



CITY OF ORLAND

GLENN COUNTY, CALIFORNIA

CONTRACT DOCUMENTS

FOR

ORLAND EMERGENCY GROUNDWATER RESOURCE PROJECT - PHASE 2C UNIT 1

March 2025

PREPARED BY:

**CITY OF ORLAND
PUBLIC WORKS DEPARTMENT**

SET NO. 01





**CITY OF ORLAND
GLENN COUNTY, CALIFORNIA**

**CONTRACT DOCUMENTS
FOR
ORLAND EMERGENCY GROUNDWATER RESOURCE PROJECT - PHASE 2C UNIT 1**

April, 2025

Contract Documents were prepared by or under the direction of:
Paul W. Rabo, PE





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NOTICE TO BIDDERS

1.00 NOTICE INVITING BIDS

Sealed bids will be received at City Hall, City of Orland, 815 Fourth Street, Orland, California, 95963 until 2:00 p.m., **May 6, 2025**. At that time, all bids will be publicly opened, examined and declared for construction of:

ORLAND EMERGENCY GROUNDWATER RESOURCE PROJECT - PHASE 2C UNIT 1

2.00 GENERAL WORK DESCRIPTION

The work to be done under this Contract consists of installing backflow prevention assemblies, ball valves, fittings, and appurtenances for twenty-nine (29) water service connections (existing water meter to existing residence).

Work shall be completed within 60 CALENDAR DAYS from the issuance of the Notice To Proceed by the Owner.

The Contractor shall possess either a Class A license or a combination of Class C licenses which constitutes a majority of the work at the time this contract is awarded. The Contractor must be properly licensed as a contractor from contract award through contract acceptance.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in Division 2, Part 7, Chapter 1 of the Labor Code, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the Labor Code. It is not a violation of Section 1771.1 for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

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, including but not limited to the soil conditions and/or groundwater conditions to be encountered in performing the work, and he or she is to carefully examine these Contract Documents.

Inquiries or questions based on alleged patent ambiguity of the plans, specifications or estimate must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after bid opening, will not be treated as a bid protest. Bidders' inquiries may be presented to the City Engineer by email at cityengineer@cityoforland.com or by U.S. Mail at Orland Emergency Groundwater Resource Project - Phase 2C, c/o Rolls Anderson & Rolls, 115 Yellowstone Drive, Chico, CA 95973.

3.00 BID SUBMITTAL REQUIREMENTS

Bids are required for the entire work described herein and no bid will be accepted unless it is made on forms furnished by the City of Orland. **To ensure consideration, the Bid must be enclosed in a sealed envelope, clearly marked BID which also bears the name of the project and the date and time set for opening of Bids.** Each Bid must be accompanied by cash, certified or cashier's check, or bidder's bond made payable to the City of Orland for an amount equal to ten percent (10%) of the amount bid, such guaranty to be forfeited should the bidder to whom the Contract is awarded fail to execute the Contract.

No Bid 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.

NOTICE TO BIDDERS

4.00 PREVAILING WAGES

Pursuant to Section 1773 of the Labor Code of the State of California, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at the City of Orland address and available from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov/DLSR/PWD>. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

5.00 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 apprenticeable crafts or trades, and shall also assure compliance by his or her sub-contractors with respect to such apprenticeable crafts or trades.

6.00 INSURANCE AND BONDS REQUIRED

The successful bidder to whom the Contract is awarded will be required to furnish appropriate insurance certificates as required by Section 4.00 of the General Conditions and the Special Conditions. He or she shall also furnish a Payment Bond in an amount equal to the total Contract amount and a Faithful Performance Bond in the amount equal to the total Contract amount, with a corporate surety approved by the City of Orland.

7.00 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.

8.00 BIDDER'S INFORMATION

Contract Documents, including Plans and Specifications, are available for inspection on the City of Orland's website: www.cityoforland.com; at the Valley Contractors Exchange at 951 E. 8th Street, Chico, California; and Shasta Builders Exchange at 2990 Innsbruck Drive, Redding, California. Copies are available for purchase at the Public Works Department located in the City Hall, City of Orland, 815 Fourth Street, Orland, California; and Rolls, Anderson & Rolls, 115 Yellowstone Drive, Chico, California, (530) 895-1422, for a **NON-REFUNDABLE PAYMENT** of \$1.00 per plan sheet and \$0.10 per bid book/technical specifications sheet, plus \$10.00 mailing charge if mailing is requested.

9.00 BID AWARD

The Contract, if awarded, will be awarded within 30 days after the opening of Bids, to the lowest responsible bidder as determined by the City of Orland. 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.

/s/ Zach Barber _____
Zach Barber
Public Works Director
City of Orland

Date: _____ April 4, 2025 _____

Publish Date: April 4, 2025

INSTRUCTIONS TO BIDDERS

1.00 INTRODUCTION

Each Bid shall be in accordance with the Contract Documents prepared by Rolls, Anderson & Rolls, 115 Yellowstone Drive, Chico, CA 95973. Contract Documents are available as specified in the Notice to Bidders.

2.00 DEFINITION OF TERMS

2.01 CONTRACT DOCUMENTS

The Contract Documents consist of the Notice to Bidders, Instructions to Bidders, Bidder's Signature, Contract, General Conditions, Supplemental General Conditions, Special Conditions, Technical Specifications, Appendices, Plans, and any Addenda.

2.02 CONTRACT

The Contract is the written agreement covering the performance of the work and the furnishing of labor, materials, tools, and equipment in the construction of the work. It includes supplemental agreements amending or extending the work contemplated and which may be required to complete the work agreements covering alterations, amendments or extensions to the Contract and includes Contract Change Orders.

2.03 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 Contract Documents as if each were of the singular number and the masculine gender.

2.04 BIDDER

Any individual, firm, partnership, or corporation submitting a Bid for the work contemplated, acting directly or through a duly authorized representative.

2.05 BID

The offer of a Bidder for the work when made out and submitted on the prescribed Bid form, properly signed and guaranteed.

2.06 BID GUARANTEE

The cash, cashier's check, certified check or Bidder's Bond accompanying the Bid submitted by the Bidder, as a guarantee that the Bidder will enter into a Contract with the Owner for the performance of the work if the Contract is awarded to him.

2.07 EFFECTIVE DATE OF THE CONTRACT

The date on which the governing body or an authorized representative of the Owner awards the Contract.

2.08 DATE OF EXECUTION OF THE CONTRACT

The date on which the Contract is signed by the Owner's authorized representative.

2.09 DAYS

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

2.10 WORK

The terms "work" or "Work" means all the work specified, indicated, shown or contemplated in the Contract Documents, including all alterations, amendments or extensions thereto made by Contract Change Order or other written orders of the Owner.

2.11 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

INSTRUCTIONS TO BIDDERS

Specifications such as those of ASTM, AASHTO, etc., have been referred to, the applicable portions of such Standard Specifications shall become a part of these Contract Documents.

2.12 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 Contract Documents or bound in separate sets, and are a part of the Contract Documents regardless of the method of binding.

3.00 PREPARATION AND SUBMISSION OF BIDS

Bids must be submitted on the forms bound in the Contract Documents and must be "wet signed" by the Bidder or his authorized representative. Any corrections to the entries made on the Bid forms must be initialed by the person signing the Bid.

Bidders must bid on all items appearing on the Bid Item List, unless specific directions allow for partial bids. Failure to bid all items may disqualify the Bid. 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 Bid.

Telegraphic Bids or facsimile Bids will not be considered. Modifications to Bids already submitted will be allowed if received in writing, by facsimile or by telegram prior to the time fixed in the Notice to Bidders for opening of Bids. Modifications shall be submitted as such and shall not reveal the total amount of either the original or revised Bid.

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

To ensure consideration, the Bid should be enclosed in a sealed envelope, clearly marked **BID** which also bears the name of the project and the date and time set for opening Bids. The sealed envelope containing the Bid should be filed at the place and before the time set for opening of Bids. Bids received after the time indicated will be returned unopened.

4.00 WITHDRAWAL OF BIDS

Any bidder may withdraw his Bid, either personally or by facsimile, telegraphic or written request at any time prior to the scheduled closing time for receipt of bids. No bidder may withdraw his bid for a period of 30 days after the date set for opening. 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.

5.00 BID GUARANTEE

Bids shall be accompanied by cash, certified check, cashier's check or "wet signed" Bidder's Bond made payable to the Owner. The bidder's bond shall conform to the bond form in these Contract Documents and shall be properly filled out and executed. The bidder's bond form included in these documents may be used. Facsimile copies of checks or executed Bidder's Bonds will not be accepted. The Bid Guarantee must be enclosed in the same envelope with the Bid. The amount of the Bid Guarantee shall not be less than 10 percent of the total amount of the Bid.

6.00 ADDENDA AND EXPLANATIONS TO BIDDERS

Any request for explanation or interpretation of the Contract Documents must be made in writing at least seven (7) days before the time set for opening of Bids. Any explanation or interpretation will be made in the form of Addenda to the Contract Documents and shall be furnished to all Bidders. Bidders shall submit signed copies of all Addenda with their Bids. Oral explanations and interpretations will not be binding.

INSTRUCTIONS TO BIDDERS

7.00 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.

8.00 ACCEPTANCE OR REJECTION OF BIDS

The Owner reserves the right to reject any or all Bids and to waive any informality in any Bid.

The award of Contract, if made, will be to the lowest responsible Bidder whose Bid complies with the requirements of the Contract Documents. The award, if made, will be made within 30 days after the opening of Bids. If the lowest responsible Bidder fails to sign and return the Contract with acceptable bonds and certificates of insurance, the Owner may award the Contract to the next lowest responsible Bidder.

9.00 CONTRACT BONDS

The successful Bidder shall furnish a Performance Bond in the amount of 100 percent of the total Contract amount and a Payment Bond in the amount of 100 percent of the total Contract amount.

10.00 EXECUTION OF CONTRACT

The effective date of the Contract shall be the date on which the governing body or an authorized representative of the Owner awards the Contract.

The Bidder whose Bid is accepted, and to whom the Contract is awarded, shall sign and return the Contract with acceptable bonds and certificates of insurance within 14 calendar days after receiving notice that the Contract has been awarded to him. Failure to do so shall be just cause for annulment of the award and for forfeiture of the Bid Guarantee.

Within seven (7) days after receiving the signed Contract with acceptable bonds, and evidence of satisfactory insurance, from the successful Bidder, the Owner's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

11.00 RETURN OF BID GUARANTEES

Within 15 days after the award of the Contract, the Owner will return the Bid Guarantees, other than Bidder's Bonds, to all Bidders whose Bids are not to be further considered in awarding the Contract. Retained Bid Guarantees will be held until the Contract has been finally executed, after which all Bid Guarantees, other than Bidder's Bonds and any guarantees which have been forfeited, will be returned to the respective Bidders whose Bids they accompanied.

INSTRUCTIONS TO BIDDERS



BID ITEM LIST

Contractor Name: _____ Date: _____

Orland Emergency Groundwater Resource Project - Phase 2C Unit 1

Item No.	Description	Approx. Quantity	Unit Price	Total Price
1.	Mobilization/Demobilization	Lump Sum	Not Applicable	\$ _____
2.	Environmental Compliance	Lump Sum	Not Applicable	\$ _____
3.	Site Management	Lump Sum	Not Applicable	\$ _____
4.	Install City Std. 307 Single Water Service	1 EA	\$ _____	\$ _____
5.	Water Service	3,335 LF	\$ _____	\$ _____
6.	Surface Replacement (Native)	1,310 LF	\$ _____	\$ _____
7.	Surface Replacement (Landscape)	655 LF	\$ _____	\$ _____
8.	Surface Replacement (HMA)	35 LF	\$ _____	\$ _____
9.	Surface Replacement (Gravel)	1,335 LF	\$ _____	\$ _____
10.	City Std. 310 Backflow Prevention Assembly	29 EA	\$ _____	\$ _____
TOTAL BID AMOUNT				\$ _____

BID ITEM LIST



LIST OF SUBCONTRACTORS

As of March 1, 2015 Contractors (and sub-contractors) wishing to bid on public works contracts must be registered with the State Division of Industrial Relations and certified to bid on Public Works contracts. Please register at <https://www.dir.ca.gov/Public-Works/Contractor-Registration.html>. The local agency will verify registration of all contractors and subcontractors on public works projects at bid and thereafter annually to assure that yearly registration is maintained throughout the life of the project.

In accordance with Title 49, Section 26.11 of the Code of Federal Regulations, and Section 4104 of the Public Contract Code of the State of California, as amended, the following information is required for each sub-contractor who will perform work amounting to more than one half of one percent (0.5%) of the Total Base Bid or \$10,000 (whichever is greater).

Photocopy this form for additional firms.

Subcontractor Name & Location	Bid Item & Description	Percentage of Bid Item Subcontracted	Contractor License Number
			DIR Reg Number
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			

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			DIR Reg Number
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			
NAME			
City, State			

LABOR CERTIFICATION

[LABOR CODE SECTION 1861]

STATE OF CALIFORNIA)
) ss
COUNTY OF _____)

I, the undersigned, do hereby certify:

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

Executed at _____

On _____.

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

Contractor-Employer

LABOR CERTIFICATION



NONCOLLUSION AFFIDAVIT

NONCOLLUSION DECLARATION TO BE EXECUTED BY
BIDDER AND SUBMITTED WITH BID

The undersigned declares:

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

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

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

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

Note: The above Noncollusion Affidavit is part of the bid. Signing this Bid on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

NONCOLLUSION AFFIDAVIT



BIDDER'S SIGNATURE

Accompanying this Bid is _____, (cash, cashier's check, certified check or Bidder's Bond) in the amount equal to at least 10 percent of the total amount of the Bid.

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

IMPORTANT NOTICE

If Bidder is a corporation, the legal name of the corporation shall be set forth below, together with the signature of the officer or officers authorized to sign Contracts on behalf of the corporation. If Bidder is a copartnership, the true name of the firm shall be set forth below, together with the signature of the partners authorized to sign Contracts in behalf of the copartnership; and if Bidder is an individual, his signature shall be placed below. 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 Bids or submitted with the Bid; otherwise, the Bid will be disregarded as irregular and unauthorized.

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

License No. _____ Classification(s) _____

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

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

By my signature on this Bid I certify that I have read and understand the clauses and certifications which are a part of this bid and that my signature shall constitute an endorsement and execution of those clauses and certifications. I further agree that in case of default in signing and returning the required Contract with necessary bonds within 14 days after receiving notice of award, the proceeds of the cash, check or bond accompanying the Bid shall be forfeited to the Owner.

Date:	_____	Business P.O. Box:	_____
Name of Individual, Corporation, or Copartnership:	_____	Business Street Address:	_____
Title:	_____		<i>(Please provide even if P.O. Box used)</i>
Signature(s):	_____	City, State, Zip Code:	_____
Contractor License No.:	_____	Phone No.:	_____
DIR Registration No.:	_____	Fax No.:	_____

BIDDER'S SIGNATURE



BIDDER'S BOND

KNOW ALL MEN BY THESE PRESENTS, THAT WE, THE UNDERSIGNED _____

_____ as Principal;

And _____ as Surety, are hereby

held and firmly bound unto _____

hereinafter called the Owner, in the sum of _____

_____ dollars (\$ _____), which sum is equal to at least 10 percent of the total amount of the Bid, payment of which sum, well and truly to be made, we hereby, jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain Bid, attached hereto and hereby made a part thereof, to enter into a Contract in writing, for the construction of:

ORLAND EMERGENCY GROUNDWATER RESOURCE PROJECT - PHASE 2C UNIT 1

THEREFORE,

(a) If said Bid shall be rejected, or in the alternate,

(b) If said Bid shall be accepted and the Principal shall sign and deliver a Contract, in the Form of Contract attached hereto and shall execute and deliver Performance and Payment Bonds in the forms attached hereto (all completed in accordance with said Bid), and shall in all other respects perform the agreement created by the acceptance of said Bid.

Then, this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all default of the Principal hereunder shall be the amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid, and said Surety does hereby waive notice of any such extension.

BIDDER'S BOND

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

IN PRESENCE OF:

	_____ Individual Principal
_____ Address	_____ Business Address
_____	_____ Individual Principal
_____ Address	_____ Business Address

	_____ Corporate Principal
	_____ Business Address
_____	By _____ Affix Corporate Seal

ATTEST:

	_____ Corporate Surety
	_____ Business Address
	_____ Corporate Seal

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

Total amount of premium charged is \$ _____ .

FORM OF CONTRACT

THIS AGREEMENT, made and entered into on the date below written, by and between, **CITY OF ORLAND, CALIFORNIA, A MUNICIPAL CORPORATION**, 815 Fourth Street, Orland, California, 95963, hereinafter called the **OWNER**, and _____, hereinafter called the **CONTRACTOR**.

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:

**CONTRACT DOCUMENTS
FOR
ORLAND EMERGENCY GROUNDWATER RESOURCE PROJECT - PHASE 2C UNIT 1**

The Contract Documents have been prepared by *GEI Consultants Inc.*, 2868 Prospect Park Drive, Suite 400, Rancho Cordova, CA 95670, hereinafter called the Engineer, 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 Engineer 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 Article 6.00 of the General Conditions.

ARTICLE IV. The Contractor shall commence work within 15 days and shall diligently prosecute the same to completion within 60 calendar days after receipt of a Notice to Proceed from the Owner.

ARTICLE V. The Contractor shall guarantee all of his work against defective material or faulty workmanship for a period of one year after the date of acceptance of the work by the Owner.

The Contractor shall repair or replace to the satisfaction of the Owner 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.

FORM OF CONTRACT

ARTICLE VI. The Contractor specifically obligates himself and hereby agrees to protect, hold free and harmless, defend and indemnify the Owner, the Engineer and his 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 his 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 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 hereunder, insurance in his favor and also in favor of the Owner, with an insurance carrier approved by the Owner, as specified in Article 4.00 of the General Conditions and in the Special Conditions.

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 Article 5.00 of the General Conditions and the Labor Code. Contractor agrees that these requirements shall be incorporated into all of his 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 he 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 his 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:

City of Orland
Attn.: Pete Carr
City Manager
815 Fourth Street
Orland, CA 95963

CONTRACTOR:

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.

FORM OF CONTRACT

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.

OWNER

Date

Pete Carr
City Manager
City of Orland

(City Seal)

Attest:

Jennifer Schmitke,
City Clerk, City of Orland

CONTRACTOR

Date

name

title

Company

Approved as to Form:

Greg Einhorn, City Attorney
City of Orland



PERFORMANCE BOND

Whereas, The City Council of the City of _____, 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 _____, 20____, and identified as project _____, 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 _____ (hereinafter called "City"), in the penal sum of _____ dollars (\$ _____) 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, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said agreement and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless _____, its officers, agents and employees, as therein stipulated, then this obligation shall 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 therefor, 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.

PERFORMANCE BOND

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 be 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's city engineer 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 engineer'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

PERFORMANCE BOND

estimate (or if 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, this instrument has been duly executed by the principal and surety above named, on

_____, 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)

NOTE: If Contractor is a Partnership, all partners should execute the bond.



PAYMENT BOND

Whereas, The City Council of the City of _____, 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 _____, 20____, and identified as project _____, 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 _____ 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 _____ 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 sum of

_____ dollars (\$_____), 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.

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

PAYMENT BOND

obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

In witness whereof, this instrument has been duly executed by the principal and surety above named, on

_____, 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)
_____	_____

NOTE: If Contractor is a Partnership, all partners should execute the bond

1.00 SCOPE OF THE WORK

1.01 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 Contract 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 Contract in a satisfactory and workmanlike manner.

1.02 CHANGES IN THE WORK

The Owner 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 Owner. All such changes will be done under Contract 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 Contract or subsequently agreed upon.
- (b) By estimate and acceptance in an agreed upon lump sum.
- (c) By Force Account as provided for in Section 6.04.

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 Section 6.05 a correct account of the net cost of the labor and materials actually incorporated in the work.

Upon receipt of a Contract Change Order, the Contractor shall proceed with the ordered work. If ordered in writing by the Owner, the Contractor shall proceed with the work so ordered prior to actual receipt of a Contract Change Order. A Contract Change Order executed by the Contractor and approved by the Owner is an executed Contract Change Order as that term is used in Section 1.03 through 1.05.

A Contract Change Order may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in a Contract Change Order which he has not executed, he shall submit a written protest to the Owner within 15 days after the receipt of such Contract 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 Contract Change Order and such payment shall constitute full compensation for all work included therein or required thereby. Such unprotested Contract Change Orders will be considered as executed Contract Change Orders as that term is used in Section 1.03 through 1.05.

Where the protest concerning a Contract Change Order relates to compensation, the compensation payable for all work specified or required by said Contract Change Order to which such protest relates will be determined as provided in Section 1.03 through 1.05. The Contractor shall keep full and complete records of the cost of such work and shall permit the Owner 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 Contract 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 Section 2.03.

1.03 INCREASED OR DECREASED QUANTITIES

Increases or decreases in the quantity of a Contract 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.

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If the total pay quantity of any item of work required under the Contract varies from the Proposal quantity therefore by 25 percent or less, payment will be made for the quantity of work performed at the Contract unit price, unless eligible for adjustment pursuant to Section 1.04.

If the total pay quantity of any item of work required under the Contract varies from the Proposal quantity therefore by more than 25 percent, in the absence of an executed Contract Change Order specifying the compensation to be paid, the compensation payable to the Contractor will be determined in accordance with Section 1.03A, 1.03B, or 1.03C herein, as the case may be.

1.03A INCREASE OF MORE THAN 25 PERCENT

Should the total pay quantity of any item of work under the Contract exceed the Proposal quantity by more than 25 percent, the work in excess of 125 percent of the Proposal quantity (if not covered by an executed Contract Change Order specifying the compensation) will be paid for by adjusting the Contract unit price, or at the option of the Owner, payment for the work involved in such excess will be made on the basis of Force Account as provided in Section 6.04.

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 125 percent of the Proposal quantity, and will be excluded from the adjusted unit price.

1.03B DECREASES OF MORE THAN 25 PERCENT

Should the total pay quantity of any item of work under the Contract be less than 75 percent of the Proposal quantity, the quantity performed (unless covered by an executed Contract Change Order specifying the compensation) will be paid for by adjusting the Contract unit price, or at the option of the Owner, payment for the quantity of the work of such item performed will be made on the basis of Force Account as provided in Section 6.04.

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 75 percent of the Proposal quantity at the original Contract unit price.

1.03C DELETED ITEMS

Should any Contract item of work be deleted in its entirety (in the absence of an executed Contract 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 Owner 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 Owner, 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 Owner and the cost of any further handling will be paid for as extra work as provided in Section 1.05. If the material is returnable to the vendor and if the Owner 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 Section 1.05.

1.04 CHANGES IN CHARACTER OF WORK

If an ordered change in the Plans or Specifications materially changes the character of the work of a Contract 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

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option of the Owner, 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 Section 6.04.

Failure of the Owner to recognize a change in character of the work at the time the Contract 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 15-day limit.

1.05 HAZARDOUS MATERIALS

Contracts for 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:

1.05A That the Contractor shall promptly, and before the following conditions are disturbed, notify the Owner, in writing, of any:

1.05A(1) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

1.05A(2) Subsurface or latent physical conditions at the site differing from those indicated.

1.05A(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 Contract.

1.05B That the Owner 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 Contractor's cost of, or the time required for, performance of any part of the work shall issue a Contract Change Order under the procedures described in the Contract.

1.05C That, in the event that a dispute arises between the Owner and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

1.06 EXTRA WORK

New and unforeseen work will be classed as extra work when determined by the Owner that such work is not covered by any of the various items for which there is a Contract price or by combinations of such items. In the event portions of such work are determined by the Owner to be covered by some of the various items for which there is a Contract 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 Contract Change Order or other written order from the Owner, and without a Contract Change Order or other written order of the Owner, he shall not be entitled to payment for such extra work. Where such extra work is ordered by a written order other than a Contract Change Order, the Owner will, as soon as practicable, issue a Contract Change Order. The provisions in Section 1.02 shall be fully applicable to the subsequently issued Contract Change Order. Payment for extra work required to be performed pursuant to the provisions of this section, in the absence of an executed Contract Change Order, will be made by Force Account as provided in Section 6.04, or as agreed to by the Contractor and the Owner.

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1.07 GUARANTEE

The Contractor shall guarantee all of his work against defective material or faulty workmanship for a period of one year after the date of acceptance of the work by the Owner.

The Contractor shall repair or replace to the satisfaction of the Owner 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. The Contract Performance Bond shall remain in full effect during the guarantee period and will not be released until the expiration of such period.

2.00 PROGRESS AND COMPLETION OF THE WORK

2.01 PROGRESS OF THE WORK AND TIME OF COMPLETION

The Contractor shall begin work within 15 days after the issuance of the Notice to Proceed by the Owner. He shall diligently prosecute the same to completion within the number of days set forth in the Special Conditions.

2.02 LIQUIDATED DAMAGES

It is agreed by the parties of the Contract that in case all work called for under the Contract is not completed within the number of days specified in the Special Conditions, damage will be sustained by the Owner; and it is further agreed that it is, and will be, impractical and extremely difficult to ascertain and determine the actual damage which the Owner will sustain by the delay. It is therefore agreed that the Contractor will pay to the Owner the sum specified in the Special Conditions for each and every day's delay in finishing the work. The Contractor agrees to pay said liquidated damages and further agrees that the Owner may deduct the amount thereof from the monies due or to become due the Contractor under this Contract.

It is further agreed that if the work called for under the Contract is not completed within the number of days specified in the Special Conditions, the Owner shall have the right to increase the number of days or not, as he decides will best serve his interest. If the Owner decides to increase the number of days, he 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 he may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses which are directly chargeable to the Contract 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.

2.03 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 Owner, fire, floods, epidemics, quarantine restrictions, strikes, unusual shortage of materials and freight embargoes. In the event of such delay, the Contractor shall notify the Owner in writing of the causes of delay within 10 days from the beginning of such delay, and his findings thereon shall be final.

2.04 PROGRESS SCHEDULE AND ORDER OF COMPLETION

Within 10 days after execution of the Contract, the Contractor shall submit to the Owner 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. This schedule shall also conform to the requirements for completion of portions of the work as may be specified in the Special Conditions. The

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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 Owner at his request at any time during the Contract period.

3.00 CONTROL OF THE WORK

3.01 ASSIGNMENT

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, without the previous written consent of the Owner.

3.01A ANTITRUST CLAIMS ASSIGNMENT

To the extent this Contract 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 Owner all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. 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 Owner tenders final payment to the Contractor, without further acknowledgment by the parties.

3.02 RIGHTS OF VARIOUS INTERESTS

Wherever work being done by the Owner's forces or by other contractors is contiguous to work covered by this Contract, the respective rights of the various interests involved shall be established by the Owner, to secure the completion of the various portions of the work in general harmony.

3.03 SEPARATE CONTRACTS

The Owner reserves the right to let other contracts 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 Owner 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 Owner any discrepancy between the executed work and that shown on the Plans.

3.04 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 Contract Documents. Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the Owner.

3.05 CONTRACT DOCUMENTS

The various parts of the Contract 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.

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3.06 CITY ENGINEER'S AUTHORITY

The City Engineer is the representative of the Owner and has full authority to interpret the Contract Documents, to enforce the requirements thereof and to decide questions which arise during the course of the work. He has authority to stop the work whenever such stoppage may be necessary to insure the proper execution of the Contract. He shall also have authority to reject all work and materials which do not conform to the Contract Documents.

If at any time before the commencement or during the progress of the work, tools, plant or equipment appear to the City Engineer to be insufficient, inefficient, or inappropriate to secure the quality of work required or the proper rate of progress, the City Engineer 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 Engineer 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 Contract Documents.

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

3.07 INSPECTION OF WORK

The Owner 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 Engineer's instructions require any work to be specially tested or approved, the Contractor shall give the Owner a minimum of 48 hours' notice of its readiness for inspection. Inspection by the Owner will be made promptly. If any work should be covered up without approval or consent of the Owner, it must, if required by the Owner, 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 fulfill his Contract 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 Owner or that payment therefore has been included in a progress estimate.

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

3.08 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 Contract. During periods when work is suspended, arrangements acceptable to the Owner shall be made for any emergency work which may be required.

Whenever the Contractor or his 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 Owner, which shall be received and

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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 Owner, not otherwise required by the Contract Documents to be in writing will, on request of the Contractor, be given or confirmed by the Owner in writing.

3.09 CHARACTER OF WORKMEN

If any subcontractor or person employed by the Contractor shall fail or refuse to carry out the directions of the Owner or shall appear to the Owner to be incompetent or to act in a disorderly or improper manner, he shall be removed immediately on the requisition of the Owner, 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.

3.10 PLANS, SPECIFICATIONS AND INSTRUCTIONS

Unless otherwise provided in the Special Conditions, the Owner will furnish to the Contractor, free of charge, all copies of Plans and Specifications reasonably necessary for the execution of the work. He 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 Contract Change Orders, on the work in good order available to the Owner and his 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 Owner. The Owner 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 Contract work, the Contractor shall provide the Owner with one complete set of Plans and Specifications with all "As Built" changes or modifications marked and annotated.

3.11 CONSTRUCTION STAKING

Unless otherwise noted in the Special Conditions, the Owner will set such construction stakes and marks as he determines are necessary to establish the lines and grades required for the completion of the work specified in the Contract Documents. Whenever the Contractor requires construction stakes, he shall notify the Owner of his requirements at least five days in advance of starting operations that require such stakes.

Property corners, bench marks, reference points and stakes shall be carefully preserved by the Contractor. In case such stakes or marks are destroyed or damaged, they will be replaced at the Owner's earliest convenience. The Contractor shall be charged for the cost of replacing or restoring stakes and marks which are destroyed or damaged by his operations. This charge will be deducted from any monies due or to become due to the Contractor under the Contract.

3.12 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 Owner. Copies of any permits and licenses which are obtained by the Owner 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

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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 Owner in writing, and any necessary changes shall be adjusted as provided in the Contract 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 Owner, he shall bear all costs arising therefrom.

3.13 LANDS FOR WORK

The Owner and County shall provide the lands, easements and rights-of-way upon which the work under this Contract is to be done. Unless he specifically makes other arrangements, the Contractor shall confine his operations to the limits of the Owner's and County'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. The Contractor is advised that if additional working space is required outside the limits of the rights-of-way provided, such additional area must be obtained directly from the property owners by the Contractor for use during the construction period. The Owner and County shall be furnished with copies of written agreements or otherwise notified in writing if additional working space is acquired.

The County shall be included in the decision-making process for any work-related decisions and/or deviations to the plans and these specifications for any work conducted within County lands, easements, and rights-of way.

3.14 SUSPENSION OF WORK

The Owner may at any time suspend the work, or any part thereof, by giving one day's notice to the Contractor in writing. The work shall be resumed by the Contractor within 10 days after the date fixed in the written notice from the Owner to the Contractor to do so. The Owner will reimburse the Contractor for expense incurred by the Contractor in connection with the work under this Contract as a result of such suspension, except that no reimbursement will be made if the suspension is due to non-conformance with the Contract Documents on the part of the Contractor. If the work or any part thereof shall be stopped by notice in writing, and if the Owner does not give notice in writing to the Contractor to resume work within 30 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.

3.15 THE OWNER'S RIGHT TO DO WORK

If the Contractor should neglect to prosecute the work properly or fail to perform any provision of the Contract, the Owner, after 3 days' written notice to the Contractor, may, without prejudice to any other course of action he 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 under this Contract.

3.16 THE OWNER'S RIGHT TO TERMINATE CONTRACT

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 Owner, or otherwise be guilty of a substantial violation of any provision of the Contract, then the Owner, may, without prejudice to any other right or remedy and after giving the Contractor 7 day's 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 Contract 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 Owner. The

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expenses incurred by the Owner as herein provided, and the damage incurred through the Contractor's default, shall be certified by the Owner.

3.17 REMOVAL OF EQUIPMENT

In the case of annulment of this Contract before completion for any cause, the Contractor, if notified to do so by the Owner, shall promptly remove any part or all of his equipment and supplies from the Owner's property. If not promptly done, the Owner shall have the right to remove such equipment and supplies at the expense of the Contractor.

3.18 CORRECTION OF WORK

The Contractor shall promptly remove from the premises all materials condemned by the Owner as failing to conform to the Contract 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 Owner 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 10 days' time thereafter, the Owner may, upon 10 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.

3.19 DEDUCTIONS FOR UNCORRECTED WORK

If the Owner deems it inexpedient to correct work injured or done not in accordance with the Contract, an equitable deduction from the Contract price shall be made therefore.

3.20 USE OF COMPLETED PORTIONS

The Owner 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 Contract 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 Owner may determine.

3.21 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 Section, the following requirements apply:

3.21A 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 Contract for the filing of claims.

3.21B(1) For claims of less than fifty thousand dollars (\$50,000), the Owner shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the Owner may have against the Contractor.

3.21B(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the Owner and the Contractor.

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3.21B(3) The Owner's written response to the claim, as further documented, shall be submitted to the Contractor within 15 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.

3.21C(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 Owner shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the Owner may have against the Contractor.

3.21C(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the Owner and the Contractor.

3.21C(3) The Owner's written response to the claim, as further documented, shall be submitted to the Contractor within 30 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.

3.21D If the Contractor disputes the Owner's written response, or the Owner fails to respond within the time prescribed, the Contractor may so notify the Owner, in writing, either within 15 days of receipt of the Owner's response or within 15 days of the Owner'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 Owner shall schedule a meet and confer conference within 30 days for settlement of the dispute.

3.21E 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.

3.21F 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 Owner, or of any event, thing or occurrence, unless he shall have given the Owner due written notice of potential claim, provided however, that compliance with this Section shall not be a prerequisite as to matters within the scope of the protest provisions in Section 1.02, nor to any claim which is based on differences in measurements or errors of computation of Contract 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 Owner 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 Owner, or in all other cases within 15 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 Section 4.04, and after execution of the emergency work, shall present an accounting of labor, materials, and

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equipment in connection therewith. The procedure for any payment that may be due for emergency work will be as specified in Section 1.02.

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

It is the intention of this Section that differences between the parties arising under and by virtue of the Contract be brought to the attention of the City Engineer 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.

3.22 CLEANING UP

The work area shall be kept in a neat and orderly condition during construction. The Contractor shall remove and dispose of all trash, debris and waste material resulting from his operations. The Contractor shall, at his own expense, promptly remove from the Owner'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.

4.00 INSURANCE AND LIABILITY

4.01 CONTRACTOR'S LIABILITY INSURANCE

The Contractor shall maintain insurance to protect him 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 this Contract, whether such operations are controlled by him, a subcontractor or by anyone directly or indirectly employed by either of them. The Owner and County shall be named as coinsured in all such insurance policies and the coverage shall include concurrent negligence of the Owner and County 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 Owner and County prior to commencing the work and shall be subject to their approval for adequacy of protection.

The Contractor specifically obligates himself and hereby agrees to protect, hold free and harmless, defend and indemnify the Owner, the Engineer and his 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 his 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 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 Owner, with an insurance carrier approved by the Owner, as follows:

Liability for Personal Injury or Property Damage in the amount of \$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 Owner covering his full liability under the "Worker's Compensation Insurance and

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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 10 days after written notice of the intended cancellation thereof shall have first been given to the Owner by the insurer.

The Contractor shall file with the Owner, immediately after the signing of the Contract, certificates of all insurance. These certificates shall be fully executed and shall state that the policies cannot be canceled until 10 days after written notification of such intent of cancellation has been given to the Owner. All policies shall be with Insurance Companies acceptable to the Owner.

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

4.02 FIRE INSURANCE

Fire Insurance is not required for this project.

4.03 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 Owner'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 he will move his materials and equipment, and before using them, he 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 Section. 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.

4.04 PROTECTION OF WORK

The Contractor shall continuously maintain adequate protection of all his work from damage. He shall make good any such damage, injury or loss, except as may be directly due to errors in the Contract Documents or caused by agents or employees of the Owner. He shall adequately protect adjacent property as provided by law and the Contract Documents. He shall provide and maintain all passage-ways, 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 Owner, is hereby permitted to act at his discretion to prevent such threatened loss or injury, and he 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 Section 1.02.

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4.05 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, the California Division of Industrial Safety, and the California Manual on Uniform Traffic Control Devices.

4.06 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 Owner 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 Engineer and the Owner.

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 Owner, giving full details of the claim.

5.00 LABOR AND MATERIALS

5.01 HOURS OF LABOR

The Contractor shall forfeit, as penalty to the Owner, \$25.00 for each workman employed in the execution of the Contract by him, or by any subcontractor under him, for each calendar day any workman is required or permitted to labor more than 8 hours in violation of the provisions of the Labor Code and in particular, Section 1810 to Section 1817 thereof, inclusive.

5.02 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 Contract work shall take such actions as necessary to comply with the provisions of said Section 1777.5.

5.03 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."

5.04 PREVAILING WAGE

The Contractor shall forfeit as penalty to the Owner, \$50.00 for each calendar day or portion thereof, for each workman paid less than stipulated prevailing rates for any work done under the Contract by him or by any subcontractor under him, in violation of the provisions of the Labor Code and in particular, Section 1770 to Section 1780 thereof, inclusive.

The Owner 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 Contract Documents. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his Bid, and will not be considered as the basis of a claim against the Owner on the Contract.

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

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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 Owner 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.

5.05 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 Contract Documents. The Contractor shall furnish satisfactory evidence as to the kind and quality of materials.

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

In certain instances, the Owner may have available power, water or other utilities or materials which the Contractor may wish to use. If the Owner 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.

5.06 RECORDS OF MATERIALS PURCHASED

If required by the Owner, the Contractor shall furnish duplicate invoices to the Owner for all materials furnished to the project.

5.07 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 Owner and the Engineer from all suits at law, or actions of every nature for, or because of the use of any patented materials, equipment, devices, or processes.

5.08 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 Contractor.

5.09 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 Engineer for approval of the proposed substitution. No substitution may be made without prior approval and the Engineer shall be the final judge of equality.

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

5.10 SHOP DRAWINGS AND MATERIAL DATA

Unless otherwise specifically stated in the Special Conditions or Technical Specifications, the Contractor shall submit a minimum of four separately bound copies of shop drawings and material data to the City Engineer for approval. A complete submittal shall include all drawings and data sheets for all bid item materials and all necessary appurtenances to provide a complete installation of each material. These drawings shall show any necessary details in fabrication or erection, which are not shown on the Plans furnished by the Owner and shall verify details and dimensions of equipment. **Facsimile submittals will not be accepted.** Material and/or equipment shall not be fabricated, assembled, or shipped until the

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shop drawings or material data have been approved by the City Engineer. The Contractor shall verify these dimensions before starting any work dependent on or affected by them.

The City Engineer will retain three copies of the shop drawings and material data, and will return one copy to the Contractor. If the Contractor desires additional copies, more than four copies must be submitted.

5.11 TESTS

Unless otherwise specified in the Special Conditions, the Owner will pay for the required testing of materials. The Contractor will furnish all samples at no cost to the Owner. In the event samples are submitted which fail to pass the specified tests, the Contractor will pay for all subsequent tests. The cost of such re-testing will be deducted from payments due the Contractor.

6.00 MEASUREMENT AND PAYMENT

6.01 MEASUREMENT OF QUANTITIES

Where the Contract provides for payment on a lump sum price basis, no measurement of quantities will be made. Where the Contract provides for payment on a unit price basis, the quantities of work performed will be computed by the Owner on the basis of measurements taken by the Owner, and these measurements shall be final and binding.

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

6.02 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 under the Contract; 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 Owner 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 Contract 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.

6.03 CHANGES IN THE WORK

The value of changes in the work, including extra work, shall be determined in accordance with Section 1.02 through 1.05.

6.04 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 him as shown on paid vouchers, plus 15 percent. However, the Owner reserves the right to furnish such materials and equipment as he deems expedient, and the Contractor shall have no claim for overhead and profit on the cost of 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.

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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 as determined by the California State Transportation Agency's Department of Transportation, Division of Construction. This applies to both rental equipment and equipment owned by the Contractor.

6.05 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 Owner 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 Owner 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 Owner 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.

6.06 PAYMENTS WITHHELD

The Owner 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 himself 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 Contract can be completed for the balance then unpaid.
- e. Damage to another Contractor.

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 Owner may withhold to insure performance under this Contract.

6.07 PROGRESS PAYMENTS

Once each month, the City Engineer 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 Engineer in determining the value of acceptable materials which are on hand but not used, the Contractor shall furnish the City Engineer with copies of invoices for all such materials. The Owner shall retain 5 percent of such estimated value of work done, and 50 percent of the value of materials so estimated to be on hand but not used.

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This retention will serve as part security for the fulfillment of the Contract by the Contractor. The Owner shall pay monthly to the Contractor the balance not retained of the aforesaid, after deducting there from all previous payments and all sums to be retained.

When in the judgment of the City Engineer, the work is not proceeding in accordance with the provisions of the Contract, or when in his judgment the total amount of the work done since the last estimate amounts to less than \$1,000.00, 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 Owner may withhold to insure performance under this Contract.

6.08 FINAL PAYMENT

Within 10 days after the completion of the work and its acceptance by the Owner, the City Engineer 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 Owner. At this time, a semi-final payment will be made to the Contractor provided that such payment is warranted under the terms of Section 6.07. The amount of this payment shall be based on the total value of work acceptably performed under the Contract, subject to the same conditions and retentions as payments previously made under the monthly estimates.

Within 20 days after the date of the final estimate, the Contractor shall submit to the City Engineer either his written approval of the final quantities, and value of work as determined by the City Engineer, or a written statement of any and all claims for additional compensation claimed to be due under the Contract. No claim for which a notice of potential claim is required will be considered unless the Contractor has complied with the notice provisions of Section 3.21, 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 20-day period, regardless of whether or not he files written approval, shall constitute his acceptance of the quantities and value of work determined by the City Engineer in the final estimate. No claim will be considered if filed after the specified 20-day period.

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

Thirty-five days after the date of filing the Notice of Completion, the Owner will pay the entire sum found to be due, after deducting all previous payments and all amounts to be retained under the provisions of the Contract. As a condition of such payment, the Owner may require the Contractor to furnish a release of all claims against the Owner arising by virtue of the Contract. Payment will be withheld for any contract 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.

6.09 PAYMENT OF TAXES

The Contract prices paid for the work include full compensation for payment of federal, State or local taxes.

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1.00 SCOPE OF THE WORK

1.01 GENERAL WORK DESCRIPTION

The work to be done under this Contract consists of installing backflow prevention assemblies, ball valves, fittings, and appurtenances for twenty-nine (29) water service connections (existing water meter to existing residence). All construction shall conform to the requirements of the Contract Documents entitled:

ORLAND EMERGENCY GROUNDWATER RESOURCE PROJECT - PHASE 2C UNIT 1

The intent of these contract documents is to provide for a completed work, and all items incidental and appurtenant to the specified items shall be included in the prices bid for the specified items.

1.02 DEFINITION OF TERMS

Wherever the words "City" or "Owner" appear in these documents, they shall be understood to mean the City of Orland, California.

Wherever the word "Contractor" appears in these documents, it shall be understood to mean the party or parties constructing the improvements for acceptance by the Owner.

Wherever the word "County" appears in these documents, it shall be understood to mean Glenn County, California.

Wherever the words "Department" or "DWR" appear in these documents, they shall be understood to mean the Department of Water Resources of the State of California.

Wherever the words "Drawings" or "Project Drawings" appears in these documents, it shall be understood to mean "Plans."

Wherever the words "Engineer", "City Engineer" or "City of Orland Representative" appear in these documents, they shall be understood to mean *Rolls, Anderson & Rolls*, Chico, California, acting either directly or through duly authorized agents.

Wherever the word "Landowner" appears in these documents, it shall be understood to mean the owner of the parcel upon which the Work will be constructed. Refer to Dwg. No. 2 for a list of all applicable parcel numbers.

Wherever the words "Standard Detail(s)" appear in these documents, they shall be understood to mean the City of Orland Land Division Standards and Improvement Standards.

1.03 SPECIFICATIONS AND PLANS

The work embraced herein shall be done in accordance with the current edition of City of Orland Land Division Standards and Improvement Standards, current edition of State of California Standard Specifications, current edition of State of California Standard Plans, and these Special Conditions. References to the State of California Standard Specifications include material and workmanship specifications only. All measurement and payment sections of the State of California Standard Specifications are specifically **NOT** included in these Specifications.

Should a conflict arise between the City of Orland Land Division Standards and Improvement Standards and the Special Conditions, the Special Conditions shall govern.

Should a conflict arise between the Standard Specifications and the Special Conditions, the Special Conditions shall govern.

SPECIAL CONDITIONS

Should a conflict arise between the General Conditions and the Special Conditions, the Special Conditions shall govern.

Where Standard Specifications or testing methods have been referred to, such as ASTM or AASHTO, the intent is to refer to the latest applicable issue or revision of such specifications or testing methods.

2.00 PROGRESS AND COMPLETION OF THE WORK

2.01 AWARD OF CONTRACT

Refer to Section 8.00 of the Instructions to Bidders. The Award of Contract, if made, will be made within 30 days of the opening of Bids.

2.02 TIME OF COMPLETION

The Contractor shall diligently prosecute the work to completion within 60 CALENDAR DAYS from the issuance of the Notice to Proceed by the Owner.

2.03 LIQUIDATED DAMAGES

The Contractor shall pay to the Owner the sum of \$1,100.00 per day, for each and every calendar day's delay in finishing the work in excess of the number of calendar days prescribed above.

3.00 CONTROL OF THE WORK

3.01 PREVAILING WAGE

The successful bidder shall post a copy of the applicable wage rates on the job site during the construction period. Contractors and subcontractors shall submit certified payrolls to the Department of Industrial Relations in accordance with State of California requirements.

3.02 PERMITS AND LICENSES

No permits will be issued by the Owner for this work. It shall be the responsibility of the Contractor to secure all permits and licenses necessary, as well as pay all fees required for the completion of the work. The Contractor shall comply with all laws and regulations applicable to the work.

3.03 COORDINATION

The Owner, County, and public utility companies reserve the right to enter upon the work for the purpose of making changes necessitated by the improvements being constructed under this Contract. The Owners of the public utilities will coordinate such work with the Contractor and all parties shall cooperate to the fullest extent possible.

The Contractor shall protect from damage all utilities and other facilities that are to remain in place, be installed, relocated or otherwise rearranged.

The Contractor shall perform a pre-construction walkthrough of each connection with the City and owner prior to beginning work. The Contractor shall provide the property owner with three (3) days notice prior to the walkthrough.

3.04 SHOP DRAWINGS AND MATERIAL DATA

The Contractor shall provide shop drawings and material data, in accordance with the General Conditions, to the City Engineer within 15 days of the execution of the contract. Complete submittal packages shall be reviewed and approved prior to the issuance of the Notice to Proceed.

For this project submittals shall include, but not be limited to, mix designs, pipe materials, pipe joint details, special fittings or adaptors, imported bedding and backfill materials, and all technical design data required by the Engineer to verify product compliance with the Contract Documents.

SPECIAL CONDITIONS

3.05 UNDERGROUND SERVICE ALERT (USA)

The Contractor shall notify the Underground Service Alert at least 48 hours before excavating.

3.06 EXISTING UTILITIES

The depths of existing utilities are unknown. The Contractor shall verify the exact locations in the field to avoid damage to existing facilities.

The Contractor shall cooperate with utility companies in locating facilities and shall exercise care in working adjacent to or crossing such facilities to avoid damage. Any damage to existing facilities caused by the Contractor's operation shall be repaired by the Contractor at his expense.

3.07 RIGHTS OF WAY

The Contractor shall confine his operations to the limits of the rights-of-way provided. The Contractor is advised that if additional working space is required outside the limits of the rights-of-way provided, such additional area must be obtained directly from the property owners by the Contractor for use during the construction period. The Owner shall be furnished with copies of written agreements or otherwise notified in writing if additional working space is acquired.

3.08 HOURS OF OPERATION

The Contractor shall restrict his activities to the hours between 7:00 a.m. and 5:00 p.m. Monday through Friday, unless otherwise approved by the Owner.

3.09 NOISE CONTROL

All equipment used by the Contractor shall have noise muffling devices approved for use in residential areas.

3.10 DUST CONTROL

Where dust is created, either by the Contractor's vehicles or other vehicles, it shall be controlled by the Contractor through watering or preferably by cleaning up the material causing the dust. Dust control shall be continued as necessary until the work is accepted by the Owner.

3.11 CONSTRUCTION WATER

The Owner will furnish water for dust control, cleaning operations, and testing from the Owner's existing system. No charge will be made for such water. However, it shall not be used wastefully, and it shall be the Contractor's responsibility to see that it is delivered to the place it is needed. The Contractor shall make a written request to the City of Orland Public Works Department for the installation of a hydrant meter prior to beginning work. The Contractor shall only use water from hydrants that have been fitted with hydrant meters. The Contractor shall furnish and use only proper hydrant wrenches when obtaining water from fire hydrants. No fire hydrant shall be obstructed in case of fire in the area served by the hydrant.

3.12 SANITATION

The Contractor shall provide temporary sanitation facilities at the work site, and maintain such facilities throughout the period of work on the project.

3.13 TESTING

All required testing of materials and construction methods will be provided by the Owner. Should tests show materials or methods to be unacceptable, however, and re-testing of the same material is required, the cost of such re-testing will be deducted from payments due the Contractor.

3.14 LANDSCAPE RESTORATION

All landscaping and irrigation facilities disturbed by the work shall be restored to its original condition by the Contractor. Any irrigation facilities in conflict with proposed improvements shall be replaced, repaired

SPECIAL CONDITIONS

or relocated and tested by the Contractor. Testing of the irrigation facilities shall be done while the Public Works Director or his representative is present.

The Contractor shall take care to minimize damage to adjacent landscaping. Sod shall be installed where established grass has been removed. The Contractor shall restore landscaping as trenching and backfilling operations are completed. Restored landscaping shall be watered and maintained for thirty (30) days after placement.

3.15 OWNERSHIP OF REMOVED OR SURPLUS MATERIAL

Excavated concrete structures, pipe, iron and asphalt shall become the property of the Contractor, and removed from the site.

Miscellaneous construction materials, debris, rubble, backfill screenings, or deleterious material not suitable for backfill shall become the property of the Contractor, and removed from the site.

3.16 CLEANUP

The work area shall be kept in a neat and orderly condition during construction. The Contractor shall remove and dispose of all trash, debris and waste material resulting from his operations.

Upon completion of the work, the Contractor shall remove all debris, surplus material, equipment and supplies, and shall leave the entire work area in a neat, orderly condition.

3.17 TEMPORARY TRENCH RESURFACING

At the end of the workday, the work area shall be secured to prevent pedestrians from entering/driving into open trenches or other potentially dangerous environments. The Contractor shall provide temporary trench resurfacing, as necessary, throughout the project in compliance with the City Standards, County Standards, and as specified in the contract documents.

Alternatively, the Contractor may cover excavations within the street area subject to traffic loads with steel plating. The steel plating shall be of a thickness adequate to withstand the traffic loads that may be imposed and securely anchored at all times with temporary pavement to prevent displacement of the plate by traffic vibration.

4.00 WORK ZONE SAFETY

4.01 POLICY

The Contractor shall be solely responsible for safety on the job. Inspection of the work being performed or acceptance of work completed does not imply any approval or acceptance by the Owner of safety measures used by the Contractor.

The Contractor shall furnish, erect, and maintain at all times, substantial barricades, fences, signs, or other adequate protection.

The Contractor shall furnish, erect, and maintain at all times adequate sheeting, shoring, and bracing of all excavations in accordance with OSHA and California Industrial Safety Regulations. The Contractor shall be solely responsible for the adequacy and sufficiency of the safety equipment used.

The work shall be carried out in an orderly and systematic manner to present as little inconvenience as possible to public traffic. A minimum of one traffic lane shall be maintained on adjacent streets at all times.

5.00 INSURANCE REQUIREMENTS

5.01 GENERAL

Fire Insurance, as specified in 4.02 of the General Conditions is not required for this project.

SPECIAL CONDITIONS

The Contractor shall procure and maintain for the duration of the Contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor's bid.

5.02 MINIMUM SCOPE OF INSURANCE

Coverage shall be at least as broad as:

General Liability and Umbrella or Excess Liability Insurance covering all operations by or on behalf of the Contractor providing insurance for bodily injury liability, and property damage liability for the limits of liability indicated below and including coverage for premises, operations and mobile equipment; products and completed operations; broad form property damage (including completed operations); explosion, collapse and underground hazards; personal injury; and contractual liability.

Automobile Liability Insurance, including coverage for all owned, hired and non-owned automobiles.

Workers' Compensation Insurance as required by the State of California and Employer's Liability insurance.

5.03 MINIMUM LIMITS OF INSURANCE

The Contractor shall maintain no less than:

1. General Liability:
 - a) \$1,000,000.00 per occurrence (combined a single limit for bodily injury and property damage).
 - b) \$2,000,000.00 aggregate for products-completed operations.
 - c) \$2,000,000.00 general aggregate. This general aggregate limit shall apply separately to the Contractor's work under this Contract.
 - d) \$5,000,000.00 umbrella or excess liability. Umbrella or excess policy shall include products liability and completed operations coverage. Further, the umbrella or excess policy shall contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.
2. Automobile Liability: \$1,000,000.00 combined single limit each accident for bodily injury and property damage. The umbrella or excess liability coverage required above shall also apply to automobile liability.
3. Employers Liability:
 - a) \$1,000,000.00 per accident for bodily injury by accident.
 - b) \$1,000,000.00 policy limit for bodily injury by disease.
 - c) \$1,000,000.00 for each employee for bodily injury by disease.

5.04 DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the City, its officers, officials, employees, agents and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

SPECIAL CONDITIONS

5.05 OTHER INSURANCE PROVISIONS

The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The Engineer, City Engineer, Department, County, and City (including its officers, officials, employees, agents and volunteers) are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, leased or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Engineer, City Engineer, Department, County, and City (including its officers, officials, employees, agents and volunteers).
2. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the Engineer, City Engineer, Department, County, and City (including its officers, officials, employees, agents and volunteers). Any insurance or self-insurance maintained by the Engineer, City Engineer, Department, County, and City (including its officers, officials, employees, agents and volunteers) shall be excess of the Contractor's insurance and shall not contribute with it.
3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the Engineer, City Engineer, Department, County, and City (including its officers, officials, employees, agents and volunteers).
4. Coverage for such additional insureds shall not extend to liability:
 - a) arising from any defective or substandard condition of a City/County roadway which existed prior to the time the Contractor commenced work, unless such condition has been changed by the work or the scope of the work requires the Contractor to maintain existing City/County roadway facilities and the claim arises from the Contractor's failure to maintain; or,
 - b) for claims occurring after the work is completed and accepted unless these claims are directly related to alleged acts or omissions of the Contractor which occurred during the course of the work; or,
 - c) to the extent prohibited by Section 11580.04 of the Insurance Code.
5. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
6. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City of Orland.

5.06 WORKERS COMPENSATION AND EMPLOYERS LIABILITY COVERAGE

The insurer shall agree to waive all rights of subrogation against the Engineer, City Engineer, Department, County, and City (including its officers, officials, employees, agents and volunteers) for losses arising from work performed by the Contractor for the City.

5.07 ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers that are acceptable to the City of Orland.

SPECIAL CONDITIONS

5.08 VERIFICATION OF COVERAGE

Contractor shall furnish the City with original endorsements affecting coverage required by this clause. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on forms provided by the City and all endorsements are to be received and approved by the City before work commences. As an alternate to the City's forms, the Contractor's insurer may provide complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications.

5.09 SUBCONTRACTORS

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

If the Contractor fails to maintain such insurance, the City may take out such insurance to cover any damages, for which the City might be held liable on account of the operations under this contract, and deduct and retain the amount of the premiums for such insurance from any sums due the Contractor under this contract. Nothing herein contained shall be construed as limiting in any way the extent to which the Contractor may be held responsible for payment of damages resulting from his operations, or those of any subcontractor under him.

5.10 NO PERSONAL LIABILITY

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



APPENDIX A

CERTIFICATE OF INSURANCE



Return Completed Certificate to
 City of Orland
 815 Fourth Street
 Orland, CA 95963

CERTIFICATE OF INSURANCE
TO
CITY OF ORLAND
CALIFORNIA ("the City")
A Municipal Corporation

Only this Certificate
 of Insurance form
 will be accepted

This certifies to the City that the following described policies have been issued to the Insured named below are in force at this time.

Insured _____
 Address _____

Description of operation/locations/products insured (shown contract name and/or number, if any): _____

POLICIES AND INSURERS	LIMITS Bodily Injury Property Damage	POLICY NUMBER	EXPIRATION DATE
Worker's Compensation _____ (Name of Insurer) Best's Rating _____	Employer's Liability \$ _____		
Check policy type: Comprehensive General Liability _____ or Commercial General Liability _____ _____ (Name of Insurer) Best's Rating _____	"Claims Made" _____ "Occurrence" _____ _____ Each Occurrence Each Occurrence \$ _____ \$ _____ Or Combined Single Limit \$ _____ Aggregate \$ _____		
Business Auto Policy Liability Coverage Symbol _____ _____ (Name of Insurer) Best's Rating _____	Each Person \$ _____ Each Accident \$ _____ or Combined Single Limit \$ _____		
Umbrella Liability _____ (Name of Insurer) Best's Rating _____	"Claims Made" _____ "Occurrence" _____ _____ Occurrence/ Aggregate \$ _____ Self-Insured Retention \$ _____		

The following coverage or conditions are in effect:	Yes	No
The City, its officials, and employees are named on all liability policies described above as insureds as respects: (a) activities performed for the City by or on behalf of the named insured, (b) products and completed operations of the Named Insured, and (c) premises owned, leased or used by the Named Insured.		
Products and Completed Operations		
The undersigned will mail to the City 30 days' written notice of cancellation or reduction of coverage or limits.		
Cross Liability Clause (or equivalent wording)		
Personal injury, Perils A, B, and C		
Broad Form Property Damage		
X, C, U Hazards included		
Contractual Liability Coverage applying to this Contract		
Liquor Liability		
Coverage afforded the City, its officials, employees and volunteers as Insureds applies as primary and not excess or contributing to any insurance issued in the name of the City.		
Waiver of subrogation from Workers' Compensation Insurer.		
Environmental Liability Insurance		

All of the above policies expressly provide therein that they shall not be canceled by the insurer until 30 days written notice of the intended cancellation thereof has first been given to the City of Orland by the insurer.

Agency or Brokerage

Insurance Company

Address

Home Office

Name of Person to be Contacted

Authorized Signature Date

Telephone Number

Note: Authorized signatures may be the agent's if agent has placed insurance through an agency agreement with the insurer. If insurance is brokered, authorized signature must be that of official of insurer.

TECHNICAL SPECIFICATIONS



MOBILIZATION AND DEMOBILIZATION

1.00 GENERAL

1.01 MOBILIZATION

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the site; for the establishment of all facilities necessary for work on the project; and for all other work and operations which must be performed, or costs incurred prior to beginning work, on the various items on the project site.

Mobilization shall also include the construction of temporary access ways; temporary fencing; temporary signs; temporary facilities; and the necessary preparatory work required to allow for the safe and stable movement of all vehicles that are required to construct the improvements as shown and specified in the Contract Documents.

Mobilization shall include all activities and costs for establishment of portable sanitary and refuse facilities; location, provision and installation of field offices & equipment/materials, storage yards excavation equipment, buildings, and other necessary facilities for the Contractor's operations at the site; premiums paid for performance and payment bonds, including coinsurance and reinsurance agreements as applicable; temporary project signage; developing and providing construction water supply, pre-construction audio video survey, construction survey, and as-built project documents.

Contractor will be responsible to provide his own security for equipment, materials, fuel, tools, etc. that he may have on site.

The Contractor shall provide all necessary equipment & materials; all tools, accessories, power, fuel, materials, supplies, lighting, water, and other support equipment; and experienced personnel necessary to execute the work in an orderly an efficient manner.

Bid item also includes all items necessary to complete the Project that are not covered under any other Bid Item.

1.02 DEMOBILIZATION

Demobilization shall consist of work and operations necessary to disband all mobilized items and clean up the site. The removal of all temporary access ways, signs, temporary fencing, and temporary facilities or works and the restoration of surfaces to an equal or better than existing condition shall also be included as part of demobilization.

Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not included in the contract from the site; including the disassembly, removal and site cleanup, of offices, equipment, buildings, restoration of facilities, roads, fences, facilities etc. modified or disturbed during the course of the project and other facilities assembled on the site for this contract.

2.00 MATERIALS

NONE

3.00 WORKMANSHIP

NONE

4.00 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

The Owner makes partial payments for Mobilization/Demobilization costs which shall adhere to Public Contract Code § 10264, modified as follows, and not to exceed the following:

- A. When 5 percent of the original contract amount is earned, 20 percent of the amount bid may be paid.

MOBILIZATION AND DEMOBILIZATION

- B. When 10 percent of the original contract amount is earned, 40 percent of the amount bid may be paid.
- C. When 20 percent of the original contract amount is earned, 60 percent of the amount bid may be paid.
- D. When 50 percent of the original contract amount is earned, 80 percent of the amount bid may be paid.
- E. When 100 percent of the original contract amount is earned, 100 percent of the amount bid may be paid.

4.02 PAYMENT

Payment for Mobilization/Demobilization will be made at the lump sum price bid in the Proposal, which shall include full compensation for furnishing all materials, labor, tools, equipment, and incidentals and for doing all the work necessary to complete Mobilization/Demobilization as required by these specifications.

1.00 SCOPE

This heading covers all work required to remove existing site and street facilities, including but not limited to, vegetation, irrigation, concrete curb, gutter, sidewalk, asphalt pavement, guardrail and all objectionable material from the project site within the limits of the proposed construction and as shown on the Plans. Removed facilities shall be disposed of, salvaged, relaid, reset, relocated or reconstructed as specified in these specifications or as shown on the plans.

2.00 MATERIALS

None.

3.00 WORKMANSHIP

3.01 GENERAL

The Contractor shall execute all work described within this specification in an orderly and careful manner with due consideration for any existing condition designated to remain. Provide protection to preserve existing items indicated to remain and to prevent injury or damage to persons or adjacent properties.

The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property. The Contractor shall repair or replace all existing improvements within the right-of-way which are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.) which are damaged or removed as a result of its operations.

The Contractor shall avoid any encroachment on adjacent properties. In the event of damage or loss to any existing condition designated to remain on adjacent properties, immediately make all repairs and replacements necessary to the approval of the City Engineer at no additional cost to the City.

Clearing, grubbing and demolition shall be performed in advance of grading operations and in accordance with the requirements specified in these Contract Documents.

The area shall be cleared of all vegetable growth such as brush, grass, weeds and all other objectionable material. Grubbing shall extend to the outside excavation and fill slope lines, except that where slopes are to be rounded, the areas shall extend to the outside limits of slope rounding. No payment will be made to the Contractor for clearing and grubbing outside the stated limits, unless such work is authorized by the Engineer.

All materials removed, which are not to be salvaged or reused, shall become the property of the Contractor and shall be removed from the site by the Contractor. The Contractor shall be responsible for obtaining a suitable disposal site in accordance with the "Special Conditions."

Salvaged materials shall be delivered to the Owner's Public Works Department or other agreed upon location.

3.02 CONCRETE PAVEMENT

Concrete pavement, which has not been overlaid with asphalt concrete, shall be removed to neatly sawed edges. Saw cuts shall be made to a minimum depth of 1-1/2 inches (37.5 mm). If a saw cut falls within 3 feet (1 m) of a construction joint, cold joint, expansion joint, or edge, the concrete shall be removed to the joint or edge. The edges of existing concrete pavement adjacent to trenches, where damaged subsequent to saw cutting of the pavement, shall again be saw cut to neat, straight lines for the purpose of removing the damaged pavement areas. Such saw cuts shall be either parallel to the original saw cuts or shall be cut on an angle that departs from the original saw cut not more than 1 inch (25 mm) in each 6 inches (150 mm).

3.03 CONCRETE CURB, GUTTERS, SIDEWALK, CROSS GUTTERS, CURB RAMPS AND DRIVEWAYS

Shall be removed at the locations shown on the plans or where directed by the Engineer. Removal shall be to the lines and elevations shown, specified, or determined by the Engineer. Existing concrete shall be cut to a true line where new concrete is to join existing concrete. Concrete shall be removed to neatly sawed edges with saw cuts made through the entire thickness. Concrete sidewalk or driveway to be removed shall be neatly sawed in straight lines either parallel to the curb or at right angles to the alignment of the sidewalk. No section to be replaced shall be smaller than 30 inches in either length or width. If the saw cut in sidewalk or driveway would fall within 30 inches of a construction joint, expansion joint, or edge, the concrete shall be removed to the joint or edge, except that where the saw cut would fall within 12 inches of a score mark, the saw cut shall be made in and along the score mark. Curb and gutter shall be sawed on a neat line at right angles to the curb face.

Residue from sawcutting shall be picked up by means of a vacuum device. Residue shall not be allowed to flow across the pavement and shall not be left on the surface of the pavement. Gravel bags shall be placed in the gutter pan prior to sawcutting. Gravel bags shall remain in gutter pan until construction has been completed in that area. Concrete removal operations shall be performed without damage to any portion that is to remain in place. Damage to the existing concrete, which is to remain in place, shall be repaired to a condition equal to that existing prior to the beginning of removal operations. The cost of repairing existing concrete damaged by the Contractor's operations shall be at the Contractor's expense.

3.04 ASPHALT CONCRETE

Shall be cut and removed to a true line at the location shown on the plans or where directed by the Engineer. Edges shall be saw cut full-depth. Removal performed by cold milling shall conform to this specification.

Residue from sawcutting shall be picked up by means of a vacuum device. Residue shall not be allowed to flow across the pavement and shall not be left on the surface of the pavement. Gravel bags shall be placed in the gutter pan prior to sawcutting. Gravel bags shall remain in the gutter pan until construction has been completed in that area. Asphalt concrete removal operations shall be performed without damage to any portion that is to remain in place. Damage to the existing asphalt concrete, which is to remain in place, shall be repaired to a condition equal to that existing prior to the beginning of removal operations. The cost of repairing existing concrete damaged by the Contractor's operation shall be at the Contractor's expense.

3.05 COLD MILLING

The type of pavement and depth to be cold milled shall be as shown on the Plans or specified in the Special Conditions. The presence of pavement fabric or steel reinforcement within the depth to be cold milled is unknown. The surface after cold milling shall be uniformly grooved or ridged. The outside lines of the milled pavement shall be neat and uniform. The Contractor shall remove existing asphalt concrete overlay or slurry seal material within one-foot of the edge of concrete gutters adjacent to any area to be cold milled. The removal procedure and equipment to be used shall be approved by the Engineer.

The milled pavement shall be true to grade and cross section. When a straightedge is laid on the finished surface parallel to the centerline of the roadway, the surface shall not vary from the edge of the straightedge more than 3/8 inch at any point, except at intersections or at changes of grade. Any areas that are not within tolerance shall be brought to grade within one Working Day following initial cold milling.

Cold milling operations shall be performed without damage to the remaining pavement. Whenever cold milling is adjacent to existing concrete curbs, gutters or pavement, the Contractor shall protect these improvements from damage. Concrete curbs, gutters or pavement damaged during cold milling operations shall be repaired as directed by the Engineer. Replaced section of concrete curb, gutter or pavement shall be a minimum of 5 feet in length or to the next joint.

CLEARING, GRUBBING AND DEMOLITION

A. Milling Machines

Milling machines shall be specifically designed and constructed for cold milling of asphalt concrete, concrete, or composite pavement.

- 1) General. Milling machines shall conform to the following:
 - (a) The cutting drum shall be a minimum of 24 inches wide, except for those mounted on a skid-steer loader, and shall be equipped with carbide-tipped cutting teeth placed in a variable pattern to produce the desired finish.
 - (b) Be self-propelled and capable of removing the pavement to the depth shown on the Plans.
 - (c) Be equipped with a conveyor system that will immediately convey the milled material into a transport vehicle for disposal.
 - (d) Be capable of spraying water at the cutting drum to minimize dust.
 - (e) Be designed so that the operator can observe the milling operation at all times, without leaving the controls.
 - (f) Be adjustable for slope and depth.
 - (g) Be capable of milling, in one pass, to the maximum depth recommended by the manufacturer without producing fumes or smoke.

B. Milling to Specified Elevations

Milling machines used for milling to specified elevation shall conform to 3.05(A) and the following:

- 1) Be equipped with automatic grade controls that reference the existing pavement elevations or independent grade references.

C. Profile Milling

Milling machines used for profile milling shall conform to 404-2.1 and the following:

- 1) Be equipped with a minimum 20-foot paving ski with spring loaded feet attached to the bottom at not more than 18-inch increments. The upper portion of the ski shall be one-piece and manufactured such that the ski does not flex or bend by more than 3/16 inch when supported off of the surface of the pavement by an attachment located at the ski's longitudinal center of gravity. The grade control system of the milling machine shall be referenced to the center of the ski.

D. Full-Depth Milling

Milling machines used for full-depth milling shall conform to 404-2.1 and the following:

- 1) Be capable of milling to a minimum depth of 10 inches (254 mm) in a single pass.

The Contractor shall provide smaller machines if required to cold mill areas that are inaccessible to larger machines.

E. Cold Milling To Specified Elevations

Milling to specified elevations is the controlled removal of a portion of the existing pavement and underlying base or subgrade material. The finished elevations and depth of removal shall be as shown on the Plans.

Independent grade references shall be those required to achieve the specified elevations shown on the Plans.

F. Profile Milling

CLEARING, GRUBBING AND DEMOLITION

Profile milling is the controlled removal of a portion of the existing pavement to a nominal depth using longitudinal grade controls to remove surface irregularities in the pavement and improve ride ability. The grade shall be as shown on the Plans.

During profile milling operations, the center of the ski shall be on a line coincident with the transverse centerline of the milling machine's cutting drum. A ski shall be attached to each side of the milling machine cutting drum during the first pass, and on one side of the milling machine on subsequent, adjacent passes with a joint matching grade control on the other side.

The resultant milled surface shall not deviate from the grade shown on the Plans, using a straightedge, by more than 1/4 inch at any point.

G. Full-Depth Milling

Full depth milling is the removal of the full depth of the existing pavement as shown on the Plans or specified in the Special Provisions. When full-depth milling is specified, the Contractor shall continuously control the depth of milling to stay no more than 1/2 inch below the full depth of the existing pavement. In areas of resurfaced trenches, individual excavations or bore holes, the required depth of milling shall be the same as that of the adjacent pavement. The Contractor shall remove existing asphalt concrete overlay from gutters adjacent to any area specified to be cold milled, as directed by the Engineer.

H. Cold Milling Of Composite Pavement.

Composite pavement consists of underlying concrete pavement which has been overlaid with asphalt concrete pavement. The thickness of each existing pavement material shall be as shown on the Plans. The area and depth to be cold milled shall be as shown on the Plans.

I. Work Site Maintenance.

A motorized street sweeper shall follow within 50 feet of the cold milling machine unless otherwise approved by the Engineer.

J. Disposal Of Millings.

Unless otherwise specified, millings shall be considered the property of the Contractor and shall be disposed of off the Work site by the Contractor.

K. Traffic Signal Loop Detectors.

The Contractor shall not mill within 12 inches of any existing loop detectors that are shown to be protected in place on the Plans or in the Special Conditions. Traffic signal loop detectors that were shown to be protected in place but are damaged or removed shall be replaced at the Contractors expense.

L. Pavement Transitions.

Structures and vertical joints within the cold-milled areas that are transverse to through traffic shall be ramped with temporary asphalt concrete as shown on the Plans or specified in the Special Conditions. Ramps shall be constructed the same day as the existing pavement is cold milled and removed prior to placement of the permanent paving pavement.

3.06 UTILITIES

The Contractor shall assume every parcel is served by a service connection for each type of utility.

The Contractor shall contact the appropriate regional notification center and obtain an inquiry identification number at least two (2) working days, but not more than 14 days prior to commencing any excavation required for the Work. Caltrans and certain other agencies are not required to become a member of a regional notification center. The Contractor shall contact non-member agencies directly and request they locate and mark their subsurface installations. When

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any proposed excavation is within 10 feet of a "high priority subsurface installation" the Contractor shall coordinate with the operator.

Before starting the Work, the Contractor shall physically locate subsurface installations within 24 inches of any side of excavations required for the Work. The Contractor shall determine the horizontal and vertical location, alignment, depth, material type, and size of each subsurface installation. The Contractor shall provide the subsurface installation location data to the Engineer prior to beginning work.

The Contractor shall notify the Engineer in writing immediately after identifying potential physical conflicts between existing subsurface installations and the Work. The written notification shall include;

- A. date of locating,
- B. method of locating,
- C. type, size, and material of subsurface installation,
- D. horizontal location,
- E. elevation (or depth from existing pavement or ground surface) of the top and bottom of the subsurface installation, and
- F. presumed owner.

The Contractor shall complete excavation, backfill, and placement of temporary resurfacing on the same Day. Backfill shall conform to the applicable technical specification. Temporary resurfacing shall conform to applicable technical specification. Permanent resurfacing shall be placed within 10 Working Days unless otherwise specified in the Special Conditions or directed by the Engineer. Permanent resurfacing shall conform to applicable technical specification.

3.07 LANDSCAPING AND IRRIGATION

When a portion of a sprinkler system within the right-of-way must be removed, the remaining lines shall be capped. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimension.

Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed due to Contractor's operations; they shall be restored or replaced in as nearly the original condition and location as is reasonably possible. Lawns shall be reseeded and covered with suitable mulch.

The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements, within the right-of-way which are designated for removal and would be destroyed because of the Work.

3.08 SURVEY MARKERS

Pursuant to Division 3, Chapter 15 of the Business and Professions Code, the Contractor shall not disturb survey monuments that "control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control" until they have been tied out by a Registered Land Surveyor or Registered Civil Engineer authorized to practice land surveying within the State of California.

The Contractor shall submit to the Engineer a minimum of 7 Days prior to the start of the Work a list of controlling survey monuments which may be disturbed. The Agency will:

- A. Set survey points outside the affected work area that reference and locate each controlling survey monument that may be disturbed,
- B. File a Corner Record or Record of Survey with the County Surveyor after setting the survey Points to be used for re-establishment of the disturbed controlling survey monuments, and

CLEARING, GRUBBING AND DEMOLITION

- C. File a Corner Record or Record of Survey with the County Surveyor after re-establishment of the disturbed controlling survey monuments.

4.00 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Bid Item will be paid on a lump sum basis and no measurement of quantities will be made.

4.02 PAYMENT

- A. Payment for Bid Item will be made at the lump sum price bid in the Proposal, which shall include full compensation for furnishing all materials, labor, tools, equipment, and incidentals and for doing all the work necessary to complete the Bid Item as shown and required by the specifications.
- B. No separate or additional payment will be made for protection of existing improvements and restoration of existing improvements.
- C. Permanent survey markers will be restored by the Agency at its own expense.
- D. No separate or additional payment will be made for cold milling existing pavements. Payment for the Bid Item shall include cold milling, removal of asphalt concrete and slurry seal material from adjacent concrete gutters, construction and removal of pavement transitions, disposal of millings, and all other necessary work.

TRENCH EXCAVATION AND BACKFILL

1.00 SCOPE

This section covers trench excavation and backfill for utility trenches, structures and appurtenances.

2.00 MATERIALS

2.01 IMPORTED BEDDING MATERIAL shall be clean, washed sand or Class 2 aggregate base.

2.02 IMPORTED BACKFILL MATERIAL shall be Class 2 aggregate base.

2.03 AGGREGATE BASE shall conform to the specification titled "Aggregate Base."

2.04 ASPHALT CONCRETE shall conform to the specification titled "Hot Mix Asphalt."

2.05 CONCRETE for concrete collars shall be Class B concrete and concrete for thrust blocks and/or encasing pipe shall be Class C concrete in accordance with the specification titled "Concrete Work."

2.06 SLURRY CEMENT BACKFILL shall consist of a fluid, workable mixture of commercial quality concrete sand, cement and water. Not less than 94 pounds of cement shall be used for each cubic yard of material produced. Cement shall be portland cement conforming to Section 90 of the State Standard Specifications, except that testing will not be required.

3.00 EXCAVATION

3.01 GENERAL

Excavation for conduits shall be by open trench unless otherwise specified or shown on the Plans. The Contractor shall excavate whatever substance encountered to the lines and grades shown on the Plans. The Contractor shall do such grading as is necessary to prevent surface water from entering the excavation.

Except with the specific approval of the Engineer, no more than 200 feet of open trench shall be excavated in advance of laying the pipe. Not more than 50 feet of trench excavation shall remain unbackfilled at the end of each day's work. The remainder of the trench shall be backfilled, compacted, and opened to traffic. All operations shall be carried out in an orderly fashion. Backfilling, compacting, and cleanup work shall be accomplished as sections of the pipe installation are approved and traffic through the work shall be impeded or obstructed as little as possible.

Where it is necessary to cross fences, temporary gates or other barriers, satisfactory obstructions shall be installed by the Contractor as required to keep livestock and/or household pets from entering or leaving the property. All cut fences shall be restored to original condition upon completion of backfilling of the trench.

Where it is necessary to cross irrigation or drainage ditches, the backfill in the bottom and banks of such ditches shall be carefully placed and compacted to avoid settlement. Shape of the banks and bottom shall be restored and left in good condition.

If explosives are used for excavation, the Contractor shall obtain the necessary permits and comply with all local regulations. The utility companies or agencies supplying either sewer service, water, electricity, telephone service, or gas shall be informed if blasting is to be done in the vicinity of their facilities.

3.02 WIDTH OF TRENCH

Except where otherwise specifically permitted, banks of trenches shall be vertical, and shall be of uniform width from top to bottom. Trenches shall be a minimum of 12 inches wider than the external diameter of the pipe. The maximum width of the trench, measured at the top of the pipe, shall not exceed the width allowed for various strengths of pipe as may be specified elsewhere in the applicable sections of these Specifications.

TRENCH EXCAVATION AND BACKFILL

If no maximum width is elsewhere specified, the width measured at the top of the pipe shall not exceed the external diameter of the pipe, exclusive of bells and collars, plus 24 inches.

3.03 STRIPPING OF TOPSOIL

Where the trench crosses cultivated, residential, or meadow land not in a roadway, the top 12 inches of soil shall be stripped and stockpiled separately from the balance of the excavated material so that later it may be placed in the top of the trench backfill.

3.04 BRACING OF TRENCHES

Where required to prevent caving of the trench, the Contractor shall furnish and install bracing and sheeting as necessary to protect the excavation and to meet safety regulations. If required by the Engineer, the Contractor shall install sheeting and bracing as required to permit the Engineer safe access to the trench for inspection of the work. However, this requirement does not relieve the Contractor of the responsibility for maintaining the trench to meet safety regulations.

3.05 DEPTH OF TRENCH

The bottom of the trench shall be carried to the lines and grades shown on the Plans with proper allowance for the thickness of the pipe and for the type of bedding specified. Any part of the trench excavated below the proper grade shall be corrected with approved bedding material compacted to 95 percent relative density, at the Contractor's expense.

3.06 APPURTENANCES

Excavations for valve boxes, area drains and other similar structures shall be large enough to provide proper working room. Any over-depth in excavation shall be corrected with concrete or other approved material.

3.07 REMOVAL OF WATER

The Contractor shall remove and dispose of all water entering the excavation. Disposal of water shall be done in a manner to prevent damage or nuisance to adjacent properties. Gravel bags, fiber rolls or other devices shall be provided to prevent silt and sediment from entering storm drainage facilities. Sufficient pumping equipment shall be provided to maintain the trench in a dry condition during the bedding and initial backfilling of the pipe.

4.00 TYPES OF BEDDING

4.01 NATIVE BEDDING AND SHADING

Native materials shall not be used as pipe bedding or pipe shading.

4.02 IMPORTED BEDDING

Imported bedding material shall be installed in a layer the full width of the trench and of proper thickness to form the bed for the pipe. After the imported bedding has been placed and spread, it shall be compacted to proper grade to not less than 95% relative density.

4.03 CONCRETE ENCASEMENT

Shall be installed at the locations and in the manner shown on the Plans. The pipe shall be temporarily supported on masonry blocks. Supports shall be set accurately to grade with a minimum of two supports per joint of pipe. After the pipe has been laid and approved for covering, the pipe shall be bedded and encased in concrete as detailed on the Plans. Great care shall be taken not to float or shift the pipe during the concreting operation.

5.00 BACKFILLING

5.01 GENERAL

No backfilling shall be done until the installation to be covered has been inspected and approved for covering. Backfilling shall be carried out in an orderly fashion and, in general, shall be done

TRENCH EXCAVATION AND BACKFILL

as soon as approval has been given to cover the pipe. Compaction of the backfill shall proceed simultaneously with backfilling operations.

All excess backfill material shall be removed from within the right-of-way and disposed of by the Contractor. The location of the disposal site shall be the responsibility of the Contractor and shall be subject to approval by the Engineer. Removal of excess material shall be done immediately following backfilling.

Where trenches cross city streets, backfilling shall be completed immediately following excavation. No trenches across streets shall remain open overnight. All crossings shall be backfilled, compacted, and open to traffic at the end of each day's work. Major road crossings shall be excavated and backfilled in half widths of the traveled way so that at least one-half of the roadway is open to controlled traffic at all times during the work.

5.02 BEDDING AND COVERING PIPE

The bed for the pipe shall be final-graded by hand to the line and grade to which the pipe is to be laid, making proper allowance for the thickness of the pipe. The bed shall be hand-raked ahead of the pipe laying operation to remove any stones or lumps which will interfere with smooth and proper bedding. Bell holes shall be hand-dug at the location of the joints and shall be of sufficient size to allow proper making of the joint and to prevent the collar or bell of the pipe from bearing on the bottom of the trench. After the pipe has been laid and approved for covering, backfill shall be placed evenly on both sides of the pipe the full width of the trench. This material shall be placed by hand in layers and each layer shall be compacted to 95% relative compaction by use of approved tampers. For pipe 10 inches in nominal diameter or less, the first layer shall be half the outside diameter in thickness, and shall be tamped by hand. The thickness of the next layer shall be half of the diameter of the pipe plus 12 inches. For pipe 12 inches and larger in nominal diameter, the backfill material shall be placed in layers not more than 8 inches thick. Particular care shall be taken to attain the required compaction in the material supporting the underside of the pipe. Compaction by jetting or ponding shall not be permitted.

5.03 TRENCH BACKFILL ABOVE THE PIPE COVER

Backfill and compaction onsite and within private driveways and public roads shall be done in accordance with plan details.

The trench shall be backfilled in layers with suitable imported material which may be placed by machine. Material shall be placed in 8-inch thick layers and compacted by machine.

Prior to commencing backfilling operations, the Contractor shall notify the Engineer of the method of compaction which he intends to use. No method will be approved until the Contractor has demonstrated, under actual field conditions, that such method will produce the degree of compaction required.

The trench backfill shall be compacted to a relative density of not less than 95 percent.

Immediately after backfilling, all excess material shall be removed and disposed of in an approved disposal area.

5.04 SLURRY CEMENT BACKFILL

Where shown on the Plans, and at locations approved by the Engineer, the trench shall be backfilled with slurry cement from the top of the pipe bedding envelope to the bottom of the trench resurfacing structural section.

Immediately after backfilling, all excess material shall be removed and disposed of in an approved disposal area.

6.00 TESTS

Where a degree of relative compaction is specified, compaction tests will be made in accordance with the Standard ASTM D 1557, Method C. All densities shall be expressed as a relative

TRENCH EXCAVATION AND BACKFILL

compaction in terms of the maximum density obtained in the laboratory by the foregoing standard procedure.

Field density tests shall be performed in accordance with ASTM D 2922, Method B, and ASTM D 3017, using nuclear methods, or ASTM D 1556, using the sand cone.

The Owner will pay for compaction tests to verify that the Contractor has met all compaction requirements. However, the cost of all failing tests required due to the Contractor's failure to meet the specifications shall be paid for by the Contractor.

7.00 PROTECTION OF PAVING

During the entire construction period, the Contractor shall protect existing pavement. Track-laying equipment shall be equipped with pavement pads when used on pavement. Any pavement damaged, cracked, or broken by the Contractor's operation shall be removed and replaced to at least the original condition. Damaged pavement shall be restored to the satisfaction of the Engineer.

8.00 REMOVAL AND REPLACEMENT OF PAVING AND BASE

8.01 GENERAL

Only such paving shall be removed as is necessary to excavate the trench and install the pipe. Cuts at valve boxes and area drains shall be no larger than necessary to install the structure.

8.02 PLACING AGGREGATE BASE

Where base material is required, the aggregate base shall be placed and compacted in one even layer to the depth shown on the Plans, and extending the full width of the trench. Segregation shall be avoided and extra care shall be taken in compacting the base near the sides of the trench. Relative compaction shall be not less than 95 percent.

8.03 TEMPORARY PAVEMENT

Where weather conditions or time preclude placing permanent pavement, temporary pavement shall be installed. Temporary pavement 2 inches thick shall be placed and maintained wherever excavation is made through pavement, sidewalk or driveways. In sidewalk areas the temporary pavement shall be at least 1 inch thick; in all other areas it shall be at least 2 inches thick.

Temporary pavement shall be placed as soon as the condition of the backfill is suitable to receive it and shall remain in place until the condition of the backfill is suitable for permanent pavement. Temporary pavement shall be installed flush with the existing surface, maintained in a smooth and uniform condition, and removed prior to placing permanent pavement.

The temporary pavement may be furnished from stockpiles or directly from the plant, and may be laid cold. Prior to placing temporary pavement, the Contractor shall level and compact the backfill on which the pavement is to be placed. The grade of the backfill on which the pavement is to be placed shall provide the full thickness of temporary pavement specified. The temporary pavement shall be placed, rolled, maintained, removed, and disposed of by the Contractor.

8.04 PERMANENT PAVEMENT

Paving shall be replaced in accordance with these Specifications, the Public Works Improvement Standards, and the details shown on the Plans. Pavement shall be replaced in all streets and driveways as soon as possible after completion of backfilling. In no case shall any section of trench in public roads remain unpaved more than one week from the date that the excavation was made. Where trenches cross roadways, pavement shall be replaced the same day the excavation was made.

Unless otherwise specified, surface improvements damaged or removed as a result of the Contractor's operations shall be reconstructed by the Contractor to the same dimensions, except for the pavement thickness, and with the same type of materials. Trench and excavation pavement shall be 1 inch greater in thickness than existing pavement.

TRENCH EXCAVATION AND BACKFILL

- A. Subgrade for trench pavement shall conform to City standard details. Aggregate base, when encountered within the structural section area, shall be compacted to a minimum relative density of 95 percent and compacted in lifts in accordance with this specification. The thickness of aggregate base shall be equal to that existing adjacent to the excavation.

B. Preparation For Permanent Paving

Edges of existing paving shall be neatly cut along straight lines, and cut edges shall be vertical. All loose pieces or cracked sections of existing paving shall be removed. All vertical edges shall be coated with liquid asphalt-emulsion (tack coat). The tack coat shall conform to the specification titled "Hot Mix Asphalt". The tack coat when cured or cooled shall be of sufficient thickness to uniformly and completely cover the vertical surfaces of the existing asphalt concrete. Excess tack on the horizontal surface of the aggregate base or subgrade shall be spread uniformly over the surface and may require the application of a blotting sand to prevent bleed through. Areas that are not sufficiently coated shall have the tack re-applied. The Contractor shall ensure that the tack coat is not damaged during the placement of the asphalt concrete.

C. Placing Permanent Paving

The asphalt concrete shall be spread at a temperature suitable for workability and to a depth that will compact to the required thickness as shown on the Plans. No material shall be spread when the outside temperature is less than 45 degrees Fahrenheit and rising.

For trenches 8 feet or greater in width, the final lift of HMA shall be placed with a paving machine or a full width spreader box. When the total tonnage required for the final lift of HMA is greater than 110 tons, a paving machine shall be used.

For trench widths 3 feet or greater and less than 8 feet, the final lift shall be placed with a narrow paving machine or a spreader box when the total tonnage required for the final lift of HMA is greater than 17 tons.

For trenches less than 3 feet wide and individual excavations or bore holes having an area of less than 50 square feet, the final lift shall be placed in such a manner as to obtain the specified density and smoothness.

After spreading, the material shall be thoroughly compacted using steel wheel rollers and be free of irregularities. Pneumatic tire rollers or truck tires shall not be used to compact any of the lifts.

Trenches of any width backfilled with CLSM or trench backfill slurry will not require aggregate base. HMA shall be replaced to the full-depth of existing asphalt concrete plus 1 inch.

The minimum compaction after rolling shall be 95 percent of the maximum density. Trenches less than 3 feet wide, individual excavations or bore holes having an area less than 50 square feet, and trenches of any width not parallel to the centerline of the street shall match the smoothness of the existing pavement, except the final pavement surface tolerances shall be 0 to plus 1/8 inch based on the existing pavement on either side of the excavation. Final pavement below the existing surface will not be accepted.

Finish courses with deviations exceeding the above requirements shall be removed and replaced. Removal shall be to a minimum depth of 1-1/2 inches for the full-width of the trench. The minimum length of removal along the trench shall extend 4 feet beyond the ends of the deviations, but in no case exceed the limit of the original excavation.

8.05 GRAVEL

Gravel placed in drive areas, landscaping or other areas shall match the existing gravel in size, shape and color. Gravel shall be spread evenly and match the layer thickness of the existing.

TRENCH EXCAVATION AND BACKFILL

9.00 CLEAN UP

The Contractor shall clean up and dispose of all trash, debris, and excess material, and shall remove his equipment from the site of the work as completed.

10.00 GUARANTEE

The Contractor shall guarantee the work against settlement for a period of one year.

11.00 MEASUREMENT AND PAYMENT

11.01 MEASUREMENT

A. The length of each trench type will be measured horizontally in feet, along the centerline of the trench.

11.02 PAYMENT

- A. Payment of Bid Item #6 will be made at the unit price in the Bid and shall include full compensation for furnishing all material, labor, tools and equipment required to backfill and compact the final 12 inches, of the water service trench, with native materials.
- B. Payment of Bid Item #7 will be made at the unit price in the Bid and shall include full compensation for furnishing all material, labor, tools and equipment required to backfill and compact the final 12 inches, of the water service trench, import and spread top soil, groundcover, sod, or other landscaping materials, and replacement and testing of irrigation.
- C. Payment of Bid Item #8 will be made at the unit price in the Bid and shall include full compensation for furnishing all material, labor, tools and equipment required to backfill and compact the final 12 inches, of the water service trench, with native materials, aggregate base and hot mix asphalt.
- D. Payment of Bid Item #9 will be made at the unit price in the Bid and shall include full compensation for furnishing all material, labor, tools and equipment required to backfill and compact the final 12 inches, of the water service trench, with native materials and gravel.

AGGREGATE BASE

1.00 SCOPE

This heading covers the furnishing, placement and compaction of aggregate base material, complete.

2.00 MATERIALS

All aggregate base material shall be Class 2, 3/4-inch maximum, conforming to the requirements of "Section 26" of the State Standard Specifications.

3.00 WORKMANSHIP

Aggregate base material shall be spread, watered, compacted and finished in accordance with "Section 26" of the State Standard Specifications and these Contract Documents.

The maximum compacted thickness of any one layer shall not exceed 0.5-foot. The aggregate base shall be compacted to at least 95 percent of the maximum density, as determined by ASTM Test D-1557. Field density tests will be performed in accordance with ASTM Test D-1556 or ASTM Test D-2922, Method B.

4.00 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

No separate measurement of aggregate base will be made.

4.02 PAYMENT

Payment for all work under this section shall be included in the prices for the bid items.

AGGREGATE BASE



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HOT MIX ASPHALT

1.00 SCOPE

This heading covers the furnishing, placement and compaction of asphalt concrete paving material, complete.

2.00 MATERIALS

2.01 HOT MIX ASPHALT (HMA) shall be 1/2-inch maximum size, medium grading, Type A or B, and conform to "Section 39" of the State Standard Specifications.

2.02 ASPHALT BINDER shall be PG 64-10 and conform to "Section 92" of the State Standard Specifications.

2.03 PRIME COAT shall be SC-250 and conform to "Section 94" of the State Standard Specifications.

2.04 PAINT BINDER (TACK COAT) shall be an asphaltic emulsion, Grade SS1, and conform to "Section 94" of the State Standard Specifications.

3.00 WORKMANSHIP

Paint binder shall be applied to all vertical surfaces of existing pavement, curbs, gutters, construction joints and to pavement to be resurfaced. Before placing HMA, apply paint binder in one (1) application. Application rates and procedures shall conform to "Section 39" of the State Standard Specifications.

Prime coat shall be applied to all aggregate base surfaces to receive HMA. Apply at least 0.20 gallons of prime coat per square yard of designated area. Do not apply more prime coat than can be absorbed completely by the aggregate base in 24 hours. Before paving, prime coat must cure for 48 hours. Close traffic to areas receiving prime coat. Do not track prime coat onto pavement surfaces beyond the job site.

HMA shall be transported, placed, spread and compacted in conformance with the provisions of "Section 39-3" of the State Standard Specifications. HMA shall be spread in one operation with a self-propelled spreader ready for compaction without further shaping.

A fog seal coat shall be applied to the finished surface of the asphalt concrete. Paint binder, Grade SS1, shall be applied to the surface of the HMA in conformance with "Section 37-2" of the State Standard Specifications. The application rate shall be 0.05 gallons per square yard. Provisions shall be made by the Contractor, to keep traffic from "tracking" the fresh fog seal until it has cured.

4.00 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

No separate measurement of hot mix asphalt will be made.

4.02 PAYMENT

Payment for all work under this section shall be included in the prices for the bid items.

HOT MIX ASPHALT



TS 05-2

CONCRETE

1.00 SCOPE

This heading covers concrete work, complete.

2.00 MATERIALS

2.01 PORTLAND CEMENT shall be Type II and conform to ASTM Specification C150. All cement shall be protected from moisture until used.

2.02 CONCRETE AGGREGATES

- A. Concrete aggregate shall conform to ASTM Specification C33. The sieves used in Sieve Analysis shall be square mesh wire cloth. Both coarse and fine aggregate shall be tested for soundness by ASTM Method C88 when in the judgment of the Engineer such tests are necessary to determine the quality of the materials.
- B. Fine aggregate shall consist of natural sand having hard, strong and durable particles. It shall not contain more than 2 percent by weight of clay, shale, schist, alkali, or other deleterious substances. The grading of fine aggregate shall range uniformly from coarse to fine.
- C. Coarse aggregate shall consist of clean, hard, sound crushed rock or washed gravel. It shall not contain more than 2 percent by weight of clay, shale, schist, alkali, or other deleterious substances. The grading of coarse aggregate shall range uniformly from coarse to fine.
- D. Storage fine and coarse aggregate shall be stored and measured separately. Aggregate shall be stored on the job so that various sizes do not become intermixed. They shall be protected from contamination with dust, dirt, or other foreign materials.
- E. Moisture content of aggregate shall be such that no visible separation of moisture and aggregate will take place during transportation from the proportioning plant to the point of mixing. Aggregate containing excess moisture shall be stockpiled prior to use and sufficiently dried.
- F. Variations in moisture content shall not exceed one percent of the weight of the aggregate in a saturated surface dry condition. Variations in specific gravity of any group of sizes shall not exceed one percent. Variations in grading of separate groups of sizes of aggregate shall not exceed 5 percent. Variations exceeding these maximums shall constitute cause for delaying the use of the materials until batch weights and mixing water can be adjusted.
- G. Aggregate size the primary size of aggregate specified and used on any project shall be the maximum consistent with the dimensions and form of the section being placed, the location and spacing of the reinforcing bars, and with the method of compaction, but shall not be less than 3/4 inch.

2.03 WATER shall be clean and free of oil, acid, alkali, organic matter or other deleterious substances.

2.04 REINFORCING STEEL

- A. **BARS:** Shall be of intermediate grade steel and shall conform to ASTM Specification A615. All bars shall be deformed and deformations shall conform to ASTM Specification A615.
- B. **WELDED WIRE FABRIC OR MESH:** Shall conform to ASTM Specification A185.

2.05 ADMIXTURES shall be used only where specifically required or where written approval has been granted by the Engineer.

2.06 EXPANSION JOINT FILLER shall be of the preformed nonextruding type and shall conform to ASTM Specification D544, Type V, bituminous fibre, and shall be the full depth of the abutting concrete.

CONCRETE

3.00 WORKMANSHIP

3.01 REINFORCING STEEL

A. Placement

Unless an exception is made in writing by the Engineer, the Contractor shall submit for approval detailed drawings showing bending and placing of all reinforcing steel and shall not begin work until the drawings have been approved by the Engineer.

Steel reinforcement shall be accurately placed and positively secured and supported by concrete blocks, metal chairs, spacers, or by metal hangers. The clear spacing between parallel bars shall not be less than 1.50 times the nominal diameter for round bars, but in no case shall the clear distance be less than 1.50 inches nor less than 1.33 times the maximum size aggregate. Reinforcing steel shall be in position before concreting is begun.

Steel shall not be bent nor straightened in a manner that will injure the materials. Kinked bars shall not be used. Heating of steel for bending shall not be permitted.

All steel dowels must be placed and securely anchored before concrete is poured.

Reinforcing shall not be placed in slabs and beams until after the concrete in the walls and columns has been placed, unless specifically indicated on drawings.

B. Splicing

In slabs, beams, and girders, splices at the points of maximum stress shall be avoided. Bars in horizontal members shall have a maximum lap at splices sufficient to develop the strength of the bars. Wherever possible, splices of adjacent bars shall be staggered. Unless stress governs, the splice of wire fabric shall be at least one mesh wide.

Spliced bars in walls may be either separated or wired together. Deformed bars shall be lapped 24 bar diameters.

C. Cleaning Reinforcement

Steel shall be cleaned of any oil, grease, rust, concrete or other deleterious substances before it is placed in the forms. Any deleterious substances that get on the steel after placing shall be removed before pouring concrete.

3.02 CONCRETE PROPORTIONING AND MIXING

A. Proportions

Amounts of cement and water and strength requirements shall be as follows:

Class of Concrete	Class A	Class B	Class C
Minimum cement per cubic yard concrete	564 lbs. (6 Sack)	470 lbs. (5 Sack)	395 lbs. (4.2 Sack)
Maximum total water per sack of cement including free moisture		54 Lbs.	62 Lbs.
Minimum compressive strength at 28 days	3,000 psi	2,500 psi	2,000 psi

The class of concrete used shall be specified on the drawings. However, if no class is shown, Class A concrete shall be used.

CONCRETE

Cement shall be measured in the sack or weighed; broken sacks will not be allowed unless cement is batched by weight. Aggregate shall be proportioned by weight.

Proportions of fine and coarse aggregate shall be furnished by the Engineer or by an approved testing laboratory, and may be varied from time to time by the Engineer to produce a smooth, dense, workable mixture that will work readily into corners and angles without excessive spading or vibrating.

B. Amount Of Water And Slump Test

The amount of water required for the proper consistency of concrete shall be determined by means of the slump test, made in accordance with ASTM Method C143.

The amount of water given in the above table is a maximum. The maximum allowable slump shall be as follows:

Thin sections and columns	Not more than 5"
Heavy sections, footings & slabs	Not more than 3"
Concrete placed under water	Not more than 8" Not less than 6"
Pavements	Not more than 3"
Curbs, gutters, walks, alley aprons	Not more than 4"
Extruded curb and gutter	Not more than 2"
Manholes, drop inlets, catch basins	Not more than 5"
Concrete not otherwise specified	Not more than 5"

The amount of water may be varied in accordance with the dampness of the materials and the requirements of the workability of the aggregate within the limits of the slump tests given above.

C. Measuring Water

The equipment for measuring and supplying the water to the mixer shall be so constructed and arranged that the amount of water to be added to the mixture can be measured positively and that the predetermined quantity of water required can be discharged rapidly in one operation into the mixing drum. The equipment shall be designed so that water from the source of supply cannot enter the measuring tank while the water is being discharged from the measuring tank into the mixer. Tanks or other equipment for measuring and discharging water into the mixer shall be sufficiently accurate that the amount of water delivered to the mixer for any batch shall not vary more than one percent from the required quantity of water for any position of the mixer. The tanks or other equipment shall be arranged to permit checking the amount of water delivered by discharging into measured containers.

D. Job Mixing

The capacity of the mixer shall be adequate to handle one or more full sack batches. No split sack batches will be permitted, unless all materials are weighed. At no time shall the mixer

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be loaded beyond its capacity. The capacity of the mixer shall be considered to be the rated capacity as given in the manufacturer's catalog, provided that a quantity equal to the rated capacity can be thoroughly mixed in the prescribed time period and that there is no loss of ingredients during the mixing. Each batch shall be mixed not less than 1.50 minutes after all ingredients are in the mixer and until the mixture is uniform and homogeneous. It shall be completely discharged. The peripheral speed of concrete mixing drums shall be approximately 200 feet per minute. The mixer shall be equipped with an automatic time lock on the discharge control arranged to start the time cycle on the stroke of the material skip or on the closing of the hopper gate.

E. Transit Mixing

Transit-mixed concrete shall be in accordance with ASTM C94 and be of not less than 10 minutes at a peripheral drum speed of approximately 200 feet per minute. Mixing shall be continued until discharge is complete. At least three minutes of the mixing period shall be at the job site. The transit mixer shall be equipped with water measuring devices consisting of either accurately calibrated water tanks or water meters. Transit-mixed concrete will be rejected if not placed within 1.50 hours after water is first added to the batch.

Should the Contractor elect to utilize transit mixing equipment he shall make advance arrangements to prevent delays in delivery and placing of the concrete. An interval of more than 45 minutes between any two consecutive batches or loads, or a delivery and placing rate of less than 8 cubic yards of concrete per hour, shall constitute cause for shutting down the work for the remainder of the day, and if so ordered by the Engineer, the Contractor shall make, at his own expense, a construction joint at the location and of the type directed by the Engineer in the concrete already placed.

F. Forms

Forms shall conform to the shape, lines and dimensions called for on the Plans and shall be substantial and mortar tight. All vertical surfaces shall be formed, except where specifically authorized to the contrary. Temporary openings at the bottom of the wall forms and temporary openings at the base of all columns and piers shall be provided as required for cleaning and to facilitate inspection.

Drip beads, feature grooves and other concrete details shall be carefully formed with surfaced material which shall be thoroughly coated with oil or other approved products before concrete is poured. Method of forming shall be selected for ease of stripping without damage to details. All exterior corners shall be chamfered 3/4 inch unless otherwise specifically shown.

Bolts or form clamps shall be of sufficient strength and number to prevent spreading of forms. They shall be of a type which can be entirely removed or cut back one inch below the finished surface of the concrete. All forms for outside surfaces shall be constructed with stiff wales at right angles to the studs and all form clamps shall extend through and fasten to such wales. Forms shall be so constructed that side forms where surface finishing is required can be removed without disturbing supporting forms.

Where woodwork comes into contact with concrete, proper anchors shall be provided. End studs of frame walls shall be bolted and dovetailed nailing blocks shall be provided for trim and other woodwork. Anchors in jambs of openings shall be spaced not more than two feet on centers.

Anchor bolts shall be positively positioned and anchored in the forms with templates and checked by the Engineer before concrete is poured.

If there is any question regarding the strength of forms, the recommendations of the manufacturer of the form ties shall be followed.

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Non-supporting forms may be removed in 48 hours and supporting forms in not less than 21 days unless approval for earlier removal is granted by the Engineer. Forms shall be carefully removed so as not to endanger the structure or damage the surface.

G. Concrete Conveying And Depositing

Concrete shall be conveyed from the mixer to the place of final deposit by methods which will prevent segregation or loss of material. Concrete shall not be deposited in a manner which shows segregation to occur, and shall be deposited as nearly as practicable in its final position to avoid segregation during rehandling.

No concrete which has partially hardened or been contaminated by foreign material shall be deposited on the work, nor shall retempered concrete be used. When concreting is started it shall be carried on as a continuous operation until the section is completed, maintaining the top surface level.

All concrete shall be compacted with mechanical vibrators in a manner satisfactory to the Engineer. At least two satisfactory vibrators shall be on the job during every pour and more if required by the Engineer. If it is deemed necessary by the Engineer, surfaces that are to be exposed shall be spaded and hammered to obtain a good surface. Concrete shall not be permitted to fall from a height greater than 6 feet without the use of adjustable length pipes or "elephant trunks." The use of chutes in conveying and depositing concrete will be allowed only at the discretion of the Engineer, and wherever they are used, they shall be laid at an inclination that will permit the flow of concrete of the required consistency. Where necessary to prevent separation, chutes shall be provided with baffle boards or a reversed section at the outlets. Columns shall be poured through pipes of adjustable length and not less than 6 inches in diameter. The use of additional water in mixing the concrete to promote free flow in chutes of low inclination will not be allowed.

For columns and walls, concrete shall be allowed to set at least 4 hours before caps, girders, floor slabs, or other connecting members are poured so that the column may obtain its shrinkage before the superstructure is placed.

Where it is necessary to deposit concrete under water, concrete shall be placed by use of a tremie tube. Care shall be exercised to see that the lower end of the tremie tube does not rise above the surface of the concrete during the pour, to avoid contamination with water. Depositing of concrete under water shall be permitted only with the approval of the Engineer, where it is not possible to de-water.

H. Cold Weather Work

Concrete shall not be mixed nor placed while the atmospheric temperature is at or below 35° Fahrenheit unless means are employed to heat the aggregate and water, and satisfactory provisions have been made for protecting the work. All concrete shall be effectively protected from frost action for a period of five days after placing and will not be accepted before the expiration of a thirty-day period during which the temperature of the concrete does not fall below 40° Fahrenheit.

The concrete shall be maintained at a temperature of at least 50° Fahrenheit for not less than 72 hours after placing or until it has thoroughly hardened.

The temperature of the concrete as it leaves the mixer shall not be less than 50° Fahrenheit, nor more than 120° Fahrenheit. Upon written notice from the Engineer, all concrete which may have become damaged by frost action shall be replaced by the Contractor at his own expense.

I. Construction Joints And Expansion Joints

Construction joints in structural concrete shall be level or vertical and shall be of the type and location as the Engineer directs or as shown on the Plans. Joints not indicated on the Plans

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shall be so made and located as to least impair the strength of the structure and shall conform to the typical details.

The horizontal surface of all construction joints shall be cleaned and roughened by removing the entire surface and exposing clean aggregate solidly embedded in mortar matrix in accordance with the following procedure. The contact surface must be thoroughly cleaned by chipping or sand blasting the entire surface not earlier than 5 days after initial pour or by an approved method that will assure equal bond such as a thorough hose washing of the surface not less than 2 nor more than 4 hours after the concrete is placed (depending on setting time). All wash and chalklike material shall be entirely cleaned from the surface.

In the event that the contact surface becomes coated with earth, sawdust, etc., after being cleaned, the entire surface so coated shall be re-cleaned.

All construction joints shall be slushed with neat cement grout immediately ahead of the pour.

Water stops shall be installed in construction joints where shown on the Plans. Where no construction joint is shown on the Plans, but is permitted by the Engineer, water stops shall be installed as directed by the Engineer.

Unreinforced slabs, walks, curbs, etc., shall have construction joints at not to exceed 12-foot centers and expansion joints at not to exceed 48-foot centers. Reinforced slabs, walks, curbs, etc., shall have construction joints at not to exceed 20-foot centers and expansion joints at 40-foot centers. Expansion joint material shall be placed along all walls and around each column and projection.

4.00 CONCRETE FINISHING

4.01 STRUCTURES

Forms shall be removed as soon as permissible and, immediately thereafter, tie rod holes, rock pockets, and other defects shall be chipped to expose sound aggregate and mortar and then shall be dashed with neat cement paste and dry packed with moistened 1 to 2 cement sand mortar thoroughly tamped in.

After patches have thoroughly hardened, surfaces that are to be exposed or painted in the finished structures shall be rubbed mechanically or by hand with carborundum stones to eliminate traces of forms and patch work. A brush coat of thin cement mortar consisting of one part cement and one part sand that will pass a No. 16 screen or at the option of the Engineer a neat cement wash shall be applied if necessary to give a uniform appearance. In either case, five percent calcium chloride shall be used. When the cement film has set sufficiently so that the sand particles and cement will not draw out of surface pin holes, but before final set has taken place, the entire surface shall be rubbed with fine carborundum stones (No. 25 to No. 30) until a smooth, even surface of even texture, color and appearance is obtained. No greater amount of mortar shall be applied in advance of rubbing than can be completely rubbed before final setting takes place. Immediately following the rubbing process, the finished surface shall be thoroughly washed with water.

4.02 SLABS, WALKS, STEPS, CURBS and GUTTERS

After concrete for slabs or sidewalks has been placed between the side forms, a strikeoff guided by the side forms shall be used to bring the surface to the proper section to be compacted. After screeding off, the surface shall be tamped with a heavy tamper consisting of a grid of metal bars until a layer of mortar not less than 3/8-inch thick has been brought to the surface.

The surface shall be rescreeded to a true surface, worked with a wood float as settling progresses and troweled with a steel trowel a sufficient number of times to produce a smooth, hard finish. After troweling, the surface shall be broomed if required. Care shall be taken to obtain a true surface on slabs, especially at walls and joints. Slab surfaces shall not vary more than 1/4-inch at any point from an 8-foot straight edge. The use of topping or dusting with dry cement and sand shall not be permitted unless it is desired to apply an integral color. No more slabs shall be poured in one day than can be finished to a satisfactory surface.

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If colored slabs are called for in the Plans, the finish shall be as specified except that the coloring shall be applied in the finished process in strict accordance with the Manufacturer's directions.

Treads of steps and stairs shall be worked with a wood float to an even surface, troweled to a smooth surface with a steel trowel and given a light brush finish. Use of topping or dry cement and sand will not be permitted. Edges and corners shall be rounded and the tread shall be scored with not less than four grooves the length of all treads near the edge. Forms on risers and other exposed vertical surfaces shall be removed not more than six hours after concrete has been placed. Risers and vertical surfaces shall be brushed with grout and troweled smooth or finished as directed by the Engineer.

Curbs and gutters shall be screeded to true cross section and grade. The screed shall be operated parallel to the line of the curb. The surface shall then be worked with a wood float as setting progresses, troweled smooth and given a fine brush finish parallel to the line of the curb. Corners shall be rounded. The forms on the face of the curb shall be removed not more than 6 hours after concrete has been placed. The face shall be brushed with grout, troweled smooth and brushed to match the rest of the curb. The face of the finished curb shall be true and straight and the top surface of the curb and gutter shall be of uniform height and free from irregularities. The surface shall not vary more than 1/8-inch from the edge of a 10-foot straight edge except at grade changes and curves.

4.03 CURING

All concrete shall be protected from injury and shall be kept continuously wet for a period of ten days after pouring. The use of curing compounds will not be permitted without the approval of the Engineer.

Concrete slabs and walks shall be covered with "Sisal-Kraft" paper, sand, or sawdust as soon as they are hard enough to walk on and shall be kept continuously wet for ten days after pouring. Care shall be taken to prevent exposed slabs from becoming stained.

5.00 TESTS

During progress of the work, compression tests shall be made at the discretion of the Engineer of samples of the concrete using the molded cylinder method. Materials for the samples will be furnished at the expense of the Contractor. Testing will be done by the Owner or authorized laboratory at the expense of the Owner.

6.00 MEASUREMENT AND PAYMENT

6.01 MEASUREMENT

- A. Measurement of barrier curbs, modified barrier curbs, barrier curb and gutter, and rolled curb and gutter will be made on a lineal foot basis, measured along the face of curb line.
- B. Measurement of pavements will be made on a square foot basis, measured along the replaced pavement centerline, multiplied by the nominal width.
- C. Measurement of driveways will be made on a square foot basis, measured along the face of curb line from top-of-wing to top-of-wing, multiplied by the nominal width, exclusive of curb and gutter.
- D. Measurement of sidewalk will be made on a square foot basis, measured along the face of curb line or sidewalk centerline, multiplied by the nominal width, exclusive of curb and gutter.

6.02 PAYMENT

Payment will be made at the unit prices provided in the bid, which shall include full compensation for furnishing all materials, including reinforcement, sand or aggregate base bedding, excavation, subgrade preparation, labor, tools, equipment, and incidentals, and for doing all the work involved in constructing pavements, curbs, gutters, driveways and sidewalks, complete in place, as shown on the Plans, as specified in these Technical Specifications, and as directed by the Engineer.



WATER SERVICES

1.00 SCOPE

This heading covers service connections and appurtenances, complete.

2.00 MATERIALS

2.01 GENERAL

All materials and lubricants shall be NSF 61 certified for potable water applications.

2.02 WATER SERVICE SADDLES

A. All taps for 2-inch and smaller service connections shall be made with service saddles. Connections for pipes larger than 2-inch shall be made with appropriate fittings installed in the main. Service saddles shall be one size larger than service line and shall be fitted with insulating nylon bushings.

B. Service saddles shall be of a type recommended by the manufacturer for the type of pipe being tapped. Saddle shall be the full-body support type. Hardware shall be Type 304 SS.

1) PVC Pipe Service Saddle

(a) Romac Series 101S or approved equal.

(b) Romac Series 101NS or approved equal if located in corrosive soils per the Engineer.

2) Other Pipe Materials

(a) Smith-Blair series SB 317 or approved equal.

2.03 WATER SERVICE PIPE

A. Polyethylene Pipe

1) Pipe

(a) Polyethylene pipe shall be PE 4710, SDR9, with blue color-coded stripe conforming to AWWA C901 and ANSI/NSF Standard 61. For potable water applications, PE4710 compound shall conform to ASTM D3350 minimum Cell classification PE445574C-CC3.

(b) Color identification by the use of stripes: equally spaced, blue color stripes co-extruded into the pipe outside surface. Stripes printed on the pipe outside surface are not acceptable.

(c) Polyethylene piping is allowed for water services. Water service piping from water meter to residence shall be one continuous length and shall not have any joints.

2) Polyethylene pipe shall be as manufactured by Performance Pipe (a division of Chevron Philips Chemical Company), JM Eagle, or approved equal.

WATER SERVICES

B. Polyvinyl Chloride (Pvc) Pipe And Fittings

- 1) PVC pipe 3-inches and smaller shall be SR (Schedule Rated) in accordance with ASTM D1785 for Schedule 40 pipe and suitable for solvent weld joints. Fittings shall be Schedule 40 socket fittings conforming to ASTM D2467.
- 2) PVC Pipe 4-inches and larger shall comply with AWWA C900. Unless otherwise shown, the dimension ratio (DR) for 4 inch through 12 inch shall be DR 18 or thicker walled (lower DR). Fittings shall be ductile-iron conforming to the requirements specified herein with the same pressure rating and hydrostatic test pressure as the adjoining pipe.
- 3) C900 PVC pipe shall be as manufactured by Diamond Plastics Corporation, JM Eagle, NAPCO, or approved equal.

C. Galvanized Steel Pipe And Fittings, 3-Inches In Diameter And Less

- 1) Galvanized steel pipe shall be, hot-dip galvanized, standard weight (Schedule 40) conforming to ASTM A53.
- 2) Fittings shall be threaded forged steel fittings conforming to ASTM A105, ASME B1.20.1, and ASME B16.11 and galvanized conforming to ASTM B633.

D. Copper Pipe

- 1) Copper pipe and tubing shall conform to ASTM B88. Copper pipe and tubing shall be cylindrical, of uniform wall thickness, and shall be free from any cracks, seams, or other defects. Piping buried or located beneath floor slabs shall be Type K.
- 2) Copper fittings shall be copper conforming to ASTM B75 and ANSI B16.22, with solder end joints. Copper fittings 3/8-inch and smaller may have flared end connections or compression joint connections. Solder shall be tin-silver solder conforming to ASTM B32, Grade Sn94, Sn95 or Sn96. Cored solder shall not be used. Solder and flux used in joints of potable waterlines shall contain no more than 0.2 percent lead.
- 3) Copper pipe shall be as manufactured by Cambridge-Lee Industries, Inc., Cerro Copper Products Company, Halstead Industries, Inc., IUSA/Reading, Mueller Manufacturing Entities c/o Mueller Industries, Inc., or approved equal.

2.04 LOCATOR CONDUCTORS

- A. Shall be No. 12 direct burial insulated solid copper wire. The locator shall be attached to the top of the pipeline centerline. Locators at valve boxes shall be installed in accordance with the Standard Details.

2.05 COMPRESSION COUPLING

- A. For water services 2-inch or smaller shall be two-bolt coupling with steel center rings, Romac Industries, Inc. style "511", Smith Blair style "411", or approved equal.

2.06 STRAIGHT METER COUPLING

- A. Shall be Ford C38 style A, or approved equal.

WATER SERVICES

2.07 BACKFLOW PREVENTION ASSEMBLY

- A. Backflow prevention assemblies shall not be located in an area containing fumes that are toxic, poisonous or corrosive.
- B. Reduced pressure principle assembly shall be Wilkins Model 975XL or approved equal. Full port ball valves shall be provided with the assembly.
- C. Stainless steel or aluminum enclosure shall be a Strong Box SBBC AL series or approved equal.
- D. An air gap and drain pipe shall be furnished and installed.
- E. All pipes and fittings shall be galvanized.

2.08 WATER SERVICE

- A. Corporation stops, curb stops, meter boxes and lids shall be as shown in City Std. 307.

2.09 WATER METER

- A. Will be provided by the City of Orland for installation by the Contractor.

3.00 WORKMANSHIP

The Contractor shall install all piping and fittings required to install a water service from the water meter to the existing residence. The Contractor shall connect the new service pipe to the customer's supply pipe using an appropriate adapter.

The Contractor shall be responsible for the thorough flushing of all installations through an outside hose bib immediately following installation. It shall be the Contractor's responsibility to investigate and resolve complaints regarding low flow, plugged lines, etc. that ensue after working on any water service.

The Contractor shall advise the on-site property owner/tenant of water turn off in writing 24 hours in advance of connection and verbally after restoration of water service.

New service lines and fittings shall be not less than 1-inch diameter.

4.00 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The length of water service will be measured horizontally in feet, along the centerline of the trench.
- B. The number of backflow prevention assemblies will be measured by a field count of completed units in the field.

4.02 PAYMENT

- A. Payment of Bid Item #5 will be made at the unit price in the Bid and shall include full compensation for furnishing all material, labor, tools and equipment required to excavate trenches, place bedding, install service pipe and fittings, and backfill and compact materials 18 inches above the water service.

WATER SERVICES

- B. Payment of Bid Item #10 will be made at the unit price in the Bid and shall include full compensation for furnishing all materials, including pipe, fittings, sand or aggregate base bedding, excavation, subgrade preparation, bedding, backfilling, compaction, concrete pad, backflow assembly, enclosure, labor, tools, equipment, and incidentals, and for doing all the work involved in installing backflow prevention assemblies, complete in place, as shown on the Plans, as specified in these Technical Specifications, and as directed by the Engineer.

ENVIRONMENTAL COMPLIANCE

1.00 SCOPE

This section covers the installation, maintenance, and removal of water pollution control items, complete.

2.00 MATERIALS

None.

3.00 WORKMANSHIP

A. The Contractor shall comply with all local, state and federal requirements for the Storm Water Pollution Prevention Program, site dust control, and other environmental compliance items identified in the General and Special Conditions. Contractor shall install, maintain, and remove all necessary measures to comply with the requirements of the applicable regulatory agencies. The Contractor shall also keep necessary documentation to prove compliance with said requirements.

It will be the Contractor's responsibility to:

- 1) Obtain, on behalf of the City, a Construction Storm Water Permit from the State Water Resources Control Board online via their website;
- 2) Perform inspections as required by permits;
- 3) Operate and maintain any required BMPs;
- 4) Submit all the reports to maintain compliance; and
- 5) Close out the Permit upon completion of the Work.

The Contractor is responsible for fees associated with all environmental compliance permits.

4.00 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

4.02 The Owner makes partial payments for Environmental Compliance costs which shall adhere to Public Contract Code § 10264, modified as follows, and not to exceed the following:

- A. When 25 percent of the original contract amount is earned, 25 percent of the amount bid may be paid.
- B. When 50 percent of the original contract amount is earned, 50 percent of the amount bid may be paid.
- C. When 75 percent of the original contract amount is earned, 75 percent of the amount bid may be paid.
- D. When 100 percent of the original contract amount is earned, 100 percent of the amount bid may be paid.

4.03 PAYMENT

Payment for Environmental Compliance will be made at the lump sum price provided in the Bid, which shall include full compensation for furnishing all permits, fees, materials, labor, tools, equipment, and incidentals, and for doing all the work involved in water pollution control, completely, including all inspections, reporting, and removal of water pollution control items as specified in these Technical Specifications.

SITE MANAGEMENT

1.00 SCOPE

Site Management shall include all activities and costs for providing a traffic control plan, permits, temporary gates and fences, barricades, signs, traffic control measures, and other safety measures to control vehicular traffic on access routes to the work site and at the work site during the project.

2.00 MATERIALS

None.

3.00 WORKMANSHIP

None.

4.00 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

4.02 The Owner makes partial payments for Site Management costs which shall adhere to Public Contract Code § 10264, modified as follows, and not to exceed the following:

- A. When 25 percent of the original contract amount is earned, 25 percent of the amount bid may be paid.
- B. When 50 percent of the original contract amount is earned, 50 percent of the amount bid may be paid.
- C. When 75 percent of the original contract amount is earned, 75 percent of the amount bid may be paid.
- D. When 100 percent of the original contract amount is earned, 100 percent of the amount bid may be paid.

4.03 PAYMENT

Payment for Site Management will be made at the lump sum contract price, which shall include full compensation for furnishing all materials, labor, tools, equipment, and incidentals and for doing all the work necessary to provide the traffic control system, including the costs associated with obtaining the City of Orland and County of Glenn encroachment permits, as shown on the plans and as specified in these specifications.

SITE MANAGEMENT

