Gypsum: Agricultural grade product containing 98 percent minimum calcium sulphate.

2.05 FERTILIZER

1. General Fertilizer: Pelleted or granular form shall consist of the following percentages by weight and shall be mixed by commercial fertilizer supplier: 16 percent nitrogen, 6 percent phosphoric acid, and 8 percent potash.
2. Turf Starter Fertilizer shall consist of the following percentages by weight: 16 percent nitrogen, 20 percent phosphoric acid, and 0 percent potash.

2.06 LANDSCAPE TOPSOIL

A. On-site stripped and stockpiled topsoil (if any) shall be considered suitable for planting upon receipt of a soil fertility analysis. Imported soil shall be of a sandy-loam texture, free of refuse, roots or other un-decomposed whole organic material, parasitic nematodes, rocks, clods, clay, or other deleterious material. A minimum of one soil fertility test shall be supplied for each source prior to import.

B. Particle Size:

CLASS	PARTICLE SIZE	MAX. % WT.	MIN. % WT.
Coarse Sand	0.5-2.0 mm	15	0
Silt Plus Clay	< 0.05 mm	50	25
Silt	0.002 - 0.05 mm	30	10
Clay	0 - 0.002 mm	25	10
Gravel	2 - 13 mm	15	
Rock	> 1/2 inch	10% by volume, none > 1 inch	0
Organic Matter		15	0

C. The pH of saturated paste shall be between 5.5 and 7.5 without high qualitative lime content. The sodium absorption ratio (SAR) shall not exceed 6 and the electrical conductivity (ECe) of the saturation extract of this soil shall not exceed 3.0 milliohms per centimeter at 25 degrees centigrade. The boron content shall be no greater than one part per million as measured on the saturation extract.

2.07 TOPSOIL FOR TURF AREAS

A. On-site stripped and stockpiled topsoil shall not be considered suitable for planting.

B. Top 8” of natural turf area imported soil shall be a mix imported material of a sandy loam to a loamy sand texture, free of refuse, roots or other un-decomposed whole organic material, parasitic nematodes, rocks, clods, clay, or other deleterious material. A minimum of one soil fertility test shall be supplied for each source prior to import.

C. Approved Suppliers of Topsoil or equal

1. Cascade Rock, Topsoil
    a. 65% Sand, 22% Silt and 13% Clay
    b. Verification submittal through recent testing of % sand is required.
2. TMT Enterprise, Topsoil
    a. Verification submittal through recent testing of % sand is required.

2.08 PLANT MATERIAL

A. Plants shall be in accordance with the California State Department of Agriculture's regulation for nursery inspections, rules, and rating. All plants shall have a normal habit of growth and shall be sound, healthy, vigorous, and free of insect infestations, weeds, plant diseases, sun scalds, fresh abrasions of the bark, excessive abrasions, or other objectionable disfigurements. Tree trunks shall be sturdy and have well "hardened" systems and vigorous and fibrous root systems that are not root or pot bound.

B. Root conditions of the plants provided by Contractor in containers will be determined by removal of earth from the roots of not less than two plants or more than 2 percent of the total number of plants of each species or variety. Where container-grown plants are from several sources, the

roots of not less than 2 plants of each species or variety from each source, will be inspected. In case the sample plants inspected are found to be defective, the City's Representative reserves the right to reject the entire lot or lots of plants represented by the defective samples.

C. The size of the plants shall correspond with that normally expected for species and variety of commercially available nursery stock, conforming to ANSI Z60.1, "American Standard for Nursery Stock," or as shown on the Drawings, whichever is greater. The minimum acceptable size of all plants measured before pruning with the branches in normal position. Plants larger in size than specified may be used without prior approval.

D. All plants not conforming to the requirements herein specified, shall be considered defective and such plants, whether in place or not, shall be marked as rejected and immediately removed from the site of the Work and replaced with new plants at the Contractor's expense.

E. Pruning: At no time shall trees or plant materials be pruned, trimmed or topped prior to delivery and any alteration of their shape shall be conducted only with the approval and when in the presence of the City's Representative.

F. Trees specified as multi-trunked shall have at least three primary leaders from the base of the tree. Trees not otherwise specified shall straight, single trunks, with even branching, no split crotches, co-dominate leaders, or closely spaced branches, and shall have a central leader that has not been cut, bent, scared, or broken.

G. Plant material shall be true to botanical and common name and variety as specified in "Annotated Checklist of Woody Ornamental Plants in California, Oregon and Washington," published by the University of California School of Agriculture (1979).

H. Nursery Grown Stock shall be grown under climatic conditions similar to those of the project. Container stock shall be in vigorous, healthy condition, not root-bound or with root system hardened off. Liner or flat plant material shall be well established in removable containers with roots sufficiently developed to hold homogenous soil sections.

2.10 TURF AND NATIVE EROSION CONTROL SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with the Association of Official Seed Analysts' "Rules for Testing Seeds" for purity and germination tolerances.

B. Seed Mixture: Provide seed of grass species, cultivars, and (if listed) proportions by weight as listed on the drawings.

1. Minimum germination: 70%.
2. Maximum inert material: 4%.
3. Weed or crop seeds: less than 1% (No noxious weed seeds allowed).
4. Date tested: within the previous twelve months.

C. Seed shall be fast germinating and establishing Texas & Kentucky Hybrid Blue grasses from seed.

D. Approved Seed – As specified on drawings.

1. Supplier shall be Ewing Irrigation & Landscape Supply- (916) 447-9530.

2.11 STAKING MATERIALS

A. Tree stakes: round and uniform with chamfered top and conical point, two-inch diameter, 8 or 10 foot length as required for height of tree, Lodgepole Pine or Douglas Fir, treated for resistance to decay with Alkaline Copper Quaternary (ACQ) or Copper Azoles (CA-B). Stakes treated with arsenic or chromium compounds will be rejected.

B. Tree Ties: Vinyl impregnated Nylon or Vinyl, black, 1" wide, UV resistant, waterproof, tensile strength 300 pounds, bursting strength 300 psi. 24" for trees 15 gallons and smaller, 32" length for 36" box to 48" box trees. Tree ties shall be Arthur Enterprises "Super Tree Tie", V.I.T. Enterprises "Cinch Tie", or equal.

C. Tree Guys: 18 gauge, six-strand galvanized steel wire with minimum 2 x 2 x 18” long treated stakes

2.12 WATER

A. Provide or use only from approved water source.

2.13 MULCH

A. Shall be “wood chip mulch” available from green waste recyclers.

B. The mulch shall consist of fibrous, woody mixture of varied size, maximum 3”, with the following characteristics:

1. Physical Properties:

Percent Passing	Sieve Size
90-100	1-inch diameter
80-100	1/2-inch diameter
20-60	1/4-inch diameter

2. Chemical Properties:

a. Acidic, maximum pH 5.0
b. Maximum ash 7% based on dry weight
c. Minimum moisture content 30% at time of delivery based on fresh weight.

2.14 HYDROSEED COMPONENTS

A. Wood cellulose fiber mulch: shall be specially prepared wood cellulose fibers with no growth or germination inhibiting factors and dyed green to facilitate visual metering during application. Wood cellulose fiber shall disperse rapidly in water to form a homogeneous slurry and remain in such state when agitated by a hydraulic mulcher. Fiber mulch shall have a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.

B. Binders/Tackifiers: non-asphaltic, non-toxic, and free of plant growth or germination inhibitors. “Super Tack,” (Rantec Corporation), “Triple Tac” (NaturesOwn), "AM-TAC" (AZ-TAC Products, Inc.), or as recommended by fiber-mulch manufacturer for slurry applications.

C. Fungicide: "Subdue" (Ciba-Geigy) or equal.

D. Weed Control: selective preemergence herbicides: Enide (Upjohn), Dymid (Elanco Products Co.), Treflan, Eptan, Surflan, or equal.

2.15 HYDRAULIC MULCHER

A. Equipment used for slurry application shall be of commercial quality with an internal agitation system, and operational capacity sufficient to agitate, suspend, and homogenously mix slurry.

B. Tank capacity shall be a minimum of 1,000 gallons and shall be truck mounted, or otherwise able to access the site.

C. Distribution line shall be of sufficient size to prevent stoppage, allow for even distribution of slurry, and be free of leaks or loose connections.

D. The pump shall be able to generate a minimum of 150 psi at the application nozzle.

2.16 TREE ROOT BARRIERS

A. As specified and/or shown on the Drawings.

2.17 SAND

A. Shall be fill sand with 100% passing a #4 screen, 85% passing a #8 Screen and less than 4% passing a #200 screen.

1. Quantities: Sports Fields: 2.5” compacted.

2. Order quantities based on 1.35 tons per cubic yard.

B. Pre- approved suppliers (or equal):

1. West Coast Sand & Gravel: contact JR, 916-386-8177
2. TMT. Contact Matt Moore, 408-432-9040
3. CL Smith, Woodland, California. Contact: Doug 530-662-2633

2.18 PLANTER DRAINAGE ROCK

A. Drainage rock shall be 3/4 minus angular or crushed rock and shall be clean, hard, durable, and uniform in quality.

PART 3 - EXECUTION

3.01 INSPECTION

A. Verify that that planting soils have been cleared of all construction debris, including gravel, concrete, concrete washout, paints, asphalt, etc.

B. Verify that final grades have been established to within 1/10 foot prior to commencing planting operations. Provide for inclusion of all amendments, settling, etc. Contractor shall be responsible for finish grading, including shaping all planting areas, including swales and basins, as indicated on Drawings.

C. Lime treated soils shall be considered unsuitable for planting and shall be removed from all planting areas to a depth of 24” or the depth of treatment, whichever is greater, and replaced with topsoil.

D. Prior to planting, inspect trees, shrubs and liner stock plant material for injury, insect infestation and trees and shrubs for improper pruning.

3.02 SOIL PREPARATION

A. Pre-plant Weed Control

1. If live perennial weeds exist on site at the beginning of work, spray with a non-selective systemic contact herbicide, as recommended and applied by an approved licensed landscape pest control advisor and applicator. Leave sprayed plants intact for at least 15 days to allow systemic kill. Clear and remove these existing weeds by mowing or grubbing off all plant parts at least 1/4 inch below the surface of the soil over the entire area to be planted.
2. After irrigation system is operational, apply water for 5 to 10 days as needed to achieve weed germination. Apply contact herbicides and wait as needed before planting. Repeat, if required by City’s Representative.

B. Soil Amendment

1. After approximate finished grades have been established, hardened or previously unworked areas shall be broken up by ripping, an excavator, or other suitable equipment to a minimum depth of eight inches.
2. Soil amendments shall be uniformly spread and cultivated thoroughly using a mechanical tiller into the top 6 inches of soil. Areas around existing plants to remain shall be cultivated with hand tools.
3. The following amendment rates establish minimum requirements per 1,000 square feet and are listed for bidding purposes. Specific amendments and fertilizer amounts will be determined after rough grading operations are complete and soil samples are tested by the Contractor and approved by the City’s Representative. The amounts listed below are considered minimum amounts for the project, regardless of soils fertility reports, unless directed otherwise by the City’s Representative.

    a. Nitrogen stabilized organic amendment – 3 cubic yards
    b. Planting fertilizer - 18 lbs.
    c. Soil Conditioner – 150 lbs.
    d. Gypsum - 200 lbs.

e. Soil sulfur - 20 lbs.
f. Iron – 2 lbs.
g. Calcium carbonate – 2 lbs.
h. For annual color areas, in addition to the above, incorporate 3 cubic yards organic amendment and 20 cubic feet of Perlite.

C. Final Grades:

1. Remove all rocks, whole organic materials (roots, stumps, etc.), construction debris, or other deleterious materials 1” or greater from the top 6” of soil in planting areas.

2. Fine grades below adjacent paved areas, sidewalks, valve boxes, headers, clean-outs, drains, manholes, etc. shall be as follows: hydroseeded areas, ½ inch; sodded areas, one inch; shrub and groundcover planting areas, 1/2 inch plus the depth of mulch indicated on Drawings below adjacent improvements.

3. Final grading shall ensure proper drainage of the site, with positive surface flow to all catchment inlets, areas, and structures. Surface drainage shall be away from all building foundations.

4. All planting areas shall be compacted and settled by application of heavy irrigation or light roller to a minimum depth of twelve inches.

5. Minor excess soil may be incorporated into planting areas to form minor berms not exceeding slopes of 12:1 without prior approval. Dispose of any unacceptable materials or excess soil legally at an offsite location at no additional expense to the owner.

3.03 TURF AREA SOIL PREPARATION AND SOIL AMENDMENT

A. Irrigation

1. Irrigation system installation must be inspected and approved by a representative of the City or the Landscape Architect prior to the backfill of the trenched area and proceeding to the next.

a. All irrigation lateral lines, main lines and swing joints are to be installed prior to amending of the soils.

i. Where the swing joints attach, cap the fitting, drill a 1/4" hole in the cap, and point it upward.

b. Bury swing joints a min of 12” below finish grade, to be deeper than the rototilling machine will reach.

B. Sand and Soil Import

1. Laser grade the field subgrade to 8.5” below final grade shown on plans.

2. Import and evenly spread 6” (Compacted depth measurement) of approved turf area topsoil. Topsoil to be wheel rolled and Laser grade to be 0,5” below finish grade.

C. Soil Amendment

1. Limit preparation to areas which will be planted promptly after preparation.

2. Laser grade new turf areas in preparation of scheduled amendments.

3. Spread approved Gypsum at the rate of 38 lbs./1000 sq. ft. evenly over the field.

4. Spread the approved Potassium at the rate of 16 lbs./1,000 s. ft. evenly over the field.

5. Mix Approved liquid nitrogen with enough water to cover the field at a rate of .5 (1/2) gallon per 1,000 sf.

6. Spread compost at the rate of 8 cubic yards per 1,000 sq. ft for living turf areas.

7. Spread Concentrated Soil Conditioner over the area at the rate of 13 cubic yards per acre with the top dresser for even distribution (no front-end loaders or manual spreading).

a. Dry spreader for spreading bagged fertilizer material (can be sling type or drop type-1000 lbs. or larger).

b. Top dresser with a minimum of 4 yards capacity. There is a Speed dresser that holds 8 cubic yards of material or 9 tons, is an 8 ft. wide drop spreader and it can spread 90 tons per hour or 900 tons per day. Nearly dust free

8. Mix the Microbes Food liquid with enough water to apply .5 gallons per acre and spray evenly over the turf area.

9. Mix the dry THI Microbial Starter with enough water to apply 160 lbs per acre evenly over the turf area.

D. Rototilling

1. Turf areas will be roto-tilled at 8” in depth.

2. Two passes in different directions will be required. Rototill approximately 7.5” deep or 1/2" of subgrade on second pass so as not to pick up or disturb subgrade.

3. Rototill with primary equipment as close to edges and valve boxes as can be done safely. Use hand-operated equipment to roto-till adjacent hardscape, valve boxes, and other obstructions.

F. Irrigation

1. Turn on the irrigation system zone by zone and mark each wet spot with flags before moving to the next zone.

2. Carefully remove soil at the wet spot and place it on a tarp next to the hole. Keep amended soil separate from subgrade material and replace in the order removed. Install irrigation equipment, and then dry tamp (moisture will compact this material) the soil around the head and swing joint. Settling shall be evidence of incomplete or incorrect installation and shall be repaired at no additional cost to the City.

3. Conduct irrigation coverage test and verify that no areas of puddling are present. Irrigation system shall be run until the turf area is saturated to verify that no localized ponding occurs within turf areas. Test shall be conducted in the presence of the City’s Representative.

3.04 PLANT INSTALLATION

A. Only as many plants as can be planted and watered on that same day shall be distributed in a planting area.

B. Layout of Major Plantings: Locations for trees and outlines of areas to be planted shall be marked on the ground by Contractor before any plant pits are dug. All such locations shall be approved by the City’s Representative. If underground construction or a utility line is encountered during excavation of planting pits, other locations for planting may be selected by the City’s Representative. Layout shall be accomplished with flagged grade stakes indicating plant names and specified container size on each stake.

C. Planting of Trees and Shrubs:

1. Planting Pit Preparation

a. Excavation for planting shall include the stripping and stacking of all acceptable topsoil encountered within the areas to be excavated for trenches, tree holes, plant pits and planting beds.

b. Protect all areas from excessive compaction when trucking plants or other material to the planting site.

c. All excavated holes shall have vertical sides and shall be of a size that is three times the diameter and 1 and 1/2 times the depth of the root ball for all trees and shrubs. After pits are dug, roughen the sides of the pit, and loosen soil in the bottom of the pit to a depth of 3 inches. Construct foot-tamped mound in the bottom of the pit to support the plant at the

proper level.

2. Hardpan Conditions:
    a. Where hardpan exists, whether it is in the form of caliche or other impervious clay, and it is within the top 2 and 1/2 feet of soil, use powered equipment to break through completely at each tree location to allow drainage and root growth. Remove hardpan at least one- and one-half feet greater than the root ball diameter of tree. Backfill with soil mix as specified.
    b. Where hardpan is within the first 12 inches of soil, it shall be completely penetrated for all shrubs and trees.
3. Rock Conditions:
    a. Where rock is encountered, tree planting pits shall be extended in the direction of the underlying rock slope until the bottom of the tree pit is in soil. Tree pits dug in rock shall not be accepted.
4. Percolation Testing and Remediation
    a. Percolation tests are required for all trees. Tree pits shall be filled with water and the drainage rate observed. Percolation rate shall be a minimum of the depth of the tree pit within 24 hours.
    b. If percolation/drainage rate is less, then tree pit drainage shall be installed. Refer to details and plans.
5. Plant Container Removal
    a. Do not handle container plants by the tops, stems or trunks at any time. Lift all plants so that the root ball is supported from the underside. Plants that do not have a satisfactory root system will be rejected. If plants do not have young feeder roots showing at the edge of the container, loosen their roots and score the root ball with a 1/2-inch-deep vertical line to encourage new feeder root development.
    b. Containers: Cut containers on 2 sides with a can cutter designed for the job. Do not injure root ball. Do not cut containers with spade or ax. After removing plant, superficially cut edge roots with knife on 3 sides.
    c. Boxes: Remove bottom of plant boxes before planting. Remove sides of box without damage to root ball after positioning plant and partially backfilling.
6. Planting
    a. Center plant in pit or trench. Root flare shall be approximately 1 inch above finish grade, such that the first lateral root is at or just beneath the surface.
    b. Face plants with fullest growth into prevailing wind.
    c. Set plant plumb and hold rigidly in position until soil has been tamped firmly around ball or roots.
    d. Backfill for trees and shrubs shall consist of amended native soil and granular fertilizer (applied at manufacturer’s recommended rates by container size). If native soil is unavailable, unsuitable, or contaminated, use imported topsoil.
    e. For succulent plants, incorporate coarse washed sand as 33%-50% of the total backfill, mixed evenly.
    f. All plants which settle deeper than the surrounding grade shall be raised to the correct level, such that the root flare is above finished grade. After the plant has been placed, place backfill to cover approximately 1/2 of the height of the root ball. Fill the remainder of the hole with water to thoroughly saturate the root ball and adjacent soil.
    g. The remainder of the hole shall then be backfilled, and tamped firm.

h. After backfilling, an earthen basin shall be constructed around each plant. Each basin shall be of a depth sufficient to hold at least 2 inches of water. The basins shall be constructed of amended topsoil. Remove basin in all turf areas after initial watering.

7. Pruning shall be limited to the minimum necessary to remove injured twigs and branches, and to shape the plant material as directed by the City's Representative. Pruning shall not be done prior to delivery of plants.

8. Staking of all trees shall be completed immediately after planting. Remove nursery stakes once tree stakes are in place. All stakes shall be installed plumb and as indicated in the Drawings.

9. Damage to trees and shrubs during installation shall be cause for rejection.

D. Plug and Groundcover Planting:

1. Groundcover plants and plugs shall be grown in flats, liners, or containers as indicated on the Drawings. Flat and liner grown plants shall remain in those flats and liners until transplanting. The flat's soil shall contain sufficient moisture so that it will not fall apart when lifting the plants.

2. Planting shall be in straight rows and evenly spaced, unless otherwise noted, and at intervals called out in the Drawings. Triangular spacing shall be used unless otherwise noted on the Drawings.

3. Each rooted plant shall be planted with its proportionate amount of flat or container soil. Plantings shall be immediately sprinkled with water after planting until the entire area is soaked to the full depth of each hole.

4. Care shall be exercised at all times to protect the plants after planting. Any damage to plants by trampling or other operations shall be repaired immediately.

E. Mulch: All planting areas shall be dressed with a 3 inch layer of mulch. Where slopes are 3:1 or steeper, install jute mesh netting under mulch.

3.05 HYDROSEEDED TURF AND NATIVE EROSION CONTROL AREAS

A. Perform work only when weather and soil conditions are suitable in accordance with locally accepted practice. Hydroseeding operations shall not take place if any of the following conditions are predicted in the next 24 hours:

1. Temperatures exceed 95°F.

2. Temperatures fall below 55°F.

3. Wind speeds are at or above 20 mph.

4. Rain is imminent.

B. Hydromulch shall be applied in one application with mechanical hydraulic mulcher. When applied, the wood cellulose fiber must form an absorptive mat but not a plant inhibiting membrane, which will allow moisture to percolate into the underlying soil. Hydromulch application shall contain the proper proportions of water to form slurry mixture, and the following components at these specified rates:

1. Seed at ten pounds per 1,000 square feet.

2. Starter Fertilizer at four pounds per 1,000 square feet.

3. Wood cellulose fiber mulch at sixty pounds per 1,000 square feet.

4. Binder at rate recommended by manufacturer.

5. Fungicide at one-third pound per 1,000 square feet.

6. Selective pre-emergent herbicide at rate recommended by manufacturer.

C. Slurry mixture ingredients shall be continuously mixed to form completely homogeneous slurry.

Slurry mixture shall be applied uniformly over the prepared grades at a minimum rate of one hundred twenty-five gallons per 1,000 square feet. Protect adjacent paving, vertical walls, and miscellaneous non-hydromulch areas from overspray. If overspray occurs, clean up at the end of each day's work.

D. Allow slurry mixture to "set" approximately twenty-four hours, then water thoroughly to insure proper seed germination. Repeat watering at regular intervals to keep seed germinating and growing at all times until plant material is established. After establishment, decrease frequency and increase amount of water per application as necessary to maintain strong growth and appearance and maintain grass in a vigorous growing condition until completion of the Contract.

E. Post Plant Fertilizer

1. Catalyst liquid nitrogen product

a. Quantities: 2 gallons/1000 sq. ft. every 30 days of grow in

b. Approved Product- THI Nitro 23-0-0-7CA or pre bid approved equal

3.06 TREE ROOT BARRIER INSTALLATION

A. Install as shown on the Drawings. Surround application (encircling plants) is not allowed.

3.08 CLEAN UP

A. All materials and debris accumulated in conjunction with completing this Work, including trash, excess soil, and empty plant containers, shall be recycled or legally disposed of by Contractor off site.

B. All scars, ruts or other marks in the ground caused by this work shall be repaired and the ground left in a neat and orderly condition throughout the site.

C. The Contractor shall leave the site area broom-clean and shall wash down all walkways and other paved areas, leaving the premises in an excessively neat, clean, and safe condition.

D. Promptly remove soil, debris, or marks created by work from paved areas, buildings, site furnishings, and other appurtenances.

E. Clean vehicle tires before leaving site to avoid tracking soils onto paved areas.

END OF SECTION

SECTION 32 98 00
LANDSCAPE
MAINTENANCE

PART 1 - GENERAL

1.01 SUMMARY

A. Maintain all plants in a vigorous growing condition throughout the maintenance period. Furnish all labor, materials, equipment, and services required. Provide selective pruning as required to promote desired structure, form, and long-term health. Apply supplemental materials, including fertilizers as needed. Apply herbicides and pesticides only as required to remedy significant problems that cannot be otherwise controlled through integrated pest management approaches. At all times, protect the health of users. Include trash, debris, and weed removal from the entire site, including sidewalks and gutters.

1.02 QUALITY ASSURANCE

A. Contractor shall be experienced in horticulture and landscape maintenance practice and shall provide sufficient workers and equipment under supervision of qualified foreman at all times.

B. All equipment shall be maintained in optimal condition, including freshly sharpened blades.

C. Sterilize all cutting tools prior to starting work at each site, and between cuts if disease is present or suspected.

1.03 MAINTENANCE PERIOD

A. Maintain the entire project throughout the course of work and during the 90 (ninety) calendar day maintenance period or until project acceptance.

B. Maintenance period shall not begin until all construction activity, including punchlist items, have been completed, including initial grow-in of turf areas. At a minimum, turf areas shall show a competitive, healthy, and even stand of grass, and shall have been mown at least twice.

C. Maintenance period will begin only upon written notice of completion by the City's Representative.

D. Any day of improper maintenance, as determined by the City's Representative, shall not count toward the completion of the maintenance period.

E. The City shall inspect the project, at a minimum, every month throughout the maintenance period. The contractor shall attend a final walkthrough of the project at least one week prior to the scheduled end of the maintenance period, and again at the scheduled end of the maintenance period, as scheduled by the City's Representative.

1.04 PROTECTION

A. Protect planting areas and plants against damage until final acceptance. Maintenance includes temporary barriers, fences, and signs as required.

1.05 GUARANTEE AND REPLACEMENT

A. Replace all missing, damaged, or otherwise non-performing materials, including plants, with new materials as specified in the contract documents at no additional cost to the City.

B. All repairs and installation of replacement materials shall occur within seven calendar days of notification.

C. The City's Representative shall be the sole judge as to the condition of materials.

1.06 FINAL ACCEPTANCE

A. Final acceptance shall occur only after the maintenance period has been completed and following observation by and approval of the City's Representative. The maintenance period shall end only upon written notice of final acceptance. Refer to section 01 77 00 – Contract Closeout.

PART 2 - PRODUCTS

2.01 GENERAL

A. Provide a monthly record of all chemicals (if any) used on the site.

2.02 FERTILIZER

A. As specified in section 32 90 00 – Planting

2.03 MULCH

A. As specified in section 32 90 00 – Planting.

PART 3 - EXECUTION

3.01 GENERAL

A. All frequencies of work listed in this section shall be considered minimum. Frequency shall be increased as required to ensure a neat and orderly appearance at all times.

B. Nursery stakes and tags shall be removed within the first 15 days of maintenance. Ensure all installed support stakes and ties are securely fastened but allow moderate movement.

3.02 WEEDING

A. All planted areas shall be weeded on a weekly basis. Weeds 3” and larger in any dimension shall be completely removed.

B. Herbicides and pesticides shall only be applied by appropriately licensed operators. Selective herbicide may be used in turf areas to control invasive or noxious weeds. Broad-spectrum herbicides shall only be used in spot applications. No herbicides shall be applied during windy conditions or in a manner that results in overspray or runoff.

3.03 MOWING/EDGING

A. Weekly, all turf areas shall be mown to an even height of 2.5”-3.5.” Mulching mowers shall be used to return grass clippings to the soil. If excess or unsightly clippings are generated, clippings shall be bagged and removed. All debris, including clippings, shall be removed from hardscape areas after mowing and edging.

B. Edging shall be performed with every mowing. Turf areas shall be vertically edged. Where mowing is not possible due to obstructions (signposts, etc.), an edger may be used to trim the turf, but not lower than the mowed height. Any material damaged by improper edging shall be replaced at no additional cost to the City.

C. As needed, turf areas shall be hand-weeded or spot-sprayed with a selective herbicide to eradicate weeds. Resulting or any other bare areas shall be re-seeded by broadcast or hand seeding with a seed mix conforming to the originally installed material.

3.04 FERTILIZATION

A. A general-purpose fertilizer (16-16-16 or similar formulation) shall be applied to all shrub and groundcover beds at a rate of 5 lbs. per 1,000 square feet, in intervals not less than 30 days and not more than 45 days, including applications at the beginning of the maintenance period and just prior to final acceptance.

B. Turf starter fertilizer (6-20-20 or similar formulation) shall be applied to all turf areas at intervals not less than 30 days and not more than 45 days, including just prior to final acceptance.

C. Apply fertilizer evenly to the entire root zone.

3.05 PRUNING

A. Trees and shrubs shall in all cases be pruned according to ANSI 300 (Part 1)

B. Trees and shrubs shall be pruned to promote sound structure and planting intent, as follows.

1. In no case shall shrubs be balled, boxed, or cut into geometric forms.
2. Shrubs groups (more than one of the same species planted adjacent to each other) shall be allowed to grow together.
3. At maturity, plants shall fully and completely fill planting areas unless clearly shown otherwise on the drawings.
4. Except as noted below, shrubs shall not be sheared. Instead, branches shall be "headed back" prior to the ultimate desired length by removing the terminal bud and adjacent leaf groups if necessary for shape and to promote lateral branching.
    a. Straight rows of small-leaved evergreen shrubs shall be pruned as hedges, forming a solid and dense mass as either a border or background.
    b. Groundcover shall be edged by shearing as required to maintain walkway clearance and keep a neat appearance.
5. Dead or declining leaves of strap-leafed plants shall be removed in their entirety, but in all cases, the overall shape of the plant shall be maintained as a hemisphere rather than a vase, allowing leaves to arch toward the ground. Tip-prune leaves with sharp pruners only if needed for appearance.
6. Pollarding or heading back of trees shall not be allowed.

C. All crossing or rubbing branches shall be removed, in favor of the stronger or best placed branch.

D. Tree pruning to maintain required clearances shall be performed as required to maintain:

1. Pedestrian passage: seven feet of overhead clearance
2. Vehicular passage: fourteen feet of overhead clearance from the travel way.

E. Pruning to frame views or for other aesthetic purposes shall be done only as directed by the City's Representative.

3.06 MULCH

A. Mulch shall be reapplied to shrub and groundcover areas throughout the maintenance period as required to maintain the original depths specified.

B. Mulch shall be topped off just prior to final acceptance.

3.07 DEBRIS

A. All clippings, pruning, and other herbaceous or woody material shall be collected and transported to a green waste recycling center at no additional cost to the City.

B. All trash shall be bagged, removed, and legally disposed of off-site.

3.08 IRRIGATION

A. Contractor shall operate, visually inspect, and adjust the system weekly for proper operation and to minimize or eliminate overspray and runoff.

B. Adjust programming as required for optimal plant health, providing deep irrigation without water loss below the root zone, and avoiding overwatering and runoff.

C. Hand watering, if required, shall use a hose-end diffuser, and minimize soil disturbance.

D. Repairs, if necessary, shall be accomplished within twenty four hours, and at no additional expense to the City.

END OF SECTION

SECTION 33 05 05
BURIED PIPING INSTALLATION

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:
   1. Excavation, trenching, bedding, pipe installation, backfilling, and compaction for all underground utilities.

B. Related sections:

   1. Section 31 23 33 Trenching, Backfilling, and Compacting
   2. Section 33 05 31 Polyvinyl Chloride Utility Pipe
   3. Section 33 05 33 Polyethylene Utility Pipe

1.02 REFERENCES

A. ASTM International:
   1. C33, Standard Specification for Concrete Aggregates.
   2. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).
   3. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
   4. D2487, Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
   5. D4253, Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
   6. D4254, Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.

B. City of Gridley's Construction Standards.

1.03 DEFINITIONS

A. Utility: Any buried pipe, duct, conduit, or cable.

1.04 SUBMITTALS

A. Only request submittals needed to verify compliance with Project requirements.

B. See Section 01 33 00 - Submittal Procedures: Requirements for submittals.

C. Shop Drawings: Provide product technical data for all proposed backfill materials including:

   1. Material source
   2. Sieve analysis
   3. Moisture density curves

4. Permeability tests
5. Trench shoring plan approved by registered Civil Engineer in CA.

D. Miscellaneous Submittals:
   1. Controlled Low Strength Material Mix
   2. Trench shield (trench box) certification if employed.
   3. Certification by registered professional structural engineer, registered in the state where the Project is located.

E. Potholing Report: Submit report to Engineer with potholing results for utilities showing:
   1. Utility location in Plan.
   2. Material type.
   3. Pipe size (diameter)
   4. Utility depth, invert elevation.
   5. Submit potholing report to Engineer at least 1 week in advance of desired work by Contractor for excavation pipeline installation.

F. Submit to the Engineer for record purposes copies of the drawings and calculations used to determine the strength, size, and stability of the protective installations. All designs submitted under this section shall be signed by a Structural or Civil Engineer duly registered in the State of California.

G. Prior to the start of any work involving sheeting and bracing, the Contractor shall obtain a valid excavation permit from the Cal OSHA District office as required. A copy of the permit and all accompanying drawings, data, and calculations shall be submitted to the Engineer for record purposes only and not for review or approval.

1.05 QUALITY ASSURANCE

A. Qualifications: The Contractor will hire an independent soils laboratory to conduct in-place moisture-density tests for backfilling to assure that all work complies with this specification.

B. Design Criteria. Contractor shall design and construct temporary and permanent sheeting, shoring, and cofferdams, which are to be used as an aid in construction and portions shall be left in permanently to prevent sediment scour. Design shall be prepared in conformance with applicable requirements of Article 6, “Excavations, Trenches, Earthwork” of Construction Safety Orders of California State Division of Occupational Health and Safety. In addition, sheet piling design shall be based on the material requirements specified herein. Sloping of excavations shall not be employed below the groundwater or maximum aqueduct water elevation. Designs shall be prepared and signed by a Civil Engineer registered in the State of California and shall be based on the stresses for various materials of construction contained in the Uniform Building Code 1994 Edition and latest supplement. The allowable stresses permitted by the Uniform Building Code may be increased 15 percent for temporary shoring used as an aid to construction.

1.06 QUALIFICATIONS

A. Prepare excavation protection plan under direct supervision of Professional Engineer experienced in design of this Work and licensed in the State of

California.

1.07 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.08 COORDINATION

A. Section 013000 - Administrative Requirements: Coordination and project conditions.

B. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 - PRODUCTS

2.01 BACKFILL, BEDDING AND PIPE ZONE MATERIALS

A. Trench Backfill, bedding and pipe zone materials shall be per the City Standard Details and Specifications.

2.02 SHEET PILING

A. Sheeting shall be continuous interlock type. Steel sheeting shall be made in accordance with ASTM A857 from steel meeting the requirements of ASTM A570, Grade 30. Sheeting shall be hot-dipped galvanized per ASTM A123 at a rate of two ounces per square foot total both sides. The sides of each piece of sheeting shall be furnished with an interlock that is continuous for the full length of the sheeting. The interlock shall have an opening of sufficient width to allow free slippage of the adjoining sheet. Sheeting shall be “Metric Sheeting” as manufactured by Contech Construction Products, Inc, or approved equal.

B. Dimensions and Section Properties. Steel sheet piling used for cofferdams or shall be standard rolled metric sections. The sheeting shall be galvanized after fabrication and have the minimum physical and sectional properties; Physical Properties: 5 gauge (0.209 inches), Sectional Properties: Modulus – 6.28 in3, Moment of Inertia – 11.04 in4.

PART 3 - EXECUTION

3.01 TRENCH PLATES

A. Trench plates over open trenches in roadways need to be t-ground so the trench plate is flush.

B. Install temporarily cold patch, if required.

C. Stake or weld trench plates to keep the plates from moving under high traffic volume.

3.02 EXCAVATION

A. Excavation: Remove clay, silt, gravel, hard pan, cobble, loose shale, and loose stone.

B. Excavation for Appurtenances:

1. 12 inch (minimum) clear distance between outer surface and embankment.

C. Trench Excavation:

1. Excavation trenches by open cut method to depth shown on Drawings

and necessary to accommodate work.

a. Support existing utility lines and existing piping where proposed work crosses at a lower elevation. Stabilize excavation to prevent undermining of existing utility and existing piping.

2. Open trench outside buildings, units, and structures:
   a. No more than 200 LF.
   b. Field adjust limitations as weather conditions dictate.
3. Any trench or portion of trench, which is opened and remains idle for 7 calendar days, or longer, as determined by the Owner, may be directed to be immediately refilled, without completion of work, at no additional cost to Owner.
   a. Said trench may not be reopened until Owner is satisfied that work associated with trench will be prosecuted with dispatch.
4. Observe following trenching criteria for trench size:
   a. Excavate width to accommodate free working space.
   b. Maximum trench width at top of pipe or conduit may not exceed outside diameter of utility service by more than the following dimensions:

OVERALL DIAMETER OF UTILITY SERVICE	EXCESS DIMENSION
12 IN or less	12-24 IN

   c. Cut trench walls vertically from bottom of trench to 1 foot above top of pipe, conduit, or utility service; trench shoring or boxes may be required by OSHA due to depth.
   d. Keep trenches free of surface water runoff. Include cost for surface water runoff in the bid item for piping installation. No separate payment for surface water runoff pumping shall be made.

3.03 SHEETING, SHORING, AND BRACING

A. General. Install sheeting and bracing for trench and structure excavation as the work requires. Butt planks to and/or interlock sheets to exclude groundwater and fines, preventing the erosion of voids outside sheeting. In soft, wet ground drive sheeting to a lower level as excavation progresses so that sheeting is embedded in undisturbed earth. Bracing of sheet piling may be permitted to penetrate the structural concrete only as approved by the Engineer. Refer to Section 03100. Install wales and struts at close intervals so as to prevent displacement of the surrounding earth and to maintain safe conditions in the work area. Any damage proven to result from improper installation shall be the responsibility of the Contractor.

B. Temporary sheeting for trench and structure excavation may be removed and re-used. Withdraw individual planks alternatively as the backfill is raised, maintaining sufficient sheeting and bracing to protect the work and workmen. Remove bracing completely. Where unstable conditions occur in the underlying strata from any cause, and withdrawal of sheeting will endanger the work, a portion of the sheeting, including bracing, may be left in place with approval of the Owner. Remove all wood within a zone extending to four (4) feet below finished grade. Leaving such material in place shall not because of an increase in Contract in price.

C. Sheet Piling. The Contractor has the option of using steel sheet piling for temporary protective installations. All piling installations shall be continuous.
    1. Installation of Sheet Piling. Depth of piling shall be sufficient to prevent heave when the trench is dewatered. Piles shall be driven with a hammer with an adequate capacity to complete pile driving without changing hammers. The use of air or water jets to assist in driving the sheet piling will be permitted, providing that the last 5 feet of advance is by driving. Piles shall be driven accurately to the lines and grades shown or required, with each section interlocked with the sheet piles driven previously. To ensure proper alignment of the sheet piles, a driving template or jig shall be used. If any pile is damaged during driving, it shall be removed and replaced. If piles are driven out of interlock or are not properly plumbed or aligned, the piles shall be pulled and re-driven.
    2. Prevention of Damage. In installing, cutting off, or removing sheet piles, every precaution shall be taken to ensure that damage to the structure or pipeline does not occur. If damage does occur, the Contractor shall perform the necessary repairs at his own expense.

D. It is the Contractor's responsibility to protect existing facilities from the consequences of his work. Where any sloped excavation infringes on or potentially endangers any existing facilities or structures, provide shoring, sheeting, and bracing according to shop drawings and calculations signed and stamped by a structural or civil engineer registered in the State of California.

3.04 PREPARATION OF FOUNDATION FOR PIPE LAYING

A. Over-Excavation:
    1. Backfill and compact to 95% of maximum dry density per ASTM D1557.

B. Subgrade Stabilization:
    1. Stabilize the subgrade when directed by the Owner.
    2. Observe the following requirements when unstable trench bottom materials are encountered.
        a. Notify Owner when unstable materials are encountered. Define by drawing station locations and limits.
        b. Remove unstable trench bottom caused by Contractor failure to dewater, rainfall, or Contractor operations. Replace with subgrade stabilization with no additional compensation.

3.05 PIPE LAYING

A. Polyvinyl Chloride Pipe
    1. In accordance with Section 33 05 31.

B. Polyethylene Pipe
    1. In accordance with Section 33 05 33.

3.06 BACKFILLING METHODS

A. Methods shall conform to the City of Gridley's Standard Details and Construction Specifications.

3.07 COMPACTION

A. General:
    1. In no case shall degree of compaction below “minimum Compaction” specified be accepted.

B. Compaction Requirements:
    1. Unless noted otherwise on Drawings or more stringently by other sections of these Specifications, comply with following trench compaction criteria:
        a. Bedding material: 95% of maximum dry density by ASTM D1557.
        b. Backfill: 95% of maximum dry density by ASTM D1557.

C. Compaction requirements shall conform to this specification or the City of Gridley’s Standard Details or Construction Specifications, whichever is more restrictive.

3.08 FIELD QUALITY CONTROL

A. The Owner will be responsible for the following independent third party testing:
    1. Perform in-place moisture-density tests.
    2. Perform tests through recognized testing laboratory.
    3. Perform additional tests until compaction meets or exceeds requirements.
    4. Costs associated with “Failing” tests shall be paid by Contractor.
    5. Assure Owner has immediate access for testing of all soils and approvals, as necessary.
    6. Contractor is to ensure excavations are safe for testing personnel.

3.09 ACCEPTANCE

A. Connection to Existing Facilities and the procedure thereof shall be made upon approval of the Construction Inspector after following requirements for construction and testing conforming to the City of Gridley’s Standard Specifications.

END OF SECTION

SECTION 33 05 09
PIPING SPECIALS FOR UTILITIES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:
   1. The work of this section consists of providing piping accessories and appurtenances for all utility piping, including the decommissioning of the potable water line as an irrigation line and the lowering of the irrigation line.

B. Related sections:
   1. Section 33 05 05 Installation of Buried Piping
   2. Section 33 05 31 Polyvinyl Chloride Utility Pipe
   3. Section 33 05 33 Polyethylene Utility Pipe
   4. Section 33 05 39 Reinforced Concrete Pipe
   5. Section 33 05 61 Concrete Manholes
   6. Section 33 05 71 Cleanouts

1.02 QUALITY ASSURANCE

A. Reference, American Society for Testing and Materials (ASTM).

1.03 SUBMITTALS

A. Materials list and catalog data sheets naming each product to be used identified by manufacturer and type number.

PART 2 - PRODUCTS

2.01 BACKFLOW PREVENTER

A. The backflow preventer shall be a lead-free and conform to the City of Gridley Standard Specifications.

B. The backflow preventer shall meet the requirements of the USC Foundation for Cross Connection Control and Hydraulic Research.

C. Backflow preventer appurtenances shall City of Gridley Standard Specifications.

D. Backflow preventers shall be approved by the City of Gridley.

E. Backflow preventer shall have freeze protection per the City of Gridley Standard Specifications.

2.02 WATER METERS AND APPURTENANCES

A. Water Meter
   1. Water meters shall be installed on all water services, including irrigation services. Work related to the water meter and water service shall conform to the City of Gridley Specifications and Standard details. Water meters shall be provided by the City. Meter idlers shall be installed by the

contractor prior to the installation of the meter by the City. Meter idlers shall be PVC schedule 80.

B. Angle Meter and Corporation Stops
   1. Shall conform to City of Gridley Specifications and Standard details.

C. Compression Fittings
   1. Shall conform to City of Gridley Specifications and Standard details.

D. Meter Box
   1. Per the City of Gridley Specifications and Standard details the final location of the meter boxes shall be determined in the field by the City Engineer or Public Works Director.
   2. Shall conform to City of Gridley Specifications and Standard details

2.03 INSIDE DROP CONNECTION

A. Inside drop connections shall conform to the City of Gridley Specifications and Standard details.

2.04 MECHANICAL RUBBER SEAL

A. Modular, mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the pipe and the wall opening.

B. EPDM seal element suitable for service to 250 degrees F, except seal element shall be silicone or viton suitable for 300 degrees F for aeration piping.

C. Composite pressure plates.

D. 316 stainless steel nuts and bolts.

E. Thunderline Link-Seal, or equal.

2.05 COATING SYSTEMS

A. Wedge and Wedge Assemblies, T-bolts, Bolts and Nuts:
   1. Process through an iron-phosphate spray, rinse and drying in preparation for coating application.
   2. The coating itself shall consist of two coats of liquid Xylan, with heat cure to follow each coat.

B. Casting shall be surface pre-treated with an iron-phosphate spray, rinse, sealer before drying. The coating shall be electrostatically applied and heat cured. Coating shall be a polyester based power to provide corrosion, impact and UV resistance.

C. The coating system shall be EBAA Iron, Inc. Mega-Bond or approved equal.

D. Where the coating systems of this section are utilized, no additional cathodic protection is required

2.06 POTABLE WATER GATE VALVES

A. 2½ inches and smaller: Mueller, M&H, or approved equal with manufacturer's standard bronze, solid wedge disc, rising stem and screwed ends, rated for 200 psi working pressure.

B. Gate valves used on diameters ranging from 3 inch to 12 inch shall be grey cast iron or approved equal. A list of approved valves includes: M & H 4067 RW Gate Valve, Mueller-A-2360 RS GateValve, Clow, AFC or approved equal.

C. All gate valves shall be bronze mounted, shall have a Class 150 pressure rating, and conform to the applicable provisions of AWWA C500.

2.07 POTABLE WATER VALVE BOXES

A. All valve boxes in street and other traffic areas shall be designed to H-20 loading conditions. A list of approved manufacturers and part reference numbers include: Christy (Type G5, Type B 17 by 30 H-20), BES, Brooks, D&L (#K-6004), or approved equal.

B. Riser stock shall be 8 inch diameter PVC C-900 for all main line valves.

2.08 POTABLE WATER FITTINGS

A. PVC- Unless otherwise specified or shown on the approved plans, all fittings to be used with PVC Pressure Pipe shall conform to the standard for "Ductile Iron Compact Fittings for Water and Other Liquids" (ANSI/AWWA C-153/A21.53 for MJ compact fittings; C110 for flange fittings). Approved fitting manufacturers include Sigma, Star, Tyler, Union and US Pipe.

B. All ductile iron fittings shall be mortar lined in accordance with the standard for "Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water" (ANSI/AWWA C-104/A21.4).

C. All fittings shall be wrapped and sealed in accordance with these Standards.

D. The Contractor may use a ductile iron mechanical joint flange adapter designed for AWWA C-900 pipe with connecting PVC Pressure Pipe to flanged fittings or flanged valves. Pipe ends must be cut smooth and square with no bevel. The joint shall be restrained to the PVC pipe using an approved restraint method.

E. Ductile Iron Pipe- Unless otherwise specified or shown on the approved plans, all fittings to be used with DIP shall employ either mechanical joints or restrained joints conforming to the standard for "Ductile Iron Compact Fittings for Water and Other liquids" (ANSI/AWWA C-153/A21.53). Approved fitting manufacturers include Tyler, Union, and US Pipe.

F. All ductile iron fittings shall be mortar lined in accordance with the standard for "Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water" (ANSI/AWWA C-104/A21.4 – Double thickness mortar).

G. All fittings shall be wrapped and sealed in clear polyethylene encasement in accordance with these Standards.

PART 3 - EXECUTION

3.01 POTABLE WATER PIPING

A. All water piping, services and appurtenances shall be installed per City of Gridley Specifications and Standard details.

3.02 POTABLE WATER VALVES

A. All valves and gates shall be installed in the manner and location shown on the plans in strict accordance with manufacturer's recommendations.

B. Valves shall conform to City of Gridley Specifications and Standard details.

3.03 FLEXIBLE COUPLINGS

A. Install where shown on Drawings and where required for ease of installation or removal of pipe, subject to approval of Engineer.

B. Pipelines 4 inches and larger extending from a concrete structure into earth shall have at least two flexible joints within 3 feet of the structure face.

C. Provide tension assemblies as specified in subsection 2.05 of this Specification where necessary to prevent separation of pipe due to internal pressures.

3.04 RESTRAINED MECHANICAL COUPLINGS

A. Install per Manufacturer's recommendations.

3.05 DECOMMISSIONING OF THE POTABLE WATER LINE

A. Confirm sections of water line to be decommission from potable to irrigation with City Engineer prior to planning work.

B. Coordinate shut down of the potable water line with the public works department at least 48 hours prior to commencing work.

C. Isolate and dewater the section of pipe to be decommissioned and dewater to prevent contamination by trench water into potable or irrigation system.

D. All tie ins shall take place in the presence of the City Inspector and per the City Standards and Details.

E. Neatly cut the existing pipe to make connection per the plans.

F. Upon completion of connection all disinfection, testing procedures and inspection procedures must be completed prior to backfill. This applies to the existing potable water line and newly constructed improvements.

3.06 LOWERING OF IRRIGATION LINE

A. Pending construction phasing this work shall be treated as if it is a potable water main.

B. Contractor to confirm limits of line which require lowering due to insufficient cover based on final grade.

C. Coordinate shut down of the potable water line with the public works department at least 48 hours prior to commencing work.

D. Isolate and dewater the section of pipe to be lowered and dewater to prevent contamination by trench water into potable or irrigation system.

E. All tie ins shall take place in the presence of the City Inspector and per the City Standards and Details.

F. Neatly cut the existing pipe to lower per the plans.

G. Upon completion of connection all disinfection, testing procedures and inspection procedures must be completed prior to backfill.

END OF SECTION

SECTION 33 05 31
POLYVINYL CHLORIDE UTILITY PIPE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: The work of this section consists of furnishing, installing, and testing polyvinyl chloride pipe and fittings for sanitary sewer, and potable water.

B. Related Sections:
   1. Section 33 05 05 Installation of Buried Piping
   2. Section 33 05 09 Piping Specials for Utilities
   3. Section 33 05 61 Concrete Manholes
   4. Section 33 05 71 Cleanouts

1.02 QUALITY ASSURANCE

A. This section contains references to some or all the following documents, most recent edition. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

Reference	Title
ASTM D1248	Polyethylene Plastics Molding and Extrusion Materials.
ASTM D1784	Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D1785	Polyvinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2241	Polyvinyl Chloride (PVC) Pressure Rated Pipe (SDR series)
ASTM D2464	Threaded Polyvinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2466	Polyvinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 40
ASTM D2467	Socket Type Poly Vinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2564	Solvent Cements for Polyvinyl Chloride (PVC) Plastic Pipe and Fittings
ASTM D3034	Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings
ASTM D4101	Propylene Plastic Injection and Extrusion Materials
ASTM F402	Practice for Safe Handling of Solvent Cements and Primers Used for Joining Thermoplastic Pipe and Fittings

B. Gravity Sewer Testing
   1. Flow meters shall record the actual volume plus or minus 2 percent.
   2. Air test gauges shall be ANSI/ANSI B40.1, Grade 3A (plus or minus 0.25 percent of full scale accuracy), and 15 psi dial range.
   3. Water test gauges shall be ANSI/ANSI B40.1, Grade 2A (plus or minus 0.5 percent of full scale accuracy), and dial range approximately twice the required test pressure.
   4. All sewer pipe shall be tested according to the City of Gridley Standards and Details.

C. Potable Water Pipe Testing
   1. Testing of the water system shall only occur after joint utility crossings are complete, sewer mains and services have passed pressure test and TV inspections and subgrade

elevations have been met.

2. All potable water pipe shall be testing according to the City of Gridley Standards and Details.

1.03 SUBMITTALS

A. Submit materials list and catalogue data sheets naming each product to be used identified by manufacturer and type number.

B. The Contractor shall prepare and submit one copy to the City of Gridley shop drawings and laying diagrams of all pipe, joints, bends, special fittings, and piping appurtenances.

C. Accuracy certification by approved independent testing labs for flow meters and test gauges. Certifications shall be dated no more than 90 days prior to actual system testing.

D. Prior to testing, provide the following information:

1. All Tests: Describe precautions that will be taken to protect system equipment that might be damaged under test pressures, and the proposed method for rerouting sewer flows where the system must remain in service.

2. Air Test: Describe safety devices on air test equipment and personnel safety precautions during air.

PART 2 - PRODUCTS

2.01 GENERAL

A. For sewer: Pipe and fittings shall be made of PVC plastic having a cell classification of 12454 as defined in ASTM D1784 and shall be SDR-26 (PVC). Sewer pipe shall be green. Additives and filters including but not limited to stabilizers, antioxidants, lubricants, colorants, etc. shall not exceed 10 parts by weight per 100 of PVC resin in the compound.

B. For water: Pipe and fittings shall be made of PVC plastic conforming to AWWA C900-07 and shall be DR-18 Class 235. Water pipe shall be blue. Additives and filters including but not limited to stabilizers, antioxidants, lubricants, colorants, etc. shall not exceed 10 parts by weight per 100 of PVC resin in the compound.

2.02 PIPE

A. All sewer service pipe shall be six-inches diameter and shall be continuously and permanently marked with the manufacturer's name, pipe size, dimension ratio and/or pressure rating in psi. PVC pipe shall have a solid cross-section rubber ring gasket. The gasket shall be securely attached to the pipe to prevent displacement of the gasket when installed in the field. All rubber ring gaskets shall be in accordance with ASTM F477. Lubricant used for field assembly of gasketed PVC pipe shall have no detrimental effect on the gasket, joint, fitting, or pipe and shall be as recommended by the manufacturer. Provide rubber waterstops at the entry of all PVC pipe into manhole bases. PVC gravity sewer pipe and fittings shall conform to ASTM D3034 for diameters from 4-inches to 15-inches. Pipe joints shall conform to ASTM D3212. Pipe shall be solid wall only; profile wall pipe is not allowed.

B. All water piping shall conform to the City of Gridley's standard specifications and details.

2.03 FITTINGS

A. For sewer: Pipe fittings shall be heavy-walled SDR-26 gasketed fittings and conform to ASTM D3034. The ring groove and gasket ring shall be compatible with PVC pipe ends. Flanged fittings shall be compatible with cast-iron or ductile-iron pipe fittings. The strength class of the fittings shall be not less than the strength class of any adjoining pipe. Injection molded sewer fittings with reducing branches shall be a minimum SDR-18 wall thickness in the reducing branch body and reducing branch hub below the gasket race. Manufacturers of injection molded fittings shall be Royal Building Products,

NAPCO, or approved equal.

B. For water larger than 2": Pipe fittings shall be ductile iron per the City of Gridley's Standard Specifications and details.

C. For water less than 2": Pipe fittings shall be per the City of Gridley's Standard Specifications and details.

PART 3 - EXECUTION

3.01 GENERAL

A. All laying, jointing, and testing for defects and for leakage shall be performed in the presence of the Engineer and shall be subject to inspection before acceptance. All material found during the progress of the work to have defects will be rejected, and the Contractor shall promptly remove such defective materials from the site of the work.

B. Installation shall conform to the requirements of ASTM D2321 and to the supplementary requirements or modifications specified herein. Wherever the provisions of this Section and the requirements of ASTM D2321 are in conflict, the more stringent provision shall apply.

3.02 INSTALLATION OF PIPE AND FITTINGS

A. General: In accordance with manufacturer's recommendations and ASTM 2321, whichever is more stringent.

B. Plastic piping exposed to sunlight shall be painted with two coats of latex paint. Color shall be white unless otherwise specified.

C. Pipe and fittings shall be of the sizes indicated. Clean pipe interior of all foreign matter before installing. Pipe shall be square cut with fine tooth saw or other cutter or knife designed for use with plastic pipe. Remove burrs by smoothing edges with a knife, file, or sandpaper. Replace any section of pipe found to be defective or damaged with new acceptable pipe. Handle pipe carefully to prevent gouging or scratching. Any length of pipe having a gouge, scratch, or other permanent indentation more than 10 percent of the wall thickness in depth shall be rejected.

3.03 INSTALLATION OF PUSH-ON JOINT TYPE PIPE

A. Clean gaskets and seats of foreign materials prior to joint assembly. Apply lubricant as recommended by the pipe manufacturer. Carefully insert the spigot end into the bell to prevent entry of dirt and incorrect entry angle. With suitable fork tool, crowbar, or by hand, make the joint to the insertion depth recommended by the manufacturer. When the selected pipe uses joints not designed for full depth insertion, prevent further closure of previously completed joints by restraining movement of the installed line while making succeeding joints.

3.04 TESTING

A. General

1. Testing shall not be performed until each system has been flushed or thoroughly cleaned in accordance with procedures in the section that describes sewer line installation.

2. Prepare each section for testing, using adequate bracing; protect system equipment susceptible to damage by test pressures; make provision for installation of Agency's pressure gauge in parallel with Contractor's gauge, if so requested; and maintain services where required.

B. Gravity Sewer Systems

1. Air Test: Test lines less than or equal to 30 inches in diameter between manholes with low pressure air. Safety requires regulator or relief valve on pressurizing equipment, set at 8 psig. No one will be allowed in manholes while there is air pressure against test plugs.

Lines greater than 30-inches in diameter shall include individual joint testing as specified per these specifications or the manufacturer.

2. Plug all pipe outlets to resist test pressure. Give special attention to laterals. Plug all other pipes in both upstream and downstream manholes.
3. Supply air into the line until the test pressure of 3.5 psi in excess of the ground water pressure is attained or 8 psi, whichever is greater. Allow at least 5 minutes for air temperature in the test section to stabilize.
4. Reestablish the test pressure and start a stop watch. Determine the time required for pressure to drop 1.0 psig.
5. For 6-inch and smaller pipe only, if the pressure does not drop during the stabilization period, and no additional air has been added, the section undergoing test will have passed without further testing.
6. The pipe section will also have passed if the time observed for the pressure to drop 1.0 psig is greater than that determined by using Table 1. Determine the test time from Table 1 (minimum time 60 seconds).

SIZE	Time per 100-feet	SIZE	Time per 100-feet	SIZE	Time per 100-feet
4-inch	0.3-min.	12-inch	1.8-min.	24-inch	3.6-min
6-inch	0.7-min.	15-inch	2.1-min.	27-inch	4.2-min.
8-inch	1.2-min.	18-inch	2.4-min.	30-inch	4.8-min.
10-inch	1.5-min.	21-inch	3.0-min.		

7. When a combination of more than one pipe size is under test, the calculated time for the larger pipe shall apply.
8. For larger sewer pipes, refer to the material specification for testing requirements.

C. Water System Testing
1. Pressure Test: All pipelines shall be tested to a minimum pressure of 100 psi or to a pressure 50 psi above the maximum working pressure. Tests shall be made in the presence of the City Engineer or the City Inspector and done in accordance with the City Standard Specifications and Details
2. Chlorine Disinfection: Shall comply with American Water Works Association Standard for Disinfection of Water Mains (C651-92) and the City Standards.
3. Water Quality Testing: Water Quality Samples shall be taken per the City of Gridley's Standards.
4. Tying into the City System: A tie in procedure shall be submitted and approved by the City per the City Standards.

D. Visual Test For Pipelines

1. Interior visual inspection shall be conducted by the Contractor. The Contractor's Inspector shall visibly inspect the line and record findings. Copies of video inspection shall be provided to the City Engineer for review and acceptance of work.

2. The sewer system shall be completely cleaned by an approved method prior to visual inspection. The sewer system shall be rejected if any of these conditions exist:

    a. For larger sewer pipes, refer to the material specification for testing requirements.

b. Standing water or sags greater than ½-inch in depth.

c. Standing water in services.

d. Offset joints.

e. Cracked pipe.

f. Infiltration.

E. Deflection Testing Of Flexible Pipe

1. Field Inspection for Plastic Pipe and Fittings: Installed pipe shall be tested to ensure that vertical deflections for plastic pipe do not exceed the maximum allowable deflection. All SDR 26 and 35 PVC Sewer Pipe shall be mandrel tested by the Contractor as outlined below. All C905 PVC pipe may be measured by the Engineer for overdeflection above 3%. Maximum allowable deflections for SDR 26 and 35 pipe shall be governed by the mandrel requirements stated herein and shall nominally be the percentage listed of the maximum average ID.

Nominal Pipe Size	Percentage
Up to and including 12-inch	5.0
Over 12-inch to and including 30-inch	4.0
Over 30-inch	3.0

2. The maximum average ID shall be equal to the average OD per applicable ASTM Standard minus two minimum wall thicknesses per applicable ASTM Standards. Manufacturing and other tolerances shall not be considered for determining maximum allowable deflections.

3. Deflection tests shall be performed not sooner than 30 days after completion of placement and densification of backfill. The pipe shall be cleaned and inspected for offsets and obstructions prior to testing.

4. For all pipes less than 24-inch ID, a rigid mandrel shall be pulled through the pipe by hand to ensure that maximum allowable deflections have not been exceeded. Prior to use, the mandrel shall be certified by the Engineer. Use of an uncertified mandrel or mandrel altered or modified after certification will invalidate the test. If the mandrel fails to pass, the pipe will be deemed to be overdeflected.

5. Unless otherwise permitted by the Engineer any overdeflected pipe shall be uncovered and, if not damaged, reinstalled. Damaged pipe shall not be reinstalled but shall be removed from the Work site. Any pipe subjected to any method or process other than removal, which attempts, even successfully, to reduce or cure any overdeflection, shall be uncovered, removed from the Work site and replaced with new pipe.

6. The mandrel shall:

a. Be rigid, non-adjustable, odd-numbering-leg (9 legs minimum) mandrel having an effective length not less than its nominal diameter.

b. Have a minimum diameter at any point along the full length as follows:

Pipe Material	Nominal Size (inches)	Minimum Mandrel Diameter * (inches)
PVC-ASTM D3034 (SDR 26)	4	3.735
PVC-ASTM D3034 (SDR 35)	6	5.619
	8	7.309
	12	10.963

* Mandrel diameters of SDR 26 pipe shall be based on 4% deflection of the average inside diameter.

c. Be fabricated of steel, be fitted with pulling rings at each end, be stamped or engraved on

some segment other than a runner indicating the pipe material specification, nominal size and mandrel OD, (e.g., PVC D 3034-8”-7.524”; and be furnished in a suitable carrying case labeled with the same data as stamped or engraved on the mandrel.

7. All costs incurred by the Contractor attributable to mandrel and deflection testing, including any delays, shall be borne by the Contractor at no cost to the Owner.

END OF SECTION

SECTION 33 05 33
POLYETHYLENE UTILITY PIPE

PART 1 GENERAL

1.01 SUMMARY

A. The work of this section consists of furnishing, installing, and testing polyethylene pipe and fittings for potable water service.

B. Related sections:
1. Section 330505 Installation of Buried Piping
2. Section 330509 Piping Specials for Utilities

1.02 QUALITY ASSURANCE

A. This section contains references to some or all the following documents, most recent edition. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

Reference	Title
ASTM D2239	Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
ASTM D2737	Polyethylene Plastic Tubing

1.03 QUALITY ASSURANCE

A. Piping

1. Submit materials list and catalogue data sheets naming each product to be used identified by manufacturer and type number.
2. The Contractor shall prepare and submit one copy to the City of Gridley shop drawings and laying diagrams of all pipe, joints, bends, special fittings, and piping appurtenances.

B. Testing

1. Testing Schedule and Notification of Disinfection: Submit advance written notice a minimum of 72 hours prior to conducting pipe disinfection.
2. Testing Plan: Submit a written plan that identifies the methods for water disinfection. Comply with AWWA C651.
3. Accuracy certification by approved independent testing laboratories for flow meters and test gauges. Certifications shall be dated no more than 90 days prior to actual system testing.
4. For all tests, describe precautions that will be taken to protect system equipment that might be damaged under test pressures, and the proposed method for rerouting reclaimed water or sewer flows where the systems must remain in service.
5. Pressure Test: Describe the proposed method for disposal of water used in line testing.
6. Test Bulkheads: Submit test bulkhead locations and design calculations, pipe attachment details, and methods to prevent excessive pipe wall stresses.
7. Test Records: Provide records of each piping installation during the testing. These records shall include:
    a. Date of Test.
    b. Identification of pipeline, or pipeline section, tested or retested.
        i. Identification of pipeline material.

ii. Identification of pipe specification.

a. Test fluid.

b. Test pressure.

c. Remarks: Leaks identified (type and location), types of repairs, or corrections made.

d. Certification by Contractor that the leakage rate measured conformed to the specifications.

8. Testing Requirements:

a. Testing shall not be performed until each system has been flushed or thoroughly cleaned in accordance with procedures in the section that describes pipeline installation.

b. Furnish personnel, materials, bulkheads, test plugs, restraints, anchors, temporary connections, pumps, pressure gauges, and other equipment needed to perform disinfection.

c. Water for Disinfection

i. Testing Schedule and Notification of Disinfection: Submit advance written notice a minimum of 72 hours prior to conducting pipe disinfection.

ii. Coordinate with Construction Manager for specific points to draw water from.

iii. Water for testing may be taken from the nearest blow-off, fire hydrant or other approved source, and the source shall be metered at all times.

iv. Supply and install all pipe, fittings, valves, couplings, and other materials needed to fill the test lines with water.

v. Care shall be taken not to contaminate the existing system.

vi. Supply pipe connection and all necessary apparatus and equipment needed for the test.

C. Disinfect all portions of the pipe that have been installed as part of this Contract and installed by others to be included within the finished pipeline.

D. Disinfect all new pipe sections prior to making final connection to existing active operating piping.

PART 2 PRODUCTS

2.01 POLYETHYLENE PIPE

A. Up to and Including 1” Diameter: PE pipe shall conform to AWWA C901, ASTM Designation D2239, PE 3408, SIDR 7, and shall have a pressure rating of not less than 200 psi at 23°C. PE pipes up to and including on inch (1”) in diameter shall be iron pipe size (IPS).

B. Over 1” Diameter: PE pipe shall conform to ASTM Designation D2737, PE 3408, SDR 9, and shall have a pressure rating of not less than 200 psi at 23°C. PE pipes over one inch (1”) in diameter shall be copper tubing size (CTS). PE pipe shall not be used for pipelines larger than three inches (3”) in diameter.

2.02 PERFORATED PVC PIPE

A. General: Pipe and fittings shall be made of PVC plastic having a cell classification of 12454-B as defined in ASTMD 1784 and shall be Schedule 40 (PVC). Additives and filters including but not limited to stabilizers, antioxidants, lubricants, colorants, etc. shall not exceed 10 parts by weight per 100 of PVC resin in the compound.

B. Perforated pipe shall have a water inlet area of 1.0 square inch per linear foot of pipe. Circular holes shall be cleanly cut not more than 3/8 inch or less than 3/16 inch in diameter arranged in

rows parallel to the longitudinal axis of the pipe.

2.03 TESTING

A. Manual Air Release Valves For Buried Piping

1. Provide temporary manual air-release valves for pipeline test. Construct the pipe outlet in the same manner as for a permanent air valve and after use, seal with a blind flange, pipe cap, or plug and coat the same as adjacent pipe.

B. Test Bulkheads

1. Design and fabricate test bulkheads per section VIII of the ASME Boiler and Pressure Vessel Code. Materials shall comply with Part UCS of said code. Design pressure shall be at least 2.0 times the specified test pressure for the section of pipe containing the bulkhead. Limit stresses to 70% of yield strength of the bulkhead material at the bulkhead design pressure. Include air-release and water drainage connections.

PART 3 EXECUTION

3.01 INSTALLATION OF PIPE AND FITTINGS

A. General: In accordance with manufacturer's recommendations and ASTM D2321, whichever is more stringent.

B. Plastic piping exposed to sunlight shall be painted with two coats of latex paint. Color shall be white unless otherwise specified.

C. Pipe and fittings shall be of the sizes indicated. Clean pipe interior of all foreign matter before installing. Pipe shall be square cut with fine tooth saw or other cutter or knife designed for use with plastic pipe. Remove burrs by smoothing edges with a knife, file, or sandpaper. Replace any section of pipe found to be defective or damaged with new acceptable pipe. Handle pipe carefully to prevent gouging or scratching. Any length of pipe having a gouge, scratch, or other permanent indentation more than 10 percent of the wall thickness in depth shall be rejected. Use of cut-off saws and ring saws for cutting pipe of any diameter is prohibited.

D. The pipe shall be placed firmly in the center of the trench and true to line and grade with no visible change in alignment at any joint unless the alignment is shown to be curved in the Improvement Plans. On slopes greater than ten percent (10%) the pipe bells shall be pointed up-grade and laying shall proceed up-grade. The pipe joints shall be assembled according to the manufacturer’s recommendations, these Specifications, and as directed by the Engineer or Inspector, but regardless of the method used the joins shall be watertight. Joint deflection shall not exceed 80% of the manufacturer’s recommended values. If it is necessary that a pipe be moved or that the alignment be adjusted after it has been installed, it shall be removed and rejointed as was accomplished in the original installation. Except as required for backfilling, the Contractor shall prohibit walking or working upon the pipe until backfilling of the trench has been completed. The Contractor shall provide temporary bridging over pipe trenches where it is necessary to provide crossings for workmen and equipment, or access roads. The Contractor shall take all necessary precautions to prevent the pipe from floating due to water entering the trench from any source, shall assume full responsibility for any damage and shall, at his own expense, restore and replace the pipe to its specified condition and grade if it is displaced due to flotation.

3.02 INSTALLATION OF FUSION WELD JOINT TYPE PIPE

A. Sections of polyethylene pipe shall be joined into continuous lengths on the jobsite above ground. The joining method shall be the butt fusion method and shall be performed in strict accordance with the pipe supplier’s recommendations. The butt fusion equipment used in the joining procedures should be capable of meeting all conditions recommended by the pipe supplier. The butt fusion joining will produce a joint with weld strength equal to or greater than the tensile strength of the pipe itself. All field welds shall be made with fusion equipment. Temperature, fusion pressure, and a graphic representation of the fusion cycle shall be part of

the Quality Control records.

3.03 TESTING

A. General

1. Perform testing in the Engineer's presence after backfill and proper compaction of trenches. Where lines are installed under roadways and parking areas, perform tests before and after completion of final subgrade preparation and prior to application of surface courses. Notify Engineer in writing at least 48 hours prior to testing. Notification shall be by the Contractor submitting a test form which shall indicate test date, pipeline to be tested, test requirements and requirements of the Owner.

2. Prepare each section for testing, using adequate bracing; protect system equipment susceptible to damage by test pressures; make provision for installation of Owner's pressure gauge in parallel with Contractor's gauge, if so requested; and maintain services where required.

3. Testing requirements are stipulated in Laws and Regulations; are specified in the specifications covering the various types of piping; and are specified herein. Requirements in Laws and Regulations supersede other requirements of Contract Documents, except where requirements of Contract Documents are more stringent, including higher test pressures, longer test times, and lower leakage allowances.

3.04 PRESSURE TESTING

A. After completion of the installations, Contractor shall test all piping and pipework as herein specified. The Contractor shall furnish all material, equipment, and labor for testing the piping systems.

B. Each system may be tested as a unit or in sections as directed by the Engineer, but each complete system shall successfully meet the requirements specified herein before acceptance by the Engineer.

C. Clean piping before pressure or leak tests.

D. For water testing, the test shall be made by closing valves or providing bulkheads or plugs and filling the pipe lines with water, with provisions made for the release of all air in the lines. Lines shall be filled with water 24 hours prior to testing for leakage to allow for absorption of water by pipe or joint material.

E. Specified pressures or heads of water shall be maintained for the periods of time tabulated herein, except where indicated to be air or vacuum, and the leakage determined. Leakage shall not exceed the tabulated values.

F. Test pressures shall be as indicated herein and by the City. The pressure shall be maintained at all times during the test by restoring it whenever it falls an amount of 5 psi for test pressures above 20 psi and 2 psi for test pressures below 20 psi.

G. If leakage is more than allowable, the Contractor shall repair or replace the pipeline and retest it. Do not use paints, asphalts, tars, or other type of pipe compounds to eliminate leaks.

H. The Contractor shall take all necessary precautions to prevent any joints from drawing while the pipelines and their appurtenances are being tested and he shall, at his own expense, repair any damage to the pipes and their appurtenances, or to any other structures, resulting from or caused by these tests.

I. Where any section of the piping contains concrete thrust blocks or encasement, wait at least 10 days after the pour to begin testing.

J. After a satisfactory test, remove the testing fluid, remove test bulkheads and other test facilities, and restore the pipe coatings.

3.05 DISINFECTION

A. General

1. Following chlorination, thoroughly flush all treated water from the mains until the replacement water, upon both chemical and biological tests, is proved equal to the water quality at the point of supply.

2. All bacteriological tests shall be paid for by the Contractor and performed by either 49er Water Environmental Lab or BSK Associates. All test results shall be provided to the City by the testing lab and approved by the City prior to connecting to the existing system.

3. Disposal of chlorinated water is not allowed. Dechlorinate all water prior to disposal as reviewed by the Engineer.

3.06 DISINFECTION PROCEDURE

A. Disinfect the newly installed potable water pipelines using calcium hypochlorite tablets or the slug method in accordance with AWWA C651. Disinfection inspections shall begin only after passing the pressure test.

B. The Tablet Method consists of placing calcium hypochlorite granules and tablets in a device that prohibits their entry into the pipe, then inserting the device with the tablets into the pipe as it is being installed and filling the water main with potable water when the installation is completed. This method may be used only if the pipes and appurtenances are kept clean and dry during construction. This method cannot be used on solvent-welded plastic or on screwed-joint steel pipe because of the danger of fire or explosion from the reaction of the joint compounds with the calcium hypochlorite.

C. Position valves so that the strong chlorine solution in the treated main will not flow into water mains in active service. Open and close valves and hydrants while the system is being disinfected. The City shall verify that a minimum chlorine residual of 50 parts per million (ppm) has been achieved. Retain treated water at least 24 hours after which time it shall be tested for residual chlorine. If less than 25 parts per million is indicated, additional chlorine in solution shall be added until disinfection satisfactory to the Engineer is obtained.

D. Flush and fill the system with clear water when disinfection has been completed and approved by the Engineer. Chlorinated water shall be neutralized to 1 ppm chlorine residual or less prior to discharge. Discharge location and neutralization methods shall be coordinated with and approved by the City. 72-hour notification to the City is required prior to any discharge of chlorinated water.

E. Chlorinated water resulting from flushing newly installed water lines may be discharged to the City's sewer system. Permission to discharge chlorinated water into the sewer system shall be granted by the City on a case-by-case basis. Prior to discharging into the sewer system, the Contractor shall sign a for authorizing the Department of Public Works to bill for the amount of water discharged into the system. At the end of each flushing exercise, and prior to tying into the City water system, the City shall prepare a bill for water usage based on the meter reading. This bill must be paid before the project is signed off by the City.

F. The Contractor shall have the testing lab test the water after refilling the line and, if not found to be of safe bacteriological quality, Contractor will re-chlorinate the line until the quality of the water is proven to be satisfactory.

G. Where connections are to be made to an existing potable water system, the interior surfaces of all pipe and fittings used in making the connections shall be swabbed or sprayed with a one percent hypochlorite solution before they are installed. Start thorough flushing as soon as the connection is completed, continue until all discolored water is eliminated.

END OF SECTION

SECTION 33 05 61
CONCRETE MANHOLES

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:
   1. The work of this section consists of modifying existing concrete manholes.

B. Related sections:
   1. Section 31 20 00 Earthwork
   2. Section 31 23 33 Trenching, Backfilling, and Compacting
   3. Section 33 05 05 Installation of Buried Piping
   4. Section 33 05 09 Piping Specials for Utilities
   5. Section 33 05 31 Polyvinyl Chloride Utility Pipe
   6. Section 33 05 71 Cleanouts

1.02 REFERENCE STANDARDS

A. AASHTO M306 - Standard Specification for Drainage, Sewer, Utility, and Related Castings.

B. ACI 530/530.1 - Building Code Requirements and Specification for Masonry Structures.

C. ASTM A48 - Standard Specification for Gray Iron Castings.

D. ASTM C150 - Standard Specification for Portland Cement.

E. ASTM C478 - Standard Specification for Circular Precast Reinforced Concrete Manhole Sections.

F. ASTM C923 - Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes, and Laterals.

G. ASTM D1227 – Emulsified Asphalt Used as a Protective Coating for roofing.

H. ASTM D4022 – Coal Tar Roof Cement

I. Occupational, Health and Safety Administration (OSHA).

1.03 SUBMITTALS

A. Shop Drawings and catalog cut sheets shall be submitted for manhole, frames and covers, precast manhole bases and sections, joint sealer, and epoxy lining.

1.04 EXISTING CONDITIONS

A. Field Measurements:
   1. Verify field measurements prior to fabrication.
   2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.01 FRAMES AND COVERS

A. Manhole frames and covers shall be per City Standards or approved equal.

B. Horizontal surfaces of manhole cover seats and under surface of the seat cover which rests upon the frame shall be machined. After machining, it shall not be possible to rock any cover after it has been seated in any position in its frame. Manhole frames and covers shall be designed for heavy duty, H-20 traffic loading. All manholes shall be provided with a nominal 24-inch diameter cover unless otherwise noted on the drawings. Manhole frames shall be capable of receiving standard non-shifting manhole extension (riser) rings.

2.02 PRECAST CONCRETE MANHOLE SECTIONS

Manholes shall be constructed of precast reinforced manhole sections conforming to ASTM C478 and as shown. Precast concrete rings, cones, and flat slabs shall be manufactured by a process that will produce a dense, homogeneous concrete section of first quality. The sections shall be steel reinforced and have a minimum wall thickness of four (4) inches. Cement used in manufacturing the sections shall be Type V, Portland cement, as specified in ASTM C150. Precast concrete sections, cones, and grade rings shall be joined using preformed joint sealant only. Use of mortar will not be allowed. All manholes shall have cast-in-place concrete bases and formed channels with inverts to match the adjoining pipes. Precast manhole base-blocks will not be allowed.

2.03 PRECAST MANHOLE BASES

Precast manhole bases as manufactured by Central Pre-Cast; Jensen Precast; Hanson Precast, or approved equal.

2.04 DESIGN LOADS

A. Vertical Loads: Design all precast manhole rings and accessories to support an AASHTO H-20 truck loading, in addition to soil weight above sloping ring sections and the dead load of all material supported above.

B. Lateral Loads: Lateral loads shall be as dictated by the following formula or the geotechnical report requirements, whichever are more stringent.

Operating: 95 x H (psf) triangular equivalent fluid pressure for dead load plus a live load surcharge from an H-20 truck, including impact.

Seismic: $23 \times H^2$ (psf) uniform pressure distribution.

Where H = depth below finished grade.

2.05 CONES

All manhole cones shall be as shown on the plans and conform to ASTM designation C478.

2.06 JOINT SEALER

The joint sealer shall be Kor-N-Seal 106-406 Series or approved equal.

2.07 MORTAR

Mortar will not be allowed.

2.08 INTERIOR AND EXTERIOR COATINGS

Interior and exterior coatings shall conform to the City Standard Details.

PART 3 - EXECUTION

3.01 MODIFYING EXISTING CONCRETE MANHOLES

A. In accordance with these specifications and the City of Gridley Standard Details and Construction Specifications, whichever is more restrictive.

B. Adjusting to Grade
   1. Manhole neck and frame shall be adjusted to grade and be a maximum of 18 inches. Use of metal grade rings is not permitted.
   2. Manholes constructed in streets shall have the lid bolt holes filled with silicone. Manholes constructed outside of the street or paved area shall be bolted down or closed by other locking mechanism.
   3. Manholes shall be set flush with finish grade in improved areas, unless otherwise noted on the approved plans. Manholes placed in off-site, unimproved areas shall be constructed with the top of the casting cover a minimum of 6 inches above the final surrounding grade. A minimum 12 inch wide concrete collar shall be constructed around the casting and centered in collar.
   4. Manholes placed in landscape areas adjacent to City improvements shall be constructed with the top of the casting cover a minimum of 6 inches above the final surrounding grade. A minimum 12 inch wide concrete collar be constructed around the casting and 6 inches below finish grade

C. Coring into Existing Manhole
   1. Sewer mains or services entering an existing manhole shall be core drilled, without exception. The space between the pipe and the manhole shall be filled with non-shrink grout or a core-n-seal boot or approved equal may be used.
   2. Any work on an existing sewer manhole shall require the manhole to pass a vacuum test as described in the Testing procedures of the City of Gridley Standard Specifications and Details. The work completed shall remain exposed until the vacuum test has been accepted by the City.

D. Drop Connection Criteria
   1. Drop connections shall be permitted under special conditions and with the approval of the City. There shall be no more than one inside drop connection into a 4-foot diameter manhole. If an elevation difference of at least 3 feet is not available, the slope of the incoming line shall be increased to eliminate the need for the drop pipe to manhole connections:
   2. Drop connection shall be installed per the details included in the plans.

E. Testing Procedures:

1. Any work on an existing sewer manhole shall require manhole testing per the City of Gridley Standard Specifications and Details.

END OF SECTION

SECTION 33 05 71
CLEANOUTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:
   1. The work of this section consists of furnishing and installing cleanouts for sanitary sewer systems.

B. Related sections:
   1. Section 33 05 05 Installation of Buried Piping
   2. Section 33 05 09 Piping Specials for Utilities
   3. Section 33 05 31 Polyvinyl Chloride Utility Pipe
   4. Section 33 05 33 Polyethylene Utility Pipe
   5. Section 33 05 61 Concrete Manholes

1.02 QUALITY ASSURANCE

A. Standards, American Association of State Highway and Transportation Officials (AASHTO) and American Society for Testing and Materials (ASTM).

B. City of Gridley Construction Specifications.

1.03 SUBMITTALS

A. Shop Drawings and catalog cut sheets shall be submitted for cleanout meter box and pressure clean-out covers.

PART 2 - PRODUCTS

A. Cleanouts shall be SDR-26 PVC in accordance with ASTM F679. Cleanouts shall be in accordance with the City of Gridley Standard Details.

B. For all sewer services, install round, concrete traffic-rated precast box, Christy G05 or approved equal, with cast iron cover marked “SEWER”.

PART 3 - EXECUTION

A. Installation of cleanouts shall be as shown in the City of Gridley Standard Details and per California Building and Plumbing Code.

END OF SECTION

SECTION 33 41 00
SUBDRAINAGE

PART 1 - GENERAL

1.01 SUMMARY

A. Furnish all labor, materials, facilities, transportation and services to complete all drainage and related work as shown on the Drawings and specified herein.

B. Scope of work: The general extent of the landscaping is shown on the Drawings and may include, but is not limited to the following:
   1. Soil Analysis Report
   2. Soil preparation
   3. Fine grading
   4. Tree, shrub, and ground cover planting

C. Related sections can include, but may not be limited to:
   1. Section 31 23 33 Trenching, Backfilling, and Compacting

D. The requirements of the General Conditions, Supplemental Conditions and Division 1, General Requirements, apply to this work.

E. The subsurface drain system should consist of the Hydraway geocomposite drain or approved equal and outlet pipes of the type, size, and dimensions in accordance with these specifications and project plans, or as directed by the project engineer. The drain consists of a geotextile filter fabric heat fusion bonded to an internal high density polyethylene (HDPE) core. The drain should be lightweight, flexible, have minimal “memory” when placed in horizontal position and sufficiently durable to withstand automated and/or manual installation procedures.

1.02 REFERENCES AND REGULATORY REQUIREMENTS

A. American Society for Testing and Materials

B. State of California Department of Transportation Standard Specifications, latest edition.

1.03 SUBMITTALS

A. Prior to ordering subsurface drain system submit specifications of subsurface drainage system that meet the stated specifications.

1.04 SOURCE/QUALITY ASSURANCE

A. Control of work: Comply with ASTM D-1621 Standard Test Methods for Compressive Properties of Rigid Cellular Plastics, ASTM D-4716 Standard Method for Constant Head Hydraulic Flow (in-plane flow) of Geotextiles and Gotextile Related Products, ASTM D-1876 Standard Test Method for Peel Resistance and Adhesives, ASTM D-4632 Standard Test Method for Grab Breaking Load and Elongation of Textiles, ASTM D-4491 Standard Test Method for Water Permeability of Geotextiles by Permittivity, and ASTM D-4751 Standard Test Method for Determining Apparent Opening Size of a Geotextile latest edition.

B. Core Material Requirements

Product	Average Test Value	ASTM Test Method
Compressive Strength at maximum deflection of 20%	11,400 lbs/sq ft	D1621
Flow Rate at 10 psi and gradient of 0.1	21 gpm/ft width	D4716
Peel Strength (Fabric to Core)	50 lbs/ft width	D1876

C. Geotextile Fabric Requirements

Product	Average Test Value	ASTM Test Method
Elongation	50 %	D4632
Grab Tensile	120 lbs	D4632
Permeability	135 gal/min/sq ft	D4491
Apparent Opening Size	70 U.S. Std. Sieve	D4751

1.05 DELIVERY, STORAGE, AND HANDLING

A. General:
   1. The hydraway drainage system is packed and shipped in an opaque wrap that protects the material from dust and ultraviolet light. The manufacturer recommends that the material remain wrapped or protected from exposure to ultraviolet light and from contamination until its installed. Hydraway shall be protected from temperatures greater than 140 degrees F.

PART 2 - PRODUCTS

2.01 GEOCOMPOSITE SUBSURFACE DRAIN SYSTEM

A. The drain consists of a geotextile filter fabric heat fusion bonded to an internal high density polyethylene (HDPE) core. The drain should be lightweight, flexible, and sufficiently durable to withstand automated and/or manual installation procedures.
   1. Core: High Density Polyethylene (HDPE)
   2. Length: 150 to 550 feet
   3. Widths: 6, 12, 18 pr 24 inches
   4. Depth: 1” minimum
   5. Geotextile Fabric : Tencate – Mirifi © 140 N
   6. 4.5 ounce minimum
   7. Heat fusion bonded to the core
   8. Accessories:
   9. Couplers, ends, outlets adapters as required and recommended by the manufacturer.
   10. Geocomposite subsurface drain system shall meet the following ASTM standards as a minimum.

PART 3 - EXECUTION

3.01 GECOMPOSITE DRAIN

A. Vertical Installation
   1. In vertical installation of geocomposite for natural turf fields or highway edge drains the contractor should do all necessary excavation at the location and depth sown on the plans. The trench width for Hydraway shall be 3” to 6” at a

depth that is specified by the designing engineer. The engineer should determine the depth of removal needed and the type of clean granular backfill to be used.

2. The geocomposite drain shall connect to the outlet/collector pipes or may daylight for discharge by gravity. Fittings shall connect the geocomposite drain to the PVC pipe in accordance with the drain manufacture's recommendation sat locations specified by the project plans.

3. The Amount of trench to be excavated should not exceed the amount that can be installed and backfilled in one working day.

B. Horizontal Application

1. In horizontal applications geocomposite should be placed "points down" so the grid backing is at the top, this helps to protect the drain during the initial placement and compaction of the clean rock or clean free flowing backfill.

2. Until the backfill is placed on the drain, ALL wheeled traffic should be kept OFF the drain lines. Once a minimum of 3-4 inches of cover is placed, then TRACKED equipment can drive over the Hydraway lines. Tracked equipment will not damage the Hydraway lines as long as a minimum of 4 inches of cover is provided.

3. After 6 to 9 inches of cover is placed, wheeled equipment can be driven over the drain locations.

4. All necessary splices are to be made with connections furnished by the manufacturer or approved by the engineer in accordance with the project specifications. The geocomposite drain and connectors should be inspected prior to backfill being placed. If the drain is found to be out of alignment or damaged, it should be removed and replaced as directed by the engineer.

END OF SECTION

SECTION 33 42 31
STORMWATER AREA DRAINS AND INLETS

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes but is not limited to the construction of stormwater area drains and inlets, and associated work.

B. Scope of work: The general extent of the work is shown on the Drawings and may include, but is not limited to the following:

C. Related sections can include, but may not be limited to:
   1. Section 33 05 05 Buried Piping Installation
   2. Section 33 41 00 Subdrainage
   3. Section 31 23 33 Trenching, Backfilling, and Compacting

1.02 REFERENCES AND REGULATORY REQUIREMENTS

A. American Society for Testing and Materials

B. State of California Department of Transportation Standard Specifications, latest edition.

C. City of Gridley Standard Details and Construction Specifications

1.03 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For the following:

C. Drain and Inlet: Include plans, elevations, invert information, sections, details, and frames and covers.

D. Field quality -control test reports

E. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from storm drainage system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.

F. Profile Drawings: Show system piping in elevation. Draw profiles at horizontal scale of not less than 1-inch equals 50 feet and vertical scale of not less than 1 inch equals 5 feet. Indicate structures and piping. Show types, sizes, materials, and elevations of other utilities crossing system piping.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic manholes, pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage.

C. Handle drains and inlets according to manufacturer's written rigging instructions.

D. Handle castings according to manufacturer's written rigging instructions.

PART 2 - PRODUCTS

2.01 CONCRETE

A. Concrete for inlets shall be Class “B” and conform to City of Gridley’s Construction Specifications.

2.02 REINFORCEMENT

A. Reinforcing steel shall conform to Section 2.2.14 of the City of Gridley’s Construction Specifications.

2.03 GRATE AND FRAME

A. Frame shall be cast in extension of Drain Inlet.

B. Grate shall be H-20 Traffic rated.

2.04 GROUT

A. Grout and cement mortar shall conform to Section 2.4.1G per the City of Gridley’s Construction Specifications.

2.05 DRAIN INLET

A. Drain Inlet shall be a 48”x48” Jensen Precast Drain Inlet or approved equal.

PART 3 - EXECUTION

3.01 DRAIN INLET

A. Concrete box portion of the inlet shall be cast to the proper grade in a maximum of two placements of concrete. Use of grout to adjust the drop inlet frame to the proper grade will not be permitted without specific approval by the Engineer. Or it shall be pre cast with appropriate knockouts.

B. All reinforcing bar supports or other approved means shall be used to hold the frame at proper grade during the final placement of concrete. Broken pieces of concrete or other debris shall not be used for this purpose.

C. Concrete construction, including framework shall conform to Section 51 of the State Specifications. The interior of the inlet shall be an ordinary surface finish; exposed top surfaces shall have a Class I surface finish.

D. Drain and Inlet execution shall conform to the City of Gridley’s Standard Details.

E. A public notice shall be placed adjacent to all drain inlets in accordance with City of Gridley Standard Details.

3.02 GRATE AND FRAME

A. Type of grates and frames shall conform the City of Gridley's Standard Details.

B. Grates and frames shall be installed according to the City of Gridley's Standard Details.

3.03 SUBDRAINAGE CONNECTION

A. Ribbon drain shall be connected to drains and inlets per the connection detail on the Plans.

END OF SECTION

APPENDIX A

Davis-Bacon Requirements for CWSRF Projects

For purposes of this Exhibit only, “subrecipient” or “sub recipient” means the Recipient as defined in this Agreement.

For purposes of this Exhibit only, “recipient” or “State recipient” means the State Water Board.

I. Requirements Under Title VI of the Clean Water Act (CWA) For Sub recipients That Are Governmental Entities:

If a sub recipient has questions regarding when Davis-Bacon (DB) applies, obtaining the correct DB wage determinations, DB provisions, or compliance monitoring, it may contact the State Water Board at DavisBacon@waterboards.ca.gov. The recipient or sub recipient may also obtain additional guidance from the U.S. Department of Labor’s (DOL) website at http://www.dol.gov/whd/

1. Applicability of the DB prevailing wage requirements.

Under Title VI of the CWA, DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund. If a sub recipient encounters a unique situation at a site that presents uncertainties regarding DB applicability, the sub recipient must discuss the situation with the recipient State before authorizing work on that site.

2. Obtaining Wage Determinations.

(a) Sub recipients shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.

(i) While the solicitation remains open, the sub recipient shall monitor https://sam.gov/ weekly to ensure that the wage determination contained in the solicitation remains current. The sub recipients shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the sub recipients may request a finding from the State recipient that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State recipient will provide a report of its findings to the sub recipient.

(ii) If the sub recipient does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage

determination contained in the solicitation shall be effective unless the State recipient, at the request of the sub recipient, obtains an extension of the 90-day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The sub recipient shall monitor https://sam.gov/ on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.

(b) If the sub recipient carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the sub recipient shall insert the appropriate DOL wage determination from https://sam.gov/ into the ordering instrument.

(c) Sub recipients shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.

(d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a sub recipient's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the sub recipient has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the sub recipient shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The sub recipient's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

(a) The Recipient shall insure that the sub recipient(s) shall insert in full in any contract in excess of $2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF - financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or Title VI of the CWA, the following clauses:

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part

hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the DB Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the DB poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Sub recipients may obtain wage determinations from DOL's website, https://sam.gov/.

(ii)(A) The sub recipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the sub recipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient (s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar) and supporting materials to WHD-CBACONFORMANCE_INCOMING@dol.gov and to the EPA DB Regional Coordinator concurrently. The DOL Administrator, or an authorized representative, will approve, modify, or disapprove every additional

classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the sub recipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the sub recipient (s) to the State award official. The State award official will transmit a completed conformance request form (SF-1444 or similar) which indicates the State award official's disagreement and supporting materials to WHD-CBACONFORMANCE_INCOMING@dol.gov, and to the EPA DB Regional Coordinator concurrently. The DOL Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the DB Act have been met. The Secretary of Labor may require the contractor to set aside assets in a separate account for the meeting of obligations under the plan or program.

(2) Withholding. The sub recipient(s), shall upon written request of the EPA Award Official or an authorized representative of the DOL, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to DB prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the EPA may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further

payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the DB Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the DB Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the sub recipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the sub recipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead, the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division website at http://www.dol.gov/whd/forms/wh347instr.htm or its successor site.

The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker and shall provide them upon request to the sub recipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the DOL for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide

addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sub recipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the EPA or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually

registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for

apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may by appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with DB and Related Act requirements. All rulings and interpretations of the DB and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the DOL set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and sub recipient(s), State, EPA, DOL, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the DB Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of $100,000.

(a) Contract Work Hours and Safety Standards Act. The sub recipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of $29 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The sub recipient**,** upon written request of the EPA Award Official or an authorized representative of the DOL, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (a)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Sub recipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Sub recipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the EPA and the DOL, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

(a) The sub recipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(3), all interviews must be conducted in confidence. The sub recipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The sub recipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. Sub recipients must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB.

Sub recipients shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The sub recipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The sub recipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the sub recipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Sub recipients must conduct more frequent spot checks if the initial spot check or other information indicates

that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the sub recipient shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The sub recipient shall periodically review contractor's and subcontractor's use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S DOL or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Sub recipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at https://www.dol.gov/agencies/whd/contact/local-offices.

APPENDIX B

"General Decision Number: CA20240007 07/05/2024

Superseded General Decision Number: CA20230007

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

Counties: Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Marin, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sonoma, Sutter, Tehama, Trinity, Yolo and Yuba Counties in California.

BUILDING CONSTRUCTION PROJECTS (excluding Amador County only); DREDGING CONSTRUCTION PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); AND HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2024
1	01/12/2024
2	01/19/2024
3	02/09/2024
4	02/16/2024
5	03/01/2024
6	03/08/2024
7	04/12/2024
8	05/24/2024
9	06/14/2024
10	07/05/2024

ASBE0016-001 01/01/2024

AREA 1: MARIN, NAPA, SAN BENITO, SAN FRANCISCO, SOLANO, & SONOMA COUNTIES

AREA 2: ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHEMA, TRINITY, YOLO, & YUBA COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, Protective Coverings, Coatings, and Finishes to all types of mechanical systems)		
Area 1	$ 84.76	25.07
Area 2	$ 64.56	25.07

ASBE0016-007 01/01/2021

AREA 1 : ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

AREA 2: MARIN & NAPA COUNTIES

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)		
AREA 1	$ 30.45	10.60
AREA 2	$ 36.53	9.27

BOIL0549-002 01/01/2021

	Rates	Fringes
BOILERMAKER		
(1) Marin & Solano Counties.	$ 49.62	41.27
(2) Remaining Counties.....	$ 45.60	38.99

BRCA0003-001 08/01/2023

	Rates	Fringes
MARBLE FINISHER.....	$ 41.18	18.58

BRCA0003-004 05/01/2024

AREA 1: ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SUTTER, TEHAMA, YOLO AND YUBA COUNTIES

AREA 2: MARIN, NAPA, SISKIYOU, SOLANO, SONOMA AND TRINITY COUNTIES

	Rates	Fringes
BRICKLAYER		
AREA 1.....	$ 52.76	25.01
AREA 2.....	$ 57.02	28.50

SPECIALTY PAY:
(A) Underground work such as tunnel work, sewer work, manholes, catch basins, sewer pipes and telephone conduit shall be paid $1.25 per hour above the regular rate. Work in direct contact with raw sewage shall receive $1.25 per hour in addition to the above.
(B) Operating a saw or grinder shall receive $1.25 per hour above the regular rate.
(C) Gunite nozzle person shall receive $1.25 per hour above the regular rate.

BRCA0003-008 07/01/2023

	Rates	Fringes
TERRAZZO FINISHER.....	$ 43.90	19.51
TERRAZZO WORKER/SETTER.....	$ 59.06	28.31

BRCA0003-010 04/01/2024

	Rates	Fringes
TILE FINISHER		
Area 1.....	$ 35.00	17.44
Area 2.....	$ 34.76	19.22
Area 3.....	$ 37.75	19.28
Area 4.....	$ 35.78	19.23
Tile Layer		
Area 1.....	$ 55.55	21.08
Area 2.....	$ 55.17	22.52
Area 3.....	$ 59.92	22.62
Area 4.....	$ 56.79	22.54

AREA 1: Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter,

Tehema, Yolo, Yuba
AREA 2: Alpine, Amador
AREA 3: Marin, Napa, Solano, Siskiyou
AREA 4: Sonoma

BRCA0003-014 08/01/2023

	Rates	Fringes
MARBLE MASON	$ 60.20	28.82

CARP0034-001 07/01/2021

	Rates	Fringes
Diver		
Assistant Tender, ROV Tender/Technician	$ 54.10	34.69
Diver standby	$ 60.51	34.69
Diver Tender	$ 59.51	34.69
Diver wet	$ 103.62	34.69
Manifold Operator (mixed gas)	$ 64.51	34.69
Manifold Operator (Standby)	$ 59.51	34.69

DEPTH PAY (Surface Diving):
050 to 100 ft $2.00 per foot
101 to 150 ft $3.00 per foot
151 to 220 ft $4.00 per foot
221 ft.-deeper $5.00 per foot

SATURATION DIVING:
The standby rate shall apply until saturation starts. The saturation diving rate applies when divers are under pressure continuously until work task and decompression are complete. The diver rate shall be paid for all saturation hours.

DIVING IN ENCLOSURES:
Where it is necessary for Divers to enter pipes or tunnels, or other enclosures where there is no vertical ascent, the following premium shall be paid: Distance traveled from entrance 26 feet to 300 feet: $1.00 per foot. When it is necessary for a diver to enter any pipe, tunnel or other enclosure less than 48"" in height, the premium will be $1.00 per foot.

WORK IN COMBINATION OF CLASSIFICATIONS:
Employees working in any combination of classifications within the diving crew (except dive supervisor) in a shift are paid in the classification with the highest rate for that shift.

CARP0034-003 07/01/2021

	Rates	Fringes
Piledriver	$ 54.10	34.69

CARP0035-001 08/01/2020

AREA 1: MARIN, NAPA, SOLANO & SONOMA

AREA 3: SACRAMENTO, WESTERN EL DORADO (Territory west of an including highway 49 and the territory inside the city limits of Placerville), WESTERN PLACER (Territory west of and including highway 49), & YOLO

AREA 4: ALPINE, BUTTE, COLUSA, EASTERN EL DORADO, GLENN, LASSEN, MODOC, NEVADA, EASTERN PLACER, PLUMAS, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, & YUBA

	Rates	Fringes
Drywall Installers/Lathers:		
Area 1	$ 52.65	31.26
Area 3	$ 47.27	31.26
Area 4	$ 45.92	31.26
Drywall Stocker/Scrapper		
Area 1	$ 26.33	18.22
Area 3	$ 23.64	18.22
Area 4	$ 22.97	18.22

CARP0035-009 07/01/2020

Marin County

	Rates	Fringes
CARPENTER		
Bridge Builder/Highway Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 52.80	30.82
Journeyman Carpenter	$ 52.65	30.82
Millwright	$ 52.75	32.41

CARP0035-010 07/01/2020

AREA 1: Marin, Napa, Solano & Sonoma Counties

AREA 2: Monterey, San Benito and Santa Cruz

AREA 3: Alpine, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo & Yuba counties

	Rates	Fringes
Modular Furniture Installer		
Area 1		
Installer	$ 28.76	22.53
Lead Installer	$ 32.21	23.03
Master Installer	$ 36.43	23.03
Area 2		
Installer	$ 26.11	22.53
Lead Installer	$ 29.08	23.03
Master Installer	$ 32.71	23.03
Area 3		
Installer	$ 25.16	22.53
Lead Installer	$ 27.96	23.03
Master Installer	$ 31.38	23.03

CARP0046-001 07/01/2023

El Dorado (West), Placer (West), Sacramento and Yolo Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 60.39	33.52
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 54.66	33.52
Journeyman Carpenter	$ 54.51	33.52
Millwright	$ 57.01	35.11

Footnote: Placer County (West) includes territory West of and including Highway 49 and El Dorado County (West) includes territory West of and including Highway 49 and territory inside the city limits of Placerville.

CARP0046-002 07/01/2023

Alpine, Colusa, El Dorado (East), Nevada, Placer (East), Sierra, Sutter and Yuba Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 60.39	33.52
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 53.31	33.52
Journeyman Carpenter	$ 53.16	33.52
Millwright	$ 55.66	35.11

CARP0152-003 07/01/2020

Amador County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer	$ 45.57	30.82
Journeyman Carpenter	$ 45.42	30.82
Millwright	$ 47.92	32.41

CARP0180-001 07/01/2021

Solano County

	Rates	Fringes

Carpenters
Bridge Builder/Highway
Carpenter.....$ 54.85 31.49
Hardwood Floorlayer,
Shingler, Power Saw
Operator, Steel Scaffold &
Steel Shoring Erector, Saw
Filer.....$ 55.00 31.49
Journeyman Carpenter.....$ 54.85 31.49
Millwright.....$ 54.95 33.08

CARP0751-001 07/01/2021

Napa and Sonoma Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter	$ 54.85	31.49
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw		
Filer	$ 55.00	31.49
Journeyman Carpenter	$ 54.85	31.49
Millwright	$ 54.95	33.08

CARP1599-001 07/01/2020

Butte, Glenn, Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama and Trinity Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter	$ 52.65	30.82
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw		
Filer	$ 45.57	30.82
Journeyman Carpenter	$ 45.42	30.82
Millwright	$ 47.92	32.41

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* ELEC0180-001 06/01/2024

NAPA AND SOLANO COUNTIES

	Rates	Fringes
CABLE SPLICER	$ 66.44	3%+27.84
ELECTRICIAN	$ 59.06	3%+27.83

ELEC0180-003 12/01/2023

NAPA AND SOLANO COUNTIES

	Rates	Fringes
Sound & Communications		
Installer	$ 48.44	27.60
Technician	$ 55.71	27.82

SCOPE OF WORK INCLUDES-
SOUND & VOICE TRANSMISSION (Music, Intercom, Nurse Call, Telephone); FIRE ALARM SYSTEMS [excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs], TELEVISION & VIDEO SYSTEMS, SECURITY SYSTEMS, COMMUNICATIONS SYSTEMS that transmit or receive information and/or control systems that are intrinsic to the above.

EXCLUDES-
Excludes all other data systems or multiple systems which include control function or power supply; excludes installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excludes energy management systems.

ELEC0340-002 02/01/2018

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, NEVADA, PLACER, PLUMAS, SACRAMENTO, TRINITY, YOLO, YUBA COUNTIES

	Rates	Fringes
Communications System		
Sound & Communications Installer	$ 29.35	3%+15.35
Sound & Communications Technician	$ 33.75	3%+15.35

SCOPE OF WORK

Includes the installation testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for the following TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms, and low voltage master clock systems.

A. SOUND AND VOICE TRANSMISSION/TRANSFERENCE SYSTEMS
Background foreground music Intercom and telephone interconnect systems, Telephone systems, Nurse call systems, Radio page systems, School intercom and sound systems, Burglar alarm systems, Low voltage master clock systems, Multi-media/multiplex systems, Sound and musical entertainment systems, RF systems, Antennas and Wave Guide.

B. FIRE ALARM SYSTEMS
Installation, wire pulling and testing

C. TELEVISION AND VIDEO SYSTEMS Television monitoring and surveillance systems, Video security systems, Video entertainment systems, Video educational systems, Microwave transmission systems, CATV and CCTV

D. SECURITY SYSTEMS Perimeter security systems

Vibration sensor systems Card access systems Access control systems Sonar/infrared monitoring equipment

E. COMMUNICATIONS SYSTEMS THAT TRANSMIT OR RECEIVE INFORMATION AND/OR CONTROL SYSTEMS THAT ARE INTRINSIC TO THE ABOVE LISTED SYSTEMS SCADA (Supervisory Control and Data Acquisition) PCM (Pulse Code Modulation) Inventory Control Systems Digital Data Systems Broadband and Baseband and Carriers Point of Sale Systems VSAT Data Systems Data Communication Systems RF and Remote Control Systems Fiber Optic Data Systems WORK EXCLUDED Raceway systems are not covered (excluding Ladder-Rack for the purpose of the above listed systems). Chases and/or nipples (not to exceed 10 feet) may be installed on open wiring systems. Energy management systems. SCADA (Supervisory Control and Data Acquisition) when not intrinsic to the above listed systems (in the scope). Fire alarm systems when installed in raceways (including wire and cable pulling) shall be performed at the electrician wage rate, when either of the following two (2) conditions apply:
1. The project involves new or major remodel building trades construction.
2. The conductors for the fire alarm system are installed in conduit.

ELEC0340-003 08/01/2022

ALPINE (West of Sierra Mt. Watershed), AMADOR, BUTTE, COLUSA, EL DORADO (West of Sierra Mt. Watershed), GLENN, LASSEN, NEVADA (West of Sierra Mt. Watershed), PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA (West of Sierra Mt. Watershed), SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

	Rates	Fringes
ELECTRICIAN		
Remaining area	$ 45.06	34.09
Sierra Army Depot, Herlong	$ 48.83	18.54
Tunnel work	$ 41.01	18.54

CABLE SPLICER: Receives 110% of the Electrician basic hourly rate.

ELEC0401-005 01/01/2022

ALPINE (east of the main watershed divide), EL DORADO (east of the main watershed divide), NEVADA (east of the main watershed), PLACER (east of the main watershed divide) and SIERRA (east of the main watershed divide) COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 42.50	20.95

ZONE RATE:

70-90 miles - $8.00 per hour
91+ miles - $10.00 per hour

ELEC0551-004 06/01/2023

MARIN AND SONOMA COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 56.92	30.16

ELEC0551-005 11/01/2023

MARIN & SONOMA COUNTIES

	Rates	Fringes
Sound & Communications		
Installer	$ 46.64	25.55
Technician	$ 53.64	25.76

SCOPE OF WORK INCLUDES-
SOUND & VOICE TRANSMISSION (Music, Intercom, Nurse Call, Telephone); FIRE ALARM SYSTEMS [excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs], TELEVISION & VIDEO SYSTEMS, SECURITY SYSTEMS, COMMUNICATIONS SYSTEMS that transmit or receive information and/or control systems that are intrinsic to the above.

EXCLUDES-
Excludes all other data systems or multiple systems which include control function or power supply; excludes installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excludes energy management systems.

ELEC0659-006 01/01/2024

MODOC and SISKIYOU COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 45.00	19.88

ELEC0659-008 02/01/2023

DEL NORTE, MODOC & SISKIYOU COUNTIES

	Rates	Fringes
Line Construction		
(1) Cable Splicer	$ 67.80	4.5%+22.15
(2) Lineman, Pole Sprayer, Heavy Line Equipment Man	$ 60.54	4.5%+22.15
(3) Tree Trimmer	$ 37.84	4.5%+14.30
(4) Line Equipment Man	$ 53.82	4.5%+19.40
(5) Powdermen, Jackhammermen	$ 40.37	4.5%+14.30
(6) Groundman	$ 33.37	4.5%+14.30

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* ELEC1245-004 06/01/2024

ALL COUNTIES EXCEPT DEL NORTE, MODOC & SISKIYOU

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer	$ 70.16	24.46
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment)	$ 53.30	22.01
(3) Groundman	$ 40.76	21.51
(4) Powderman	$ 51.87	18.79

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

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ELEV0008-001 01/01/2024

	Rates	Fringes
ELEVATOR MECHANIC	$ 80.76	37.885+a+b

FOOTNOTE:
a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

ENGI0003-008 08/01/2023

	Rates	Fringes
Dredging: (DREDGING: CLAMSHELL & DIPPER DREDGING; HYDRAULIC SUCTION DREDGING:)		
AREA 1:		
(1) Leverman	$ 57.95	37.55
(2) Dredge Dozer; Heavy duty repairman	$ 52.99	37.55
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator	$ 51.87	37.55
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler	$ 48.57	37.55
AREA 2:		
(1) Leverman	$ 59.95	37.55
(2) Dredge Dozer; Heavy duty repairman	$ 54.99	37.55
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator	$ 53.87	37.55
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler	$ 50.57	37.55

AREA DESCRIPTIONS

AREA 1: ALAMEDA,BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2: MODOC COUNTY

THE REMAINGING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:
Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:
Area 1: Remainder
Area 2: Eastern part

COLUSA COUNTY:
Area 1: Eastern part
Area 2: Remainder

ELDORADO COUNTY:
Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY:
Area 1: Remainder
Area 2: Eastern part

GLENN COUNTY:
Area 1: Eastern part
Area 2: Remainder

LASSEN COUNTY:
Area 1: Western part along the Southern portion of border with Shasta County
Area 2: Remainder

MADERA COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

MARIPOSA COUNTY
Area 1: Except Eastern part
Area 2: Eastern part

MONTERREY COUNTY
Area 1: Except Southwestern part
Area 2: Southwestern part

NEVADA COUNTY:
Area 1: All but the Northern portion along the border of Sierra County
Area 2: Remainder

PLACER COUNTY:
Area 1: Al but the Central portion
Area 2: Remainder

PLUMAS COUNTY:
Area 1: Western portion

Area 2: Remainder

SHASTA COUNTY:
Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:
Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Remainder

TEHAMA COUNTY:
Area 1: All but the Western border with Mendocino & Trinity Counties
Area 2: Remainder

TRINITY COUNTY:
Area 1: East Central part and the Northeastern border with Shasta County
Area 2: Remainder

TUOLUMNE COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

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SEE AREA DESCRIPTIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment (LANDSCAPE WORK ONLY)		
GROUP 1		
AREA 1	$ 39.95	30.28
AREA 2	$ 41.95	30.28
GROUP 2		
AREA 1	$ 36.35	30.28
AREA 2	$ 38.35	30.28
GROUP 3		
AREA 1	$ 31.74	30.28
AREA 2	$ 33.74	30.28

GROUP DESCRIPTIONS:

GROUP 1: Landscape Finish Grade Operator: All finish grade work regardless of equipment used, and all equipment with a rating more than 65 HP.

GROUP 2: Landscape Operator up to 65 HP: All equipment with a manufacturer's rating of 65 HP or less except equipment covered by Group 1 or Group 3. The following equipment shall be included except when used for finish work as long as manufacturer's rating is 65 HP or less: A-Frame and Winch Truck, Backhoe, Forklift, Hydragraphic Seeder Machine, Roller, Rubber-Tired and Track Earthmoving Equipment, Skiploader, Straw Blowers, and Trencher 31 HP up

to 65 HP.

GROUP 3: Landscae Utility Operator: Small Rubber-Tired Tractor, Trencher Under 31 HP.

AREA DESCRIPTIONS:

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:
Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

COLUSA COUNTY:
Area 1: Eastern part
Area 2: Remainder

DEL NORTE COUNTY:
Area 1: Extreme Southwestern corner
Area 2: Remainder

ELDORADO COUNTY:
Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY
Area 1: Except Eastern part
Area 2: Eastern part

GLENN COUNTY:
Area 1: Eastern part
Area 2: Remainder

HUMBOLDT COUNTY:
Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:
Area 1: Southern part
Area 2: Remainder

LASSEN COUNTY:
Area 1: Western part along the Southern portion of border with Shasta County
Area 2: Remainder

MADERA COUNTY
Area 1: Remainder
Area 2: Eastern part

MARIPOSA COUNTY
Area 1: Remainder
Area 2: Eastern part

MENDOCINO COUNTY:
Area 1: Central and Southeastern parts
Area 2: Remainder

MONTEREY COUNTY
Area 1: Remainder
Area 2: Southwestern part

NEVADA COUNTY:
Area 1: All but the Northern portion along the border of Sierra County
Area 2: Remainder

PLACER COUNTY:
Area 1: All but the Central portion
Area 2: Remainder

PLUMAS COUNTY:
Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:
Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:
Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Reaminder

TEHAMA COUNTY:
Area 1: All but the Western border with mendocino & Trinity Counties
Area 2: Remainder

TRINITY COUNTY:
Area 1: East Central part and the Northeaster border with Shasta County
Area 2: Remainder

TULARE COUNTY;
Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:
Area 1: Remainder
Area 2: Eastern Part

ENGI0003-038 06/28/2023

""AREA 1"" WAGE RATES ARE LISTED BELOW

""AREA 2"" RECEIVES AN ADDITIONAL $2.00 PER HOUR ABOVE AREA 1 RATES.

SEE AREA DEFINITIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment (AREA 1:)		
GROUP 1	$ 60.72	31.03
GROUP 2	$ 59.19	31.03
GROUP 3	$ 57.71	31.03
GROUP 4	$ 56.33	31.03
GROUP 5	$ 55.06	31.03
GROUP 6	$ 53.74	31.03
GROUP 7	$ 52.60	31.03
GROUP 8	$ 51.46	31.03
GROUP 8-A	$ 49.25	31.03
OPERATOR: Power Equipment (Cranes and Attachments - AREA 1:)		
GROUP 1		
Cranes	$ 52.30	31.15
Oiler	$ 43.79	31.15
Truck crane oiler	$ 46.08	31.15
GROUP 2		
Cranes	$ 50.54	31.15
Oiler	$ 42.83	31.15
Truck crane oiler	$ 45.07	31.15
GROUP 3		
Cranes	$ 48.80	31.15
Hydraulic	$ 44.44	31.15
Oiler	$ 42.55	31.15
Truck crane oiler	$ 44.83	31.15
GROUP 4		
Cranes	$ 45.76	31.15
OPERATOR: Power Equipment (Piledriving - AREA 1:)		
GROUP 1		
Lifting devices	$ 52.64	31.15
Oiler	$ 43.38	31.15
Truck Crane Oiler	$ 45.66	31.15
GROUP 2		
Lifting devices	$ 50.82	31.15
Oiler	$ 43.11	31.15
Truck Crane Oiler	$ 45.41	31.15
GROUP 3		
Lifting devices	$ 49.14	31.15
Oiler	$ 42.89	31.15
Truck Crane Oiler	$ 45.12	31.15
GROUP 4		
Lifting devices	$ 47.37	31.15
GROUP 5		
Lifting devices	$ 44.73	31.15
GROUP 6		
Lifting devices	$ 42.50	31.15
OPERATOR: Power Equipment (Steel Erection - AREA 1:)		
GROUP 1		
Cranes	$ 53.27	31.15
Oiler	$ 43.72	31.15
Truck Crane Oiler	$ 45.95	31.15
GROUP 2		
Cranes	$ 51.50	31.15
Oiler	$ 43.45	31.15
Truck Crane Oiler	$ 45.73	31.15
GROUP 3		
Cranes	$ 50.02	31.15

Hydraulic	$ 45.07	31.15
Oiler	$ 43.23	31.15
Truck Crane Oiler	$ 45.46	31.15
GROUP 4		
Cranes	$ 48.00	31.15
GROUP 5		
Cranes	$ 46.70	31.15
OPERATOR: Power Equipment (Tunnel and Underground Work - AREA 1:)		
SHAFTS, STOPES, RAISES:		
GROUP 1	$ 56.82	31.03
GROUP 1-A	$ 49.99	31.15
GROUP 1A	$ 59.29	31.03
GROUP 2	$ 55.56	31.03
GROUP 3	$ 54.23	31.03
GROUP 4	$ 53.09	31.03
GROUP 5	$ 51.95	31.03
UNDERGROUND:		
GROUP 1	$ 47.42	31.15
GROUP 1-A	$ 49.89	31.15
GROUP 2	$ 46.16	31.15
GROUP 3	$ 44.83	31.15
GROUP 4	$ 43.69	31.15
GROUP 5	$ 42.55	31.15

FOOTNOTE: Work suspended by ropes or cables, or work on a Yo-Yo Cat: $.60 per hour additional.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Operator of helicopter (when used in erection work); Hydraulic excavator, 7 cu. yds. and over; Power shovels, over 7 cu. yds.

GROUP 2: Highline cableway; Hydraulic excavator, 3-1/2 cu. yds. up to 7 cu. yds.; Licensed construction work boat operator, on site; Power blade operator (finish); Power shovels, over 1 cu. yd. up to and including 7 cu. yds. m.r.c.

GROUP 3: Asphalt milling machine; Cable backhoe; Combination backhoe and loader over 3/4 cu. yds.; Continuous flight tie back machine assistant to engineer or mechanic; Crane mounted continuous flight tie back machine, tonnage to apply; Crane mounted drill attachment, tonnage to apply; Dozer, slope brd; Gradall; Hydraulic excavator, up to 3 1/2 cu. yds.; Loader 4 cu. yds. and over; Long reach excavator; Multiple engine scraper (when used as push pull); Power shovels, up to and including 1 cu. yd.; Pre-stress wire wrapping machine; Side boom cat, 572 or larger; Track loader 4 cu. yds. and over; Wheel excavator (up to and including 750 cu. yds. per hour)

GROUP 4: Asphalt plant engineer/box person; Chicago boom; Combination backhoe and loader up to and including 3/4 cu. yd.; Concrete batch plant (wet or dry); Dozer and/or push cat; Pull- type elevating loader; Gradesetter, grade checker (GPS, mechanical or otherwise); Grooving and grinding machine; Heading shield operator; Heavy-duty drilling equipment, Hughes, LDH, Watson 3000 or similar; Heavy-duty repairperson and/or welder; Lime spreader; Loader under 4 cu. yds.; Lubrication and service engineer (mobile and grease rack); Mechanical finishers or spreader

machine (asphalt, Barber-Greene and similar); Miller Formless M-9000 slope paver or similar; Portable crushing and screening plants; Power blade support; Roller operator, asphalt; Rubber-tired scraper, self-loading (paddle-wheels, etc.); Rubber- tired earthmoving equipment (scrapers); Slip form paver (concrete); Small tractor with drag; Soil stabilizer (P & H or equal); Spider plow and spider puller; Tubex pile rig; Unlicensed constuction work boat operator, on site; Timber skidder; Track loader up to 4 yds.; Tractor-drawn scraper; Tractor, compressor drill combination; Welder; Woods-Mixer (and other similar Pugmill equipment)

GROUP 5: Cast-in-place pipe laying machine; Combination slusher and motor operator; Concrete conveyor or concrete pump, truck or equipment mounted; Concrete conveyor, building site; Concrete pump or pumpcrete gun; Drilling equipment, Watson 2000, Texoma 700 or similar; Drilling and boring machinery, horizontal (not to apply to waterliners, wagon drills or jackhammers); Concrete mixer/all; Person and/or material hoist; Mechanical finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical burm, curb and/or curb and gutter machine, concrete or asphalt); Mine or shaft hoist; Portable crusher; Power jumbo operator (setting slip-forms, etc., in tunnels); Screed (automatic or manual); Self-propelled compactor with dozer; Tractor with boom D6 or smaller; Trenching machine, maximum digging capacity over 5 ft. depth; Vermeer T-600B rock cutter or similar

GROUP 6: Armor-Coater (or similar); Ballast jack tamper; Boom- type backfilling machine; Assistant plant engineer; Bridge and/or gantry crane; Chemical grouting machine, truck-mounted; Chip spreading machine operator; Concrete saw (self-propelled unit on streets, highways, airports and canals); Deck engineer; Drilling equipment Texoma 600, Hughes 200 Series or similar up to and including 30 ft. m.r.c.; Drill doctor; Helicopter radio operator; Hydro-hammer or similar; Line master; Skidsteer loader, Bobcat larger than 743 series or similar (with attachments); Locomotive; Lull hi-lift or similar; Oiler, truck mounted equipment; Pavement breaker, truck-mounted, with compressor combination; Paving fabric installation and/or laying machine; Pipe bending machine (pipelines only); Pipe wrapping machine (tractor propelled and supported); Screed (except asphaltic concrete paving); Self- propelled pipeline wrapping machine; Tractor; Self-loading chipper; Concrete barrier moving machine

GROUP 7: Ballast regulator; Boom truck or dual-purpose A-frame truck, non-rotating - under 15 tons; Cary lift or similar; Combination slurry mixer and/or cleaner; Drilling equipment, 20 ft. and under m.r.c.; Firetender (hot plant); Grouting machine operator; Highline cableway signalperson; Stationary belt loader (Kolman or similar); Lift slab machine (Vagtborg and similar types); Maginnes internal full slab vibrator; Material hoist (1 drum); Mechanical trench shield; Pavement breaker with or without compressor combination); Pipe cleaning machine (tractor propelled and supported); Post driver; Roller (except asphalt); Chip Seal; Self-propelled automatically applied concrete curing mahcine (on streets, highways, airports and canals); Self-propelled compactor (without dozer); Signalperson; Slip-form pumps (lifting device for concrete forms); Tie spacer; Tower mobile; Trenching machine, maximum digging

capacity up to and including 5 ft. depth; Truck- type loader

GROUP 8: Bit sharpener; Boiler tender; Box operator; Brakeperson; Combination mixer and compressor (shotcrete/gunite); Compressor operator; Deckhand; Fire tender; Forklift (under 20 ft.); Generator; Gunite/shotcrete equipment operator; Hydraulic monitor; Ken seal machine (or similar); Mixermobile; Oiler; Pump operator; Refrigeration plant; Reservoir-debris tug (self-propelled floating); Ross Carrier (construction site); Rotomist operator; Self-propelled tape machine; Shuttlecar; Self-propelled power sweeper operator (includes vacuum sweeper); Slusher operator; Surface heater; Switchperson; Tar pot firetender; Tugger hoist, single drum; Vacuum cooling plant; Welding machine (powered other than by electricity)

GROUP 8-A: Elevator operator; Skidsteer loader-Bobcat 743 series or smaller, and similar (without attachments); Mini excavator under 25 H.P. (backhoe-trencher); Tub grinder wood chipper

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ALL CRANES AND ATTACHMENTS

GROUP 1: Clamshell and dragline over 7 cu. yds.; Crane, over 100 tons; Derrick, over 100 tons; Derrick barge pedestal-mounted, over 100 tons; Self-propelled boom-type lifting device, over 100 tons

GROUP 2: Clamshell and dragline over 1 cu. yd. up to and including 7 cu. yds.; Crane, over 45 tons up to and including 100 tons; Derrick barge, 100 tons and under; Self-propelled boom-type lifting device, over 45 tons; Tower crane

GROUP 3: Clamshell and dragline up to and including 1 cu. yd.; Cranes 45 tons and under; Self-propelled boom-type lifting device 45 tons and under;

GROUP 4: Boom Truck or dual purpose A-frame truck, non-rotating over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) - under 15 tons;

PILEDRIVERS

GROUP 1: Derrick barge pedestal mounted over 100 tons; Clamshell over 7 cu. yds.; Self-propelled boom-type lifting device over 100 tons; Truck crane or crawler, land or barge mounted over 100 tons

GROUP 2: Derrick barge pedestal mounted 45 tons to and including 100 tons; Clamshell up to and including 7 cu. yds.; Self-propelled boom-type lifting device over 45 tons; Truck crane or crawler, land or barge mounted, over 45 tons up to and including 100 tons; Fundex F-12 hydraulic pile rig

GROUP 3: Derrick barge pedestal mounted under 45 tons; Self-propelled boom-type lifting device 45 tons and under;

Skid/scow piledriver, any tonnage; Truck crane or crawler, land or barge mounted 45 tons and under

GROUP 4: Assistant operator in lieu of assistant to engineer; Forklift, 10 tons and over; Heavy-duty repairperson/welder

GROUP 5: Deck engineer

GROUP 6: Deckhand; Fire tender

STEEL ERECTORS

GROUP 1: Crane over 100 tons; Derrick over 100 tons; Self-propelled boom-type lifting device over 100 tons

GROUP 2: Crane over 45 tons to 100 tons; Derrick under 100 tons; Self-propelled boom-type lifting device over 45 tons to 100 tons; Tower crane

GROUP 3: Crane, 45 tons and under; Self-propelled boom-type lifting device, 45 tons and under

GROUP 4: Chicago boom; Forklift, 10 tons and over; Heavy-duty repair person/welder

GROUP 5: Boom cat

TUNNEL AND UNDERGROUND WORK

GROUP 1-A: Tunnel bore machine operator, 20' diameter or more

GROUP 1: Heading shield operator; Heavy-duty repairperson; Mucking machine (rubber tired, rail or track type); Raised bore operator (tunnels); Tunnel mole bore operator

GROUP 2: Combination slusher and motor operator; Concrete pump or pumpcrete gun; Power jumbo operator

GROUP 3: Drill doctor; Mine or shaft hoist

GROUP 4: Combination slurry mixer cleaner; Grouting Machine operator; Motorman

GROUP 5: Bit Sharpener; Brakeman; Combination mixer and compressor (gunite); Compressor operator; Oiler; Pump operator; Slusher operator

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AREA DESCRIPTIONS:

POWER EQUIPMENT OPERATORS, CRANES AND ATTACHMENTS,TUNNEL AND UNDERGROUND [These areas do not apply to Piledrivers and Steel Erectors]

AREA 1: DEL NORTE, HUMBOLDT, LAKE, MENDOCINO
AREA 2 -NOTED BELOW

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

DEL NORTE COUNTY:
Area 1: Extreme Southwest corner
Area 2: Remainder

HUMBOLDT COUNTY:
Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:
Area 1: Southern part
Area 2: Remainder

MENDOCINO COUNTY:
Area 1: Central and Southeastern Parts
Area 2: Remainder

IRON0118-012 01/01/2024

ALPINE, LASSEN, MODOC, SISKIYOU and TRINITY COUNTIES

	Rates	Fringes
IRONWORKER	$ 41.00	34.20

IRON0118-013 01/01/2024

AMADOR, BUTTE, COLUSA,EL DORADO, GLENN,MARIN, NAPA, NEVADA, PLACER,PLUMAS, SACRAMENTO, SHASTA, SIERRA, SOLANO, SONOMA, SUTTER, TEHAMA, YOLO and YUBA COUNTIES

	Rates	Fringes
IRONWORKER	$ 47.45	34.90

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* LABO0067-003 07/01/2024

AREA ""1"" - MARIN and NAPA COUNTIES

AREA ""2"" - ALPINE, AMADOR, BUTTE COLUSA EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
LABORER (ASBESTOS/MOLD/LEAD LABORER)		
Marin and Napa Counties	$ 37.75	29.69
Remaining Counties	$ 36.75	29.69

LABO0067-005 01/01/2024

AREA ""A"" - ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA ""B"" - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NEVADA, PLACER, PLUMAS, SANCREMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SIERRA, SHASTA, SISKIYOU, STANISLAUS, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YOUBA COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person		
Area A	$ 37.26	27.32
Area B	$ 36.26	27.32
Traffic Control Person I		
Area A	$ 37.56	27.32
Area B	$ 36.56	27.32
Traffic Control Person II		
Area A	$ 35.06	27.32
Area B	$ 34.06	27.32

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0185-002 07/01/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 36.29	25.55

LABO0185-005 06/26/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 45.89	27.72
GROUP 2	$ 45.66	27.72
GROUP 3	$ 45.41	27.72
GROUP 4	$ 44.96	27.72
GROUP 5	$ 44.42	27.72
Shotcrete Specialist	$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High

pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0185-006 06/26/2023

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHIASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO, YUBA COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA B:)		
Construction Specialist Group	$ 36.20	27.30
GROUP 1	$ 35.50	27.30
GROUP 1-a	$ 35.72	27.30
GROUP 1-c	$ 35.55	27.30
GROUP 1-e	$ 36.05	27.30
GROUP 1-f	$ 30.37	23.20
GROUP 2	$ 35.35	27.30
GROUP 3	$ 35.25	27.30
GROUP 4	$ 28.94	27.30
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B:)		
(1) New Construction	$ 35.25	27.30
(2) Establishment Warranty Period	$ 28.94	27.30
LABORER (GUNITE - AREA B:)		
GROUP 1	$ 36.46	27.30
GROUP 2	$ 35.96	27.30
GROUP 3	$ 35.37	27.30
GROUP 4	$ 35.25	27.30
LABORER (WRECKING - AREA B:)		
GROUP 1	$ 35.50	27.30
GROUP 2	$ 35.35	27.30

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker;

Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work

performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0185-008 07/01/2023

	Rates	Fringes
Plasterer tender	$ 39.77	28.54

Work on a swing stage scaffold: $1.00 per hour additional.

LABO0261-002 07/01/2023

MARIN COUNTY

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person	$ 37.26	27.30
Traffic Control Person I	$ 37.56	27.30
Traffic Control Person II	$ 35.06	27.30

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0261-004 06/26/2023

MARIN COUNTY

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 45.89	27.72
GROUP 2	$ 45.66	27.72
GROUP 3	$ 45.41	27.72
GROUP 4	$ 44.96	27.72
GROUP 5	$ 44.42	27.72
Shotcrete Specialist	$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading;

Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0261-007 07/01/2023

MARIN COUNTY

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 37.54	25.55

LABO0261-010 06/26/2023

MARIN COUNTY

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA A:)		
Construction Specialist Group	$ 37.20	27.30
GROUP 1	$ 36.50	27.30
GROUP 1-a	$ 36.72	27.30
GROUP 1-c	$ 36.55	27.30
GROUP 1-e	$ 37.05	27.30
GROUP 1-f	$ 31.37	23.20
GROUP 2	$ 36.35	27.30
GROUP 3	$ 36.25	27.30
GROUP 4	$ 29.94	27.30
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA A:)		
(1) New Construction	$ 36.25	27.30
(2) Establishment Warranty Period	$ 29.94	27.30
LABORER (GUNITE - AREA A:)		
GROUP 1	$ 37.46	27.30
GROUP 2	$ 36.96	27.30
GROUP 3	$ 36.37	27.30
GROUP 4	$ 36.25	27.30
LABORER (WRECKING - AREA A:)		
GROUP 1	$ 36.50	27.30
GROUP 2	$ 36.35	27.30

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers

entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer

manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive $ .25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0261-015 07/01/2023

	Rates	Fringes
Plasterer tender	$ 39.77	28.54

Work on a swing stage scaffold: $1.00 per hour additional.

LABO0324-004 07/01/2023

NAPA, SOLANO, AND SONOMA, COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person	$ 36.26	27.30
Traffic Control Person I	$ 36.56	27.30
Traffic Control Person II	$ 34.06	27.30

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0324-008 06/26/2023

NAPA, SOLANO, AND SONOMA COUNTIES

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1	$ 45.89	27.72
GROUP 2	$ 45.66	27.72
GROUP 3	$ 45.41	27.72
GROUP 4	$ 44.96	27.72
GROUP 5	$ 44.42	27.72
Shotcrete Specialist	$ 46.41	27.72

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0324-010 07/01/2023

SOLANO AND SONOMA COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick	$ 36.84	26.24

LABO0324-013 06/26/2023

NAPA, SOLANO, AND SONOMA COUNTIES

	Rates	Fringes
LABORER (CONSTRUCTION CRAFT LABORERS - AREA B:)		
Construction Specialist Group	$ 36.20	27.30
GROUP 1	$ 35.50	27.30
GROUP 1-a	$ 35.72	27.30
GROUP 1-c	$ 35.55	27.30
GROUP 1-e	$ 36.05	27.30
GROUP 1-f	$ 36.08	27.30
GROUP 2	$ 35.35	27.30
GROUP 3	$ 35.25	27.30
GROUP 4	$ 28.94	27.30
See groups 1-b and 1-d under laborer classifications.		
LABORER (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B:)		
(1) New Construction	$ 35.25	27.30
(2) Establishment Warranty Period	$ 28.94	27.30
LABORER (GUNITE - AREA B:)		
GROUP 1	$ 36.46	27.30
GROUP 2	$ 35.96	27.30
GROUP 3	$ 35.37	27.30

GROUP 4	$ 35.25	27.30
LABORER (WRECKING - AREA B:)		
GROUP 1	$ 35.50	27.30
GROUP 2	$ 35.35	27.30

FOOTNOTES:
Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive $0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucker; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2"" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and

explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive $4.00 per day above Group 1 wage rates. ""Sewer cleaner"" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shal receive $5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

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GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification ""material cleaner"" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.

B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of ""form stripping, cleaning and oiling and moving to the next point of erection"".

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Structural Nozzleman

GROUP 2: Nozzleman, Gunman, Potman, Groundman

GROUP 3: Reboundman

GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

LABO0324-019 07/01/2023

	Rates	Fringes
Plasterer tender	$ 39.77	28.54

Work on a swing stage scaffold: $1.00 per hour additional.

PAIN0016-004 01/01/2024

MARIN, NAPA, SOLANO & SONOMA COUNTIES

	Rates	Fringes
Painters:	$ 50.51	27.66

PREMIUMS:
EXOTIC MATERIALS - $1.25 additional per hour.
SPRAY WORK: - $0.50 additional per hour.
INDUSTRIAL PAINTING - $0.25 additional per hour
[Work on industrial buildings used for the manufacture and processing of goods for sale or service; steel construction (bridges), stacks, towers, tanks, and similar structures]

HIGH WORK:
over 50 feet - $2.00 per hour additional
100 to 180 feet - $4.00 per hour additional
Over 180 feet - $6.00 per houir additional

PAIN0016-005 01/01/2024

ALPINE, BUTTE, COLUSA, EL DORADO (west of the Sierra Nevada

Mountains), GLENN, LASSEN (west of Hwy. 395, excluding Honey Lake); MARIN, MODOC, NAPA, NEVADA (west of the Sierra Nevada Mountains), PLACER (west of the Sierra Nevada Mountains), PLUMAS, SACRAMENTO, SHASTA, SIERRA (west of the Sierra Nevada Mountains), SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
DRYWALL FINISHER/TAPER	$ 56.28	29.94

PAIN0016-007 01/01/2024

ALPINE, AMADOR, BUTTE, COLUSA. EL DORADO (west of the Sierra Nevada Mountains), GLENN, LASSEN (west of Highway 395, excluding Honey Lake), MODOC, NEVADA (west of the Sierra Nevada Mountains), PLACER (west of the Sierra Nevada Mountains), PLUMAS, SACRAMENTO, SHASTA, SIERRA (west of the Sierra Nevada Mountains), SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

	Rates	Fringes
Painters:	$ 40.85	22.40

SPRAY/SANDBLAST: $0.50 additional per hour.
EXOTIC MATERIALS: $1.25 additional per hour.
HIGH TIME: Over 50 ft above ground or water level $2.00 additional per hour. 100 to 180 ft above ground or water level $4.00 additional per hour. Over 180 ft above ground or water level $6.00 additional per hour.

PAIN0016-008 01/01/2024

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER	$ 59.00	33.03

PAIN0169-004 01/01/2024

MARIN , NAPA & SONOMA COUNTIES; SOLANO COUNTY (west of a line defined as follows: Hwy. 80 corridor beginning at the City of Fairfield, including Travis Air Force Base and Suisun City; going north of Manakas Corner Rd., continue north on Suisun Valley Rd. to the Napa County line; Hwy. 80 corridor south on Grizzly Island Rd. to the Grizzly Island Management area)

	Rates	Fringes
GLAZIER	$ 56.22	34.00

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* PAIN0567-001 07/01/2022

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains); AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
Painters:		
Brush and Roller	$ 33.15	14.29
Spray Painter & Paperhanger	$ 34.81	14.29

PREMIUMS:
Special Coatings (Brush), and Sandblasting = $0.50/hr
Special Coatings (Spray), and Steeplejack = $1.00/hr
Special Coating Spray Steel = $1.25/hr
Swing Stage = $2.00/hr

*A special coating is a coating that requires the mixing of 2 or more products.

PAIN0567-007 07/01/2022

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains) AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
SOFT FLOOR LAYER	$ 34.27	16.47

PAIN0567-010 07/01/2022

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains); AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
Drywall		
(1) Taper	$ 38.92	14.99
(2) Steeplejack - Taper, over 40 ft with open space below	$ 40.42	14.99

PAIN0767-004 01/01/2024

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO (Remainder), SUTTER, TEHAMA, TRINITY, YOLO, YUBA

	Rates	Fringes
GLAZIER	$ 43.25	35.62

PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Employee required to wear a body harness shall receive $1.50

per hour above the basic hourly rate at any elevation.

PAIN1176-001 07/01/2022

HIGHWAY IMPR0VEMENT

	Rates	Fringes
Parking Lot Striping/Highway Marking:		
GROUP 1	$ 40.83	17.62
GROUP 2	$ 34.71	17.62
GROUP 3	$ 35.11	17.62

CLASSIFICATIONS

GROUP 1: Striper: Layout and application of painted traffic stripes and marking; hot thermo plastic; tape, traffic stripes and markings

GROUP 2: Gamecourt & Playground Installer

GROUP 3: Protective Coating, Pavement Sealing

PAIN1237-001 01/01/2024

ALPINE; COLUSA; EL DORADO (west of the Sierra Nevada Mountains); GLENN; LASSEN (west of Highway 395, beginning at Stacey and including Honey Lake); MODOC; NEVADA (west of the Sierra Nevada Mountains); PLACER (west of the Sierra Nevada Mountains); PLUMAS; SACRAMENTO; SHASTA; SIERRA (west of the Sierra Nevada Mountains); SISKIYOU; SUTTER; TEHAMA; TRINITY; YOLO AND YUBA COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER	$ 48.54	26.59

PLAS0300-003 07/01/2018

	Rates	Fringes
PLASTERER		
AREA 295: Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sutter, Tehema, Trinity, Yolo & Yuba Counties	$ 32.70	31.68
AREA 355: Marin	$ 36.73	31.68
AREA 355: Napa & Sonoma Counties	$ 32.70	31.68

PLAS0300-005 07/01/2016

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 32.15	23.27

PLUM0038-002 07/01/2022

MARIN AND SONOMA COUNTIES

	Rates	Fringes
PLUMBER (Plumber, Steamfitter, Refrigeration Fitter)		
(1) Work on wooden frame structures 5 stories or less excluding high-rise buildings and commercial work such as hospitals, prisons, hotels, schools, casinos, wastewater treatment plants, and resarch facilities as well as refrigeration pipefitting, service and repair work - MARKET RECOVERY RATE	$ 69.70	46.38
(2) All other work - NEW CONSTRUCTION RATE	$ 82.00	48.18

PLUM0038-006 07/01/2022

MARIN & SONOMA COUNTIES

	Rates	Fringes
Landscape/Irrigation Fitter (Underground/Utility Fitter)	$ 69.70	33.15

PLUM0228-001 01/01/2024

BUTTE, COLUSA, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY & YUBA COUNTIES

	Rates	Fringes
PLUMBER	$ 46.75	39.29

PLUM0343-001 07/01/2022

NAPA AND SOLANO COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER		
Light Commercial	$ 30.85	20.40
All Other Work	$ 58.00	40.48

DEFINITION OF LIGHT COMMERICIAL:
Work shall include strip shopping centers, office buildings, schools and other commercial structures which the total plumbing bid does not exceed Two Hundred and Fifty Thousand ($250,000) and the total heating and cooling does not exceed Two Hundred Fifty Thousand ($250,000); or Any projects bid in phases shall not qualify unless the total project is less than Two Hundred Fifty Thousand ($250,000) for the plumbing bid; and Two Hundred Fifty Thousand ($250,000) for the heating and cooling bid. Excluded are hospitals, jails, institutions and industrial projects, regardless size of the project

FOOTNOTES: While fitting galvanized material: $.75 per hour additional. Work from trusses, temporary staging, unguarded structures 35' from the ground or water: $.75 per hour additional. Work from swinging scaffolds, boatswains chairs or similar devices: $.75 per hour additional.

PLUM0350-001 08/01/2023

EL DORADO COUNTY (Lake Tahoe area only); NEVADA COUNTY (Lake Tahoe area only); AND PLACER COUNTY (Lake Tahoe area only)

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 52.14	18.71

PLUM0355-001 07/01/2022

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO, SUTTER, TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
Underground Utility Worker /Landscape Fitter	$ 32.22	17.55

PLUM0442-003 01/01/2024

AMADOR (South of San Joaquin River) and ALPINE COUNTIES

	Rates	Fringes
PLUMBER	$ 52.90	36.39

PLUM0447-001 07/01/2023

AMADOR (north of San Joaquin River), EL DORADO (excluding Lake Tahoe area), NEVADA (excluding Lake Tahoe area); PLACER (excluding Lake Tahoe area), SACRAMENTO AND YOLO COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER		
Journeyman	$ 61.12	28.75
Light Commercial Work	$ 36.23	17.72

ROOF0081-006 08/01/2023

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
Roofer	$ 52.47	22.31

ROOF0081-007 08/01/2023

ALPINE, BUTTE, COLUSA, EL DORADO, GLENN,LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
Roofer	$ 46.73	21.36

SFCA0483-003 01/01/2024

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers)	$ 74.63	38.51

SFCA0669-003 01/01/2024

ALPINE, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
SPRINKLER FITTER	$ 46.46	27.97

SHEE0104-006 06/29/2020

MARIN, NAPA, SOLANO SONOMA & TRINITY COUNTIES

	Rates	Fringes
Sheet Metal Worker		
Mechanical Contracts		
$200,000 or less	$ 55.92	45.29
All other work	$ 64.06	46.83

SHEE0104-009 07/01/2021

AMADOR, COLUSA, EL DORADO, NEVADA, PLACER, SACRAMENTO, SUTTER, YOLO AND YUBA COUNTIES

	Rates	Fringes
SHEET METAL WORKER	$ 47.85	41.90

SHEE0104-010 07/01/2020

AlPINE COUNTY

	Rates	Fringes
SHEET METAL WORKER	$ 43.50	37.42

SHEE0104-011 07/01/2020

BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, YOLO AND YUBA COUNTIES

	Rates	Fringes
Sheet Metal Worker (Metal		

decking and siding only).....$ 44.45 35.55

SHEE0104-014 07/01/2020

MARIN, NAPA, SOLANO, SONOMA AND TRINITY COUNTIES

	Rates	Fringes
SHEET METAL WORKER (Metal Decking and Siding only)	$ 44.45	35.55

SHEE0104-019 07/01/2020

BUTTE, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA, SISKIYOU AND TEHAMA COUNTIES

	Rates	Fringes
SHEET METAL WORKER		
Mechanical Jobs $200,000 & under	$ 35.16	35.88
Mechanical Jobs over $200,000	$ 46.60	40.21

TEAM0094-001 07/01/2022

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 36.95	31.14
GROUP 2	$ 37.25	31.14
GROUP 3	$ 37.55	31.14
GROUP 4	$ 37.90	31.14
GROUP 5	$ 38.25	31.14

FOOTNOTES:

Articulated dump truck; Bulk cement spreader (with or without auger); Dumpcrete truck; Skid truck (debris box); Dry pre-batch concrete mix trucks; Dumpster or similar type; Slurry truck: Use dump truck yardage rate.

Heater planer; Asphalt burner; Scarifier burner; Industrial lift truck (mechanical tailgate); Utility and clean-up truck: Use appropriate rate for the power unit or the equipment utilized.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Dump trucks, under 6 yds.; Single unit flat rack (2-axle unit); Nipper truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump machine; Fork lift and lift jitneys; Fuel and/or grease truck driver or fuel person; Snow buggy; Steam cleaning; Bus or personhaul driver; Escort or pilot car driver; Pickup truck; Teamster oiler/greaser and/or serviceperson; Hook tender (including loading and unloading); Team driver; Tool room attendant (refineries)

GROUP 2: Dump trucks, 6 yds. and under 8 yds.; Transit mixers, through 10 yds.; Water trucks, under 7,000 gals.; Jetting trucks, under 7,000 gals.; Single-unit flat rack (3-axle unit); Highbed heavy duty transport; Scissor truck; Rubber-tired muck car (not self-loaded); Rubber-tired truck

jumbo; Winch truck and ""A"" frame drivers; Combination winch truck with hoist; Road oil truck or bootperson; Buggymobile; Ross, Hyster and similar straddle carriers; Small rubber-tired tractor

GROUP 3: Dump trucks, 8 yds. and including 24 yds.; Transit mixers, over 10 yds.; Water trucks, 7,000 gals. and over; Jetting trucks, 7,000 gals. and over; Vacuum trucks under 7500 gals. Trucks towing tilt bed or flat bed pull trailers; Lowbed heavy duty transport; Heavy duty transport tiller person; Self- propelled street sweeper with self-contained refuse bin; Boom truck - hydro-lift or Swedish type extension or retracting crane; P.B. or similar type self-loading truck; Tire repairperson; Combination bootperson and road oiler; Dry distribution truck (A bootperson when employed on such equipment, shall receive the rate specified for the classification of road oil trucks or bootperson); Ammonia nitrate distributor, driver and mixer; Snow Go and/or plow

GROUP 4: Dump trucks, over 25 yds. and under 65 yds.; Water pulls - DW 10's, 20's, 21's and other similar equipment when pulling Aqua/pak or water tank trailers; Helicopter pilots (when transporting men and materials); Lowbedk Heavy Duty Transport up to including 7 axles; DW10's, 20's, 21's and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers; Vacuum Trucks 7500 gals and over and truck repairman

GROUP 5: Dump trucks, 65 yds. and over; Holland hauler; Low bed Heavy Duty Transport over 7 axles

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R ◆1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an

interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"